DESCRIPTION OF APPENDIX CONTENTS

Appendix A: Historical Sanborn Maps and Aerial Photos – provides documentation of historical site features including buildings, industrial operations, chronology of fill material placement to expand upland areas, and other information to inform potential sources of contamination.

Appendix B: Regulatory History and Prior Investigations – provides additional details on the regulatory history and previously completed site investigations.

Appendix C: Sea Level Rise / Climate Change Assessment – provides a site-specific evaluation of the effects of climate change and projected sea level rise that is used to inform the future environmental setting and potential climate change impacts on the evaluated remedial alternatives.

Appendix D: WDFW Figures – provides habitats and species maps used to inform the upland ecological understanding of the site, information regarding listed and candidate Endangered Species Act fish species in the project area, and a 2019 Critical Areas Report used to inform the marine ecological understanding of the site and allow for the avoidance, minimization, and mitigation of impacts related to future cleanup activities.

Appendix E: Maulsby March Sediment Results – provides a data report summarizing the results of the sediment sampling and characterization for Maulsby Marsh. It includes a summary of the field sampling collection performed, validated chemical analyses, and the salinity testing. This data is used to confirm that contaminants detected in the marsh sediments are not attributable to Site releases.

Appendix F: Upland Soil Borings and Test Pit Logs – provides field observations, soil lithology, and sample locations for upland test pit and drilling activities. Some of these boring logs were used to develop site cross sections and determine extents of remedial action areas.

Appendix G: Quarterly Groundwater Monitoring Summary – provides analytical summary tables for quarterly groundwater monitoring events conducted between 2015 to 2020 including groundwater elevation measurements, example groundwater flow contours, and laboratory results.

Appendix H: Data Tables and SPME Results (Tables 1 through 4; 1. surface, 2. sieving, 3. subsurface chem, 4. Tissue) – provides tabulated summaries of all marine data collected as part of the RI, and the SPME Results Memorandum.

Appendix I: Field Collection Forms – provides the backup field documentation for the porewater, surface sediment, and subsurface sampling events.

Appendix J: Data Quality Summary – provides a summary of the data quality objectives for samples collected under the Quality Assurance Project Plan (QAPP) Marine and Maulsby Marsh Sediment Characterization (Anchor QEA 2012) and Jeld-Wen Former Nord Door Site Sediment Second Quality Assurance Project Plan Addendum (QAPP Addendum; Anchor QEA 2013).

Appendix K: Human Health and Ecological Receptor Sediment Cleanup Objective and Cleanup Screening Level Development – presents the development of human health risk-based concentrations of bioaccumulative COCs used to inform the selection of the SCOs and CSLs.

This Appendix also describes the selection of bioaccumulative COCs, the assessment of potential ecological risk, the development of natural background and regional background COC concentrations, and the application of PQLs.

Appendix L: Calculation Summaries – contains calculations used as part of the RI/FS process including groundwater flow characteristics, PCL calculations for protection of sediment, and PQL calculation tables for applicable TEQ values.

Appendix M: Summary of Upland FS Costs – contains unit costs and assumptions and scope of work for upland remedial actions used to conduct the DCA.

Appendix N: Summary of Marine FS Costs – contains a summary of the cost assumptions and the detailed cost estimates used to conduct the DCA.

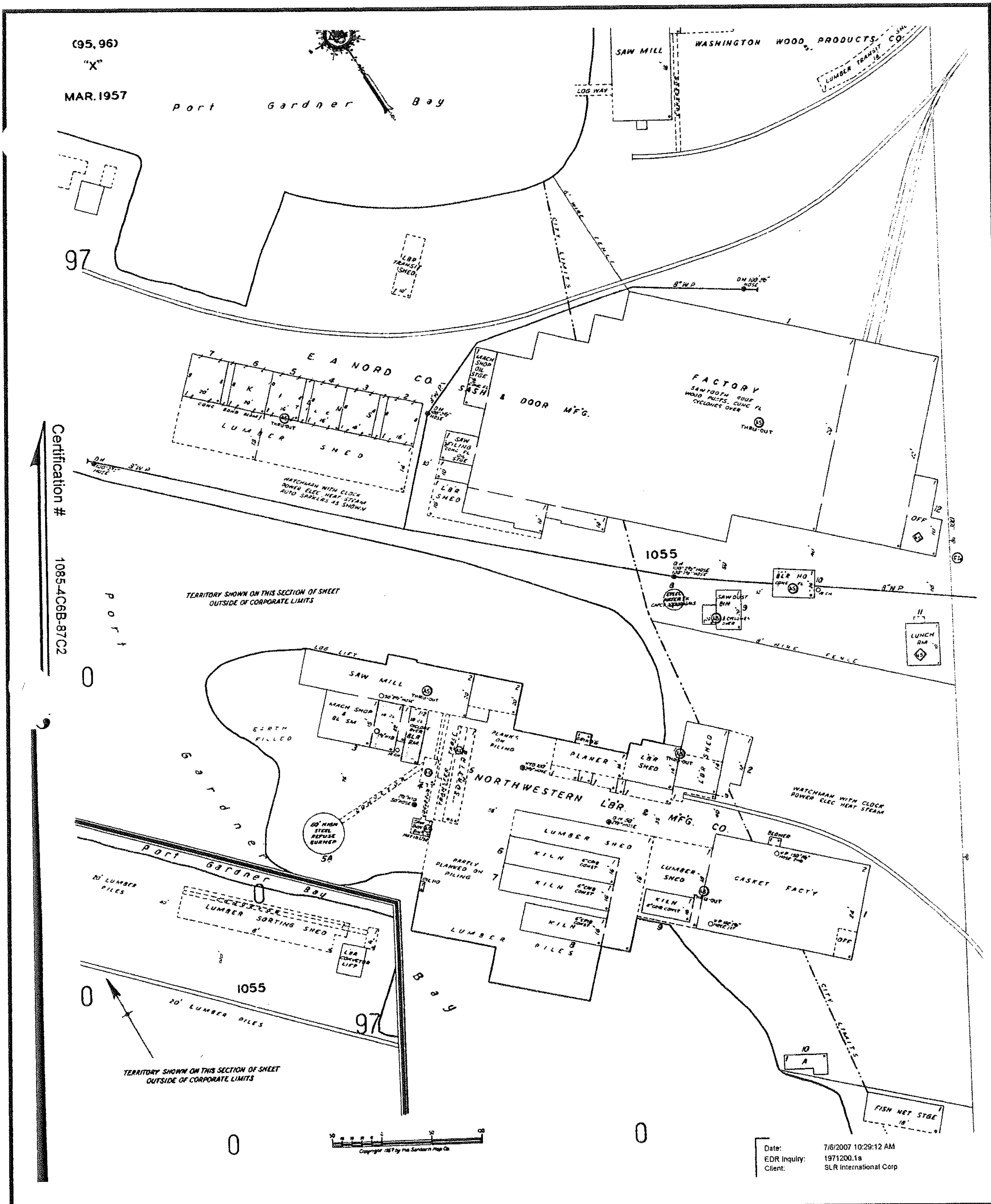
Appendix O: Correspondence with Ecology - contains the Ecology comment documents and associated JELD-WEN comment response documents for the previously submitted draft versions of the RI/FS that used in the development of the final RI/FS document.

Appendix P: Upland Laboratory Reports – contains copies of laboratory reports and data validation reports for upland soil and groundwater investigations from 1992 to 2020, as available. Data from these lab reports were used to compile the upland analytical summary tables.

APPENDIX A

HISTORICAL SANBORN MAPS AND AERIAL PHOTOS

Description: Provides documentation of historical site features including buildings, industrial operations, chronology of fill material placement to expand upland areas, and other information to inform potential sources of contamination.



Date: 7/6/2007 10:29:12 AM
EDR Inquiry: 1971200.1s
Client: SLR International Corp

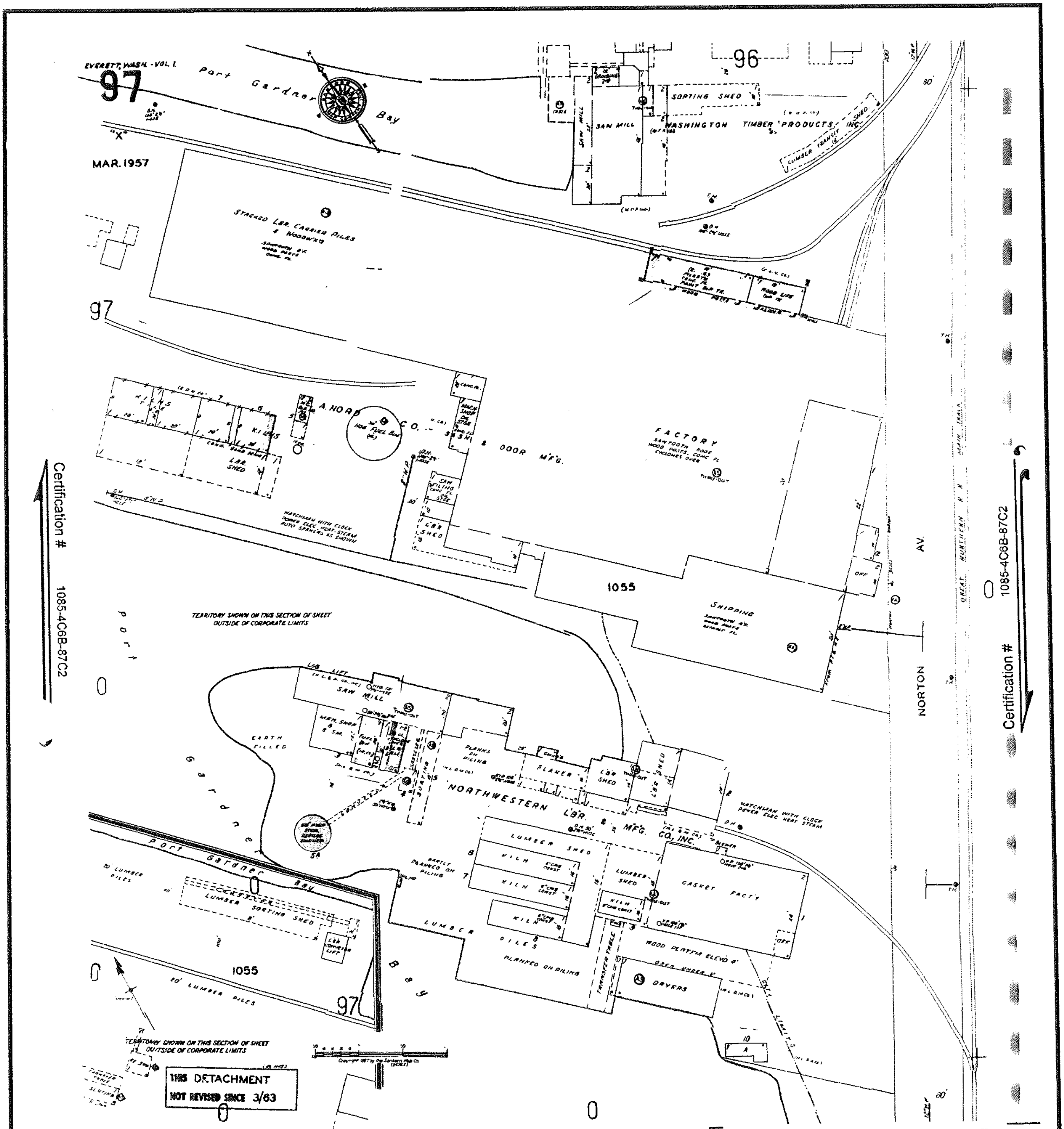
SLR International Corp

1800 Blankenship Road
Suite 440
West Linn, OR 97068

T: 503-723-4423
F: 503-723-4436

DATE 03/08
DWN. EMG
APPR.
REVIS.
PROJECT NO.
008.0228.00026

ATTACHMENT 1
JELD-WEN SITE
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON
1950 SANBORN MAP



Date: 7/6/2007 10:29:12 AM
EDR Inquiry: 1971200.1s
Client: SLR International Corp

Site Name: JELD-WEN Nord Door
Address: 300 West Marine View Drive

City, ST, ZIP: Everett WA 98201
Certification #: 1085-4C6B-87C2

Research Associate: SES
Copyright: 1968

SLR International Corp

1800 Blankenship Road
Suite 440
West Linn, OR 97068

T: 503-723-4423
F: 503-723-4436

DATE 03/08
DWN. EMG
APPR.
REVIS.
PROJECT NO.
008.0228.00026

ATTACHMENT 1
JELD-WEN SITE
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON
1968 SANBORN MAP

NOTES

AERIAL PHOTO FROM GOOGLE EARTH PRO, JULY 2019.

JELD-WEN/FORMER NORD DOOR FACILITY
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report
2020 REVISED RI/FS REPORT

Drawing
APPENDIX A - 2019 AERIAL

Date	April 2020	Scale	AS SHOWN	Fig. No.	AA-1
File Name	Aerials	Project No.	108.00228.00061		

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SLR

ANCHOR QEA

NOTES

AERIAL PHOTO FROM GOOGLE EARTH PRO, DECEMBER 2003.

0 200 400 600'

JELD-WEN/FORMER NORD DOOR FACILITY
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report
2020 REVISED RI/FS REPORT

Drawing
APPENDIX A - 2003 AERIAL

Date	April 2020	Scale	AS SHOWN	Fig. No. AA-2
File Name	Aerials	Project No.	108.00228.00061	

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SLR

ANCHOR QEA

NOTES

AERIAL PHOTO FROM SNOHOMISH COUNTY PUBLIC WORKS, 1995.

0 200 400 600’

JELD-WEN/FORMER NORD DOOR FACILITY
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report
2020 REVISED RI/FS REPORT

Drawing
APPENDIX A - 1995 AERIAL

Date	April 2020	Scale	AS SHOWN	Fig. No. AA-3
File Name	Aerials	Project No.	108.00228.00061	

NOTES

AERIAL PHOTO FROM SNOHOMISH COUNTY PUBLIC WORKS, 1991.

0 200 400 600'

JELD-WEN/FORMER NORD DOOR FACILITY
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report
2020 REVISED RI/FS REPORT

Drawing
APPENDIX A - 1991 AERIAL

Date	April 2020	Scale	AS SHOWN	Fig. No.
File Name	Aerials	Project No.	108.00228.00061	AA-4

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NOTES

AERIAL PHOTO FROM SNOHOMISH COUNTY PUBLIC WORKS, 1984.

0 200 400 600'

JELD-WEN/FORMER NORD DOOR FACILITY
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report

2020 REVISED RI/FS REPORT

Drawing

APPENDIX A - 1984 AERIAL

Date	April 2020	Scale	AS SHOWN	Fig. No.	AA-5
File Name	Aerials	Project No.	108.00228.00061		

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JELD-WEN/FORMER NORD DOOR FACILITY
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report
2020 REVISED RI/FS REPORT

Drawing
APPENDIX A - 1978 AERIAL

Date	April 2020	Scale	AS SHOWN	Fig. No. AA-6
File Name	Aerials	Project No.	108.00228.00061	

NOTES

AERIAL PHOTO FROM SNOHOMISH COUNTY PUBLIC WORKS, 1978.

0 200 400 600’

SLR

ANCHOR QEA

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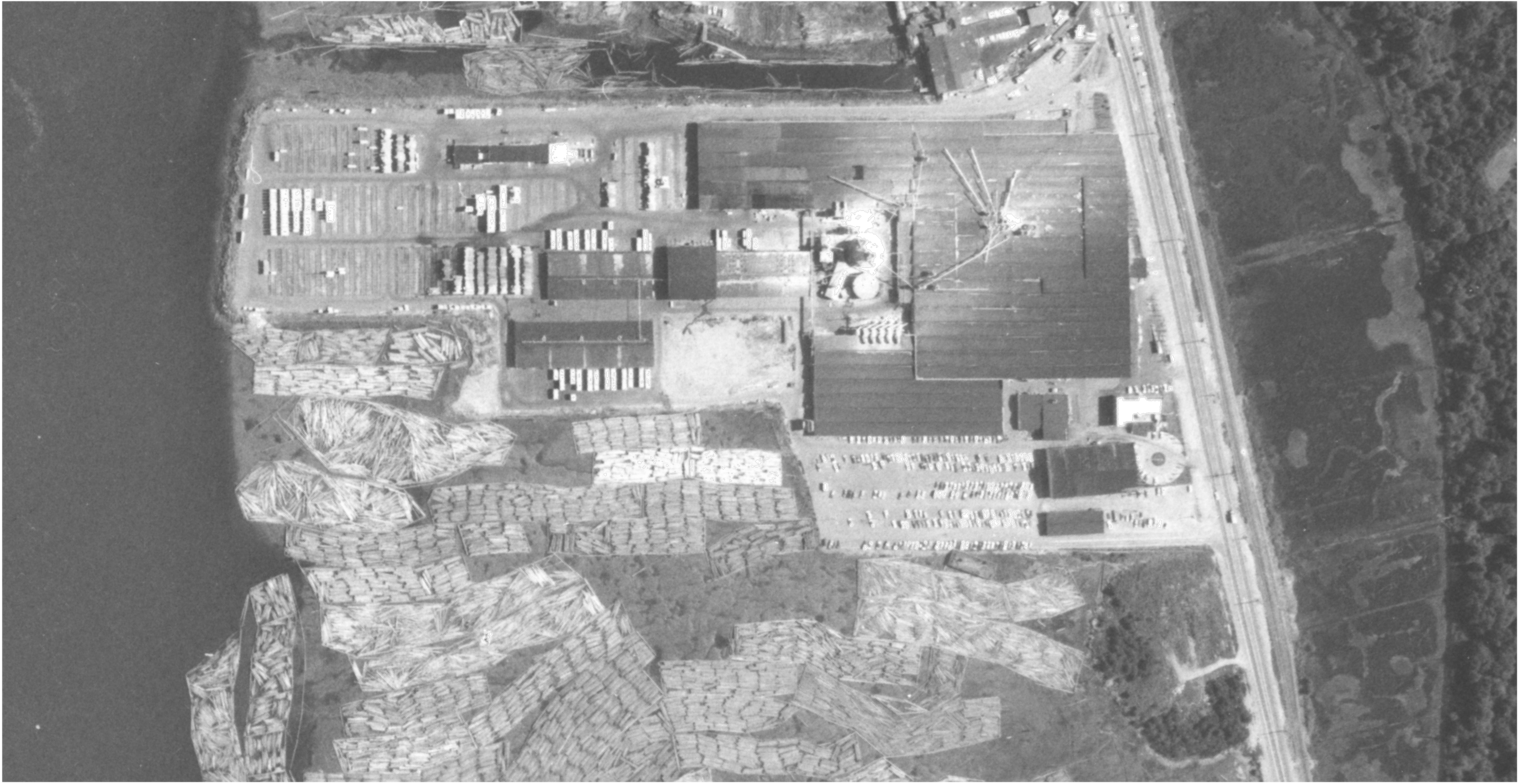

NOTES

AERIAL PHOTO FROM SNOHOMISH COUNTY PUBLIC WORKS, 1974.

0 200 400 600’

SLR

ANCHOR QEA

JELD-WEN/FORMER NORD DOOR FACILITY
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report
2020 REVISED RI/FS REPORT

Drawing
APPENDIX A - 1974 AERIAL

Date	April 2020	Scale	AS SHOWN	Fig. No.
File Name	Aerials	Project No.	108.00228.00061	AA-7

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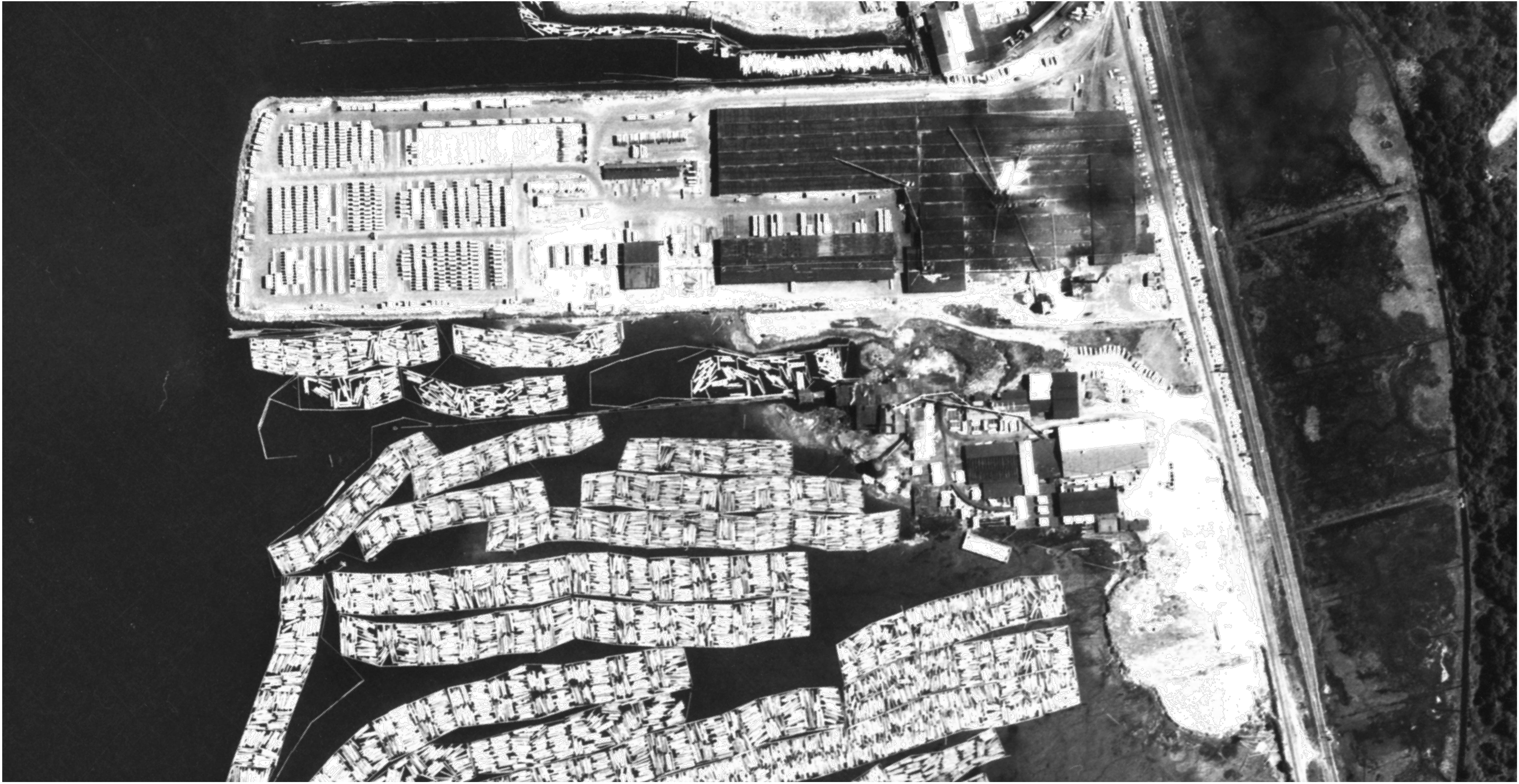

JELD-WEN/FORMER NORD DOOR FACILITY
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report
2020 REVISED RI/FS REPORT

Drawing
APPENDIX A - 1965 AERIAL

Date	April 2020	Scale	AS SHOWN	Fig. No.
File Name	Aerials	Project No.	108.00228.00061	AA-8

NOTES

AERIAL PHOTO FROM SNOHOMISH COUNTY PUBLIC WORKS, 1965.

0 200 400 600’

SLR

ANCHOR QEA

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SLR

ANCHOR QEA

NOTES

AERIAL PHOTO FROM SNOHOMISH COUNTY PUBLIC WORKS, 1955.

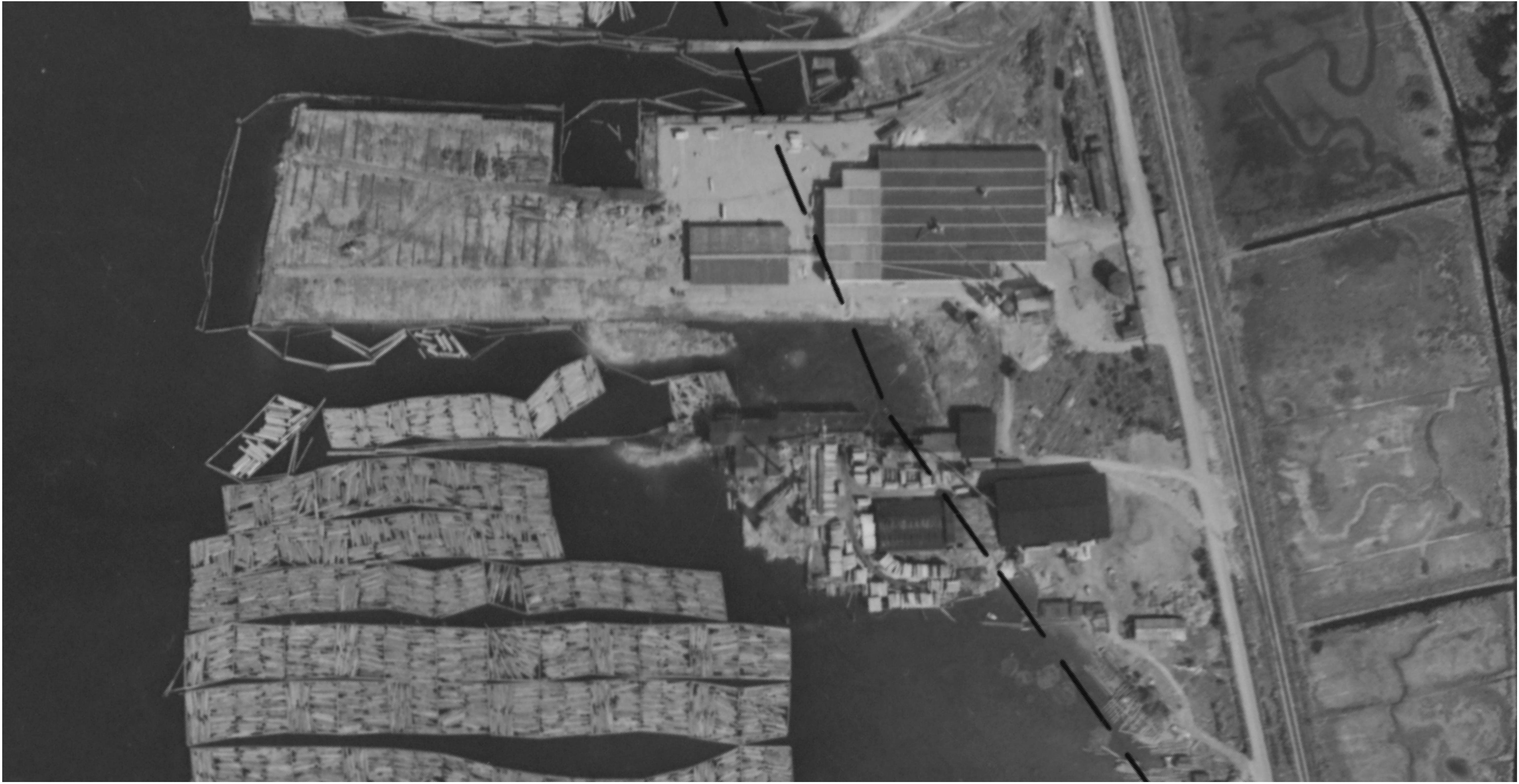
0 200 400 600'

JELD-WEN/FORMER NORD DOOR FACILITY
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report
2020 REVISED RI/FS REPORT

Drawing
APPENDIX A - 1955 AERIAL

Date	April 2020	Scale	AS SHOWN	Fig. No.
File Name	Aerials	Project No.	108.00228.00061	AA-9



NOTES

AERIAL PHOTO FROM SNOHOMISH COUNTY PUBLIC WORKS, 1947.

JELD-WEN/FORMER NORD DOOR FACILITY
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report
2020 REVISED RI/FS REPORT

Drawing
APPENDIX A - 1947 AERIAL

Date	April 2020	Scale	AS SHOWN	Fig. No.
File Name	Aerials	Project No.	108.00228.00061	AA-10

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SLR

ANCHOR QEA

NOTES

AERIAL PHOTO FROM SNOHOMISH COUNTY PUBLIC WORKS, 1938.

JELD-WEN/FORMER NORD DOOR FACILITY
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report
2020 REVISED RI/FS REPORT

Drawing
APPENDIX A - 1938 AERIAL

Date April 2020
File Name Aerials
Scale AS SHOWN
Project No. 108.00228.00061
Fig. No. AA-11

APPENDIX B

REGULATORY HISTORY AND PRIOR INVESTIGATIONS

Description: Provides additional details on the regulatory history and previously completed site investigations.

APPENDIX 2

The following regulatory history was provided in the Work Plan (SLR, 2008).

REGULATORY HISTORY AND PREVIOUS INVESTIGATIONS

Since 1989, several environmental assessment events have been completed at the Site to evaluate soil, sediment, and groundwater conditions. Activities associated with these investigations and their general findings, including regulatory compliance, are summarized in this Appendix. Where appropriate and available, the analytical results from soil and groundwater sampling have been included in the summary tables (Table 1 through Table 7). Refer to Figure 9 for the locations of site features (including the location of sources and potential sources) described in the paragraphs below.

June 27, 1989 Notice of Noncompliance issued by EPA – On June 27, 1989 the U.S. Environmental Protection Agency (EPA) conducted an inspection of the facility to determine whether activities at the facility were in compliance with EPA regulations governing polychlorinated biphenyls (PCBs). The EPA issued eight violations to the facility, which were as follows:

Violation 1: "An overhead electrical service pole where three out-of-service pole-mounted PCB capacitors were stored did not meet the requirements of a PCB storage for disposal area." The locations of these capacitors was not described in the letter, and no figures were included which depicted their location.

Violation 2 through 4: Three pole-mounted PCB capacitors, no model or serial numbers identified, were located in the parking lot south of the facility and west of the warehouse. Capacitors were not marked with the required PCB labels.

Violation 5 through 7: Three out of service pole-mounted PCB capacitors, no model or serial number identified, were located on the third pole west of the warehouse. Capacitors were not marked with the required PCB label.

Violation 8: The area where three out of service pole-mounted PCB capacitors were located, which were the subject of violations 5 through 7, was not marked with the PCB labels required for a storage area.

December 15, 1989 Ecology Environmental Report Tracking System Initial Report/Follow-up – The EPA stated they had "virtually closed the book" on this PCB issue. The capacitors had been removed from the Site and the EPA was awaiting the disposal certificates. The original Notice of Noncompliance was generated from a routine site inspection and was only a "bookkeeping" violation.

April 13, 1990 Drop-in Inspection by Ecology – In April 1990, Ecology conducted a Drop-In Inspection of the Nord Door facility. According to this inspection report, the Nord Door manufacturing process involved buying rough green wood (mostly Douglas-fir and

Western Hemlock), sorting, stacking, drying, planing, and cutting the lumber. They assembled and finished wooden doors, rails, posts, columns, and spindles and on occasion fabricated machinery. Hazardous substances identified on the Site included glues, boiler water treatment chemicals, acetone, filler compounds for wood, and parts cleaning chemicals. Hazardous substances produced included waste oil and grease rags. Other non-hazardous substances included waste wood and sawdust. Nord reportedly had "some" underground storage tanks (USTs) that had been filled. At the time of the inspection, the facility reported the presence of one UST containing gasoline (size not stated) and one 500-gallon UST containing thinner (toluene). The facility was aware of one spill from an aboveground storage tank (AST) containing diesel fuel, but did not know the date. The AST was reportedly located close to the northeast edge of the Site. A photograph of the area was included in the inspection report, which appears to depict the area located adjacent to the former 1,000-gallon diesel UST (see Figure 9). As is discussed in a June 1, 1990 letter from Ben-Fab to Ecology (summarized below), a copy of a spill report was later identified which indicated the release occurred in 1984. Sawdust was spread on the ground and in the water to absorb the spill. The spill was reported to the U.S. Coast Guard, who sent a representative to investigate. The Coast Guard informed the facility that the appropriate measures were taken to resolve the problem. A timer was subsequently installed on the fuel pump to shut the pump off when the designated amount of fuel had been pumped into the fuel tanks of the forklifts.

The following observations were documented in Ecology's site inspection report:

- A 10,000-gallon AST was located in the northeast corner of the Site which contained "Woodlife" preservative. The constituents of Woodlife were not known. The AST was surrounded by a 6 to 8 inch concrete berm. The containment area was reportedly never pumped out; liquid which collected within the berm was allowed to evaporate. At the time of the site visit there was standing water with a dark appearance in the berm.
- A soak-and-heat tank located adjacent to the northeast corner of the building had a 20 foot section of fire hose leading from the tank to the pavement, and presumably to the nearest storm drain catch basin. The contents and/or purpose of the soak-and-heat tank were not stated; however, later sampling conducted on the contents of the tank seem to indicate it contained only water.
- Ecology observed the area where the 500-gallon thinner (toluene) UST was located. The location of the former thinner (toluene) UST is depicted on Figure 9. The UST had reportedly not been used for 2 to 3 years. The area was impounding stormwater and the liquid had a slight sheen.
- Ecology observed the area of the reported diesel fuel spill, which was documented in a photograph included in the inspection report. The area was located on the northeastern portion of the Site, adjacent to a tidal flat of the Snohomish River, with no secondary containment. The area appeared to be located adjacent to the 1,000-gallon diesel UST. Stains and cracks were observed in the pavement.

- Drum storage and labeling was poor. Drums were observed on-site which had no cover, contained a black viscous material, and were overtopping with water and other substances. Many had missing bungs or did not have tops. There were used oil drums mixed in with resins and glue drums. Areas of poor drum storage included the primary storage area in the center of the facility and in the scrap metal pile at the southwest corner of the Site.
- The floor of the oil shed, located in the center of the facility, was sloped to drain to the yard. Sawdust was used to absorb oil spills and the sawdust was then disposed of in the garbage dumpster. There were oil stains on the floor surrounding every drip bucket.
- In the center of the facility was an area where machinery was pressure washed. The pressure wash water presumably drained to the storm sewer system.

May 14, 1990 Warning Letter from Ecology to Nord Door – In response to the issues identified in the April 1990 inspection, Ecology issued a Warning Letter to Nord Door. This letter proposed the following actions:

- Within 5 calendar days of receipt of Warning Letter, Nord would indicate in writing their intent to work voluntarily to eliminate sources of pollutants to both storm drain systems, and remediate soil and groundwater contamination.
- Within 15 calendar days Nord Company would submit to Ecology the following items:
    - Copies of all Material Safety Data Sheets (MSDS) sheets,
    - A plan and schedule for modifying the oil shed,
    - The facility’s spill history,
    - Storm and sanitary system plans,
    - A plan and schedule for eliminating sources of pollutants to the storm drain system at both the heat and soak tank and the pressure wash area,
    - Historical site use information.
- Within 30 calendar days of receiving this letter, Nord Company would submit to Ecology the following items:
    - A plan and schedule for disposing of the liquid in the Woodlife tank, and dismantling the tank,
    - A proposal for taking care of the thinner (toluene) UST,
    - A plan and schedule for soil characterization in the vicinity of all USTs, and a proposed remediation schedule,
    - A plan and schedule for the containment of all stored drums,
    - Locations and uses for all USTs on the Site.

June 1, 1990 Letter from Ben-Fab (Nord Door) to Ecology – Letter response to items requested within 15 calendar days:

- Copies of all MSDS sheets were provided with this response.

- The plan for modifying the oil shed included placing a 2 ½ inch high asphalt curb at the entrance which would be ramped at both sides. The perimeter of the existing walls would be sealed with a 4 inch high fiberglass ribbon and asphalt emulsion compound.
- A document was enclosed which summarized the events of the spill from the diesel tank (presumably the former 1,000-gallon diesel UST) which occurred in March 1984. According to the report, approximately 100-gallons of diesel fuel was spilled when a forklift drove off with the nozzle in the fuel pipe. Sawdust was used to absorb the fuel from the ground and water, which was then burned in the boiler. The U.S. Coast guard was notified of the incident and sent a representative to investigate. Nord was informed that they had taken appropriate measures to resolve the problem. A timer was installed on the fuel pump to shut the pump off when the designated amount of fuel had been pumped into the fuel tank of the forklift.
- The facility was in the process of contacting the City of Everett to determine the possibility of discharging the heat/soak and pressure wash run-offs to the city sanitary sewer system.
- A plan and schedule for eliminating sources of pollutants to the storm drain system at both the heat and soak tank and the pressure wash area.

August 20, 1990 Letter from Ben-Fab (Nord Door) to Ecology – Additional items had been completed in response to Ecology's May 14, 1990 letter, which included: modifications to the oil shed to provide secondary containment; storm and sanitary sewer system plans had been submitted to Ecology; discharges from the heat/soak tank and pressure wash areas had been sampled, with lab results still pending; quotes had been obtained for having the Woodlife AST cleaned and removed; the facility was making plans to remove all USTs and would conduct soil characterization at that time; the facility purchased and was using a drum storage container. While a list was still being compiled, the USTs reported to be present on-site included a 1,000-gallon diesel UST, 500-gallon gasoline UST, and a 500-gallon (approximately) thinner (toluene) UST (had been out of service for over 5 years).

September 2, 1990 Letter from Ben-Fab (Nord Door) to Ecology – This letter provided locations and uses of all USTs known to be present on the Property. Also included was a map providing the locations of the USTs. The locations of the former USTs are presented on Figure 9. The USTs on the Site were identified as follows:

- UST No. 1 – Active 1,000-gallon diesel UST installed in 1978, located on north-northeast portion of Site,
- UST No. 2 – Active 500-gallon gasoline UST installed in 1973, located northwest of main manufacturing building.

- USTs No. 3 and 4 – Inactive USTs installed in 1973 and closed in place in April 1987. Contents not reported. Located south-southwest of main manufacturing building. JELD-WEN maps identified the USTs to have contained gasoline.
- UST No 5 – Inactive 500-gallon thinner (toluene) UST installed in 1978 and out of use since approximately 1985. Located northeast of the main building.

September 18, 1990 Letter from Ben-Fab (Nord Door) to Ecology – This letter provides the findings of sampling which was conducted on the Site's wastewater streams (soak-and-heat tank, boiler blow down, condensate, glue room effluent, and equipment wash), and discussions with the City of Everett Water Department regarding the possible discharge of wastewater to the sanitary sewer. Water samples were collected from the soak tank, boiler blow down, boiler storm drain, condensate room, glue room, and compressor cooling water. Samples from the soak tank, boiler blow down, boiler storm drain, and glue room were analyzed for tannins and lignins, total organic carbon, total dissolved solids, oil and grease, and petroleum hydrocarbons. The sample methodology was not stated. The sample from the soak tank contained tannins and lignins (420 milligrams per liter [mg/L]) and total organic carbon (510 mg/L). The sample from the boiler blow down contained oil and grease (1,100 mg/L). The sample from the boiler storm drain contained oil and grease (490 mg/L). The sample from the glue room contained oil and grease (208 mg/L) and total petroleum hydrocarbons (340 mg/L).

Additionally, samples from the boiler blow down, boiler storm drain, condensate room, glue room, and compressor cooling water were analyzed for metals using EPA 6000/7000 series methods. The metals chromium, copper, lead, and zinc were identified in each of the samples. Additionally, cadmium was identified in the sample from the glue room; mercury was identified in the samples from the boiler blow down, glue room, and compressor cooling water; nickel was identified in the sample from the boiler blow down and glue room; and silver was identified in the samples from the boiler storm drain and glue room.

The city determined that based on the sampling results, the wastewater from the soak-and-heat tank, boiler blow down, and condensate could be discharged to the sanitary sewer after pH and temperature adjustment. The facility stated they were attempting to eliminate the glue room and equipment wash wastewater streams.

February 11, 1991 Letter from Sweet-Edwards/EMCON regarding UST Removal, Observations, and Soil Sampling – On November 14, 1990, Sweet/Edwards/EMCON, Inc. observed the removal of one 1,100-gallon diesel UST and one 500-gallon gasoline UST. The 1,100-gallon UST is depicted on Figure 9 as Tank 1, which is referenced in other documents as a 1,000-gallon diesel AST. The 500-gallon gasoline UST is depicted on Figure 9 as Tank 2. The USTs were excavated and removed by JELD-WEN employees. Soil samples were collected from the north, east, south, and west sidewalls and the base of the diesel UST excavation and analyzed for Total Petroleum

Hydrocarbons (TPH-IR, EPA Method 418.1). TPH-IR concentrations in the north, east and south sidewalls were identified at concentrations of 1,000 milligrams per kilogram (mg/Kg), 263 mg/Kg, and 296 mg/Kg, respectively. TPH-IR concentrations from the west wall, the base of the excavation, and the stockpile were less than 100 mg/Kg. The soil sample from the south sidewall was also analyzed for TPH as diesel (TPH-d, EPA Method 3550/8015 modified). A concentration of 160 mg/Kg of TPH-d was identified (compared to a concentration of 296 mg/Kg of TPH-IR in the same sample).

Samples collected from the sidewalls and base of the 500-gallon gasoline UST excavation were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX, EPA Methods 5030/8020). BTEX was not detected above the laboratory practical quantitation limit (PQL) in the samples from the sidewalls or base of the excavation. Total BTEX concentrations up to 1.48 mg/Kg were identified in the soil stockpile. Analysis of TPH as gasoline (TPH-g, EPA Method 3550/8015 modified) in samples of stockpiled soil identified concentrations up to 104 mg/Kg. TPH-g was not detected above the laboratory PQL in the excavation sidewalls or base.

Based on this data, additional soil excavation was performed on the north wall of the diesel UST excavation to remove soil containing diesel-related petroleum hydrocarbons. Two samples were collected at the new limits of the excavation and analyzed for TPH-d. TPH-d concentrations were not detected above the laboratory PQL. No further excavation was conducted along the east and south walls of the excavation since TPH-d was not detected above the 200 mg/Kg action level listed under Chapter 173-340 WAC.

The report concluded that soils containing TPH-d were detected above the 200 mg/Kg recommended action level proposed under Ecology's Model Toxic Control Act (MTCA) Cleanup Regulations in samples collected from the north wall of the former diesel UST excavation. An additional 10 cubic yards of soil were subsequently removed. Samples collected at the limits of the new excavation contained TPH-d concentrations less than 200 mg/Kg. Soils containing TPH-g were identified in the soil stockpile but not in the gasoline UST excavation. These soils were reportedly "aerated" above ground by turning with a backhoe prior to being placed in the excavation as fill material. Soils removed from the diesel UST excavation north wall were reportedly being "landfarmed" on-site and would be evaluated for TPH-d at a future date. No further information was provided pertaining to the soil which was reportedly "landfarmed" on-site.

February 22, 1991 – Final Report: Penta Contaminated Water Clean-up and Discharge prepared by Nord Door – An out-of-service, 10,000-gallon Woodlife AST remained on the Site from the ownership prior to JELD-WEN's purchase. Rainwater had accumulated in the concrete containment berm of the AST and was found to contain up to 140 parts per million (ppm) of pentachlorophenol (PCP). A plan to perform carbon filtration of the water with subsequent discharge to the sanitary sewer system was approved by the City of Everett and Ecology. A discharge limit of 0.05 ppm of PCP was established. Several rounds of water filtration and discharge were undertaken between

November 16, 1990 and February 8, 1991. Once the water was discharged, a private contractor would be retained to clean and remove the 10,000-gallon AST, concrete berm, and portable AST used to contain the filtered water. A sample of the concrete would be collected to determine the levels of residual PCP. A final closure plan for the concrete berm would be established upon receipt of the results.

March 5, 1991 Letter from Ecology Regarding Closure of PCP Tank Containment Berm at Nord Door – Nord Door facility provided laboratory results from sampling soil and concrete associated with the former Woodlife AST. Concentrations of PCP in the soil were below the laboratory PQL (soil sample location not stated) and the concentration of PCP in the concrete was 0.5 ppm. Nord Door proposed closing the containment berm by knocking in the walls to a level below grade, pushing the rubble into the remaining berm, filling with clean backfill, and asphalting over the area. Ecology approved the proposed plan. The documents obtained by SLR do not indicate whether the containment berm was closed as proposed. However, based on SLR's site observations the containment berm wall was demolished and the area of the former containment berm has been covered by asphalt

March 18, 1991 Early Notice Letter from Ecology regarding Nord Door (Site #N-31-5035-000) – Under MTCA (Chapter 70.105D RCW), Ecology maintains a database of known or suspected contaminated sites. Based on available information and a site inspection on April 13, 1990, Ecology had added the Nord Door facility to the database. A copy of the site information sheet indicated the facility was listed due to confirmed impacts to soil with petroleum products, and suspected impacts to groundwater, surface water, and sediment with metals, PCBs, phenolic compounds, non-chlorinated solvents, and polynuclear aromatic hydrocarbons (PAHs).

June 1991 Site Hazard Summary Report for Nord Door prepared by Parametrix - The report summarized the results of a soil and groundwater assessment performed at the Site by SAIC/Parametrix on behalf of Ecology. The objective of the assessment was to conduct field screening and sampling to gather sufficient environmental data to assess the Site using the Washington Ranking Method (WARM) guidelines. The scope of work included the following:

- Collecting two surface soil samples from the area northwest of the main manufacturing building where barrels were previously stored (GS-1 and GS-2). Surface soil samples were analyzed for volatile organic compounds (VOCs, EPA Method 8240), TPH (EPA Method 8015), semivolatile organic compounds (SVOCs, EPA Method 8270), and Pesticides (EPA Method 8140);
- Collecting one surface soil sample from an asphalt eroded area northwest of the main building which was analyzed for VOCs (GS-3);
- Collecting two sediment samples from the storm drains on-site which were analyzed for VOCs, TPH, SVOCs, and Pesticides (SS-1 and SS-2). One sample was collected along the southwest Site border near the glue room stormwater

outfall and one was collected on the northeast portion of the Site near the boiler room stormwater outfall.

The sample locations are depicted on Figure 9. It should be noted that the sample descriptions did not include the collection of a water sample, and no water sample is discussed in the text of the report. However, the table which presents the analytical findings includes the results of sample EW, which appears to be a water sample. This sample is not discussed elsewhere in the report.

With the exception of very low concentrations of methylene chloride (also identified in method blank), chloroform identified in one water sample (sampling location not provided in report), and acetone, no contaminants were identified above the PQLs. The detected concentrations of methylene chloride, chloroform, and acetone did not exceed the MTCA Method A cleanup levels. These sampling results are included in the summary analytical tables (Tables 1 through 7).

August 21, 1991 Letter from Ecology to Nord Door – Ecology assessed the relative health and environmental risk associated with the facility and assigned a hazard ranking of 5 (with 1 being the highest risk and 5 being the lowest risk.).

October 24, 1991 Letter from Sweet-Edwards/EMCON, Inc. Regarding Removal of Thinner (Toluene) UST – On August 6, 1991 a 500-gallon thinner (toluene) UST was removed from the Site (identified on Figure 9 as Tank 5). Soil samples were collected from the four sidewalls and the base of the excavation, as well as from the stockpiled soil. The soil samples were analyzed for toluene (EPA Method 5030/8020) and TPH-g (EPA Method 5030/Modified 8015). Toluene was detected at concentrations of 9.4 mg/Kg and 14.6 mg/Kg in soil samples from the north sidewall and excavation base, respectively. TPH-g was identified at concentrations of 20 mg/Kg and 30 mg/Kg from samples collected from the north sidewall and excavation base, respectively. Analysis of a composite sample from the stockpiled soils identified a toluene concentration of 0.95 mg/Kg and a TPH-g concentration of 4 mg/Kg.

The report concluded that soil samples from the former thinner (toluene) UST excavation contained concentrations of toluene below the cleanup level of 40 mg/Kg for toluene and 100 mg/Kg for TPH-g presented in the MTCA Method A table.

February 11, 1994 Letter from Nord Door/JELD-WEN to Ecology – JELD-WEN was in the process of leasing a portion of the Site to Sterling Asphalt. A subsurface investigation was conducted by RZA Agra, Inc., a consultant for the prospective lessee. The investigation included the installation 5 soil borings (C1-S1, C2-S2, C4-S1, C5-S1, and C6-S1) and two monitoring wells (MW-1 and MW-2). Soil samples collected from each of the soil borings and the two monitoring well borings were analyzed for TPH-HCID, TPH-g, TPH-d, TPH by Washington State Method 418.1 modified (TPH-418.1), BTEX, lead, PCBs, and PAHs. Groundwater samples were analyzed for TPH-g and TPH-418.1.

The samples from the six soil borings were below PQLs for all TPH constituents, BTEX, PCBs, and PAHs. One of the borings (C6-S1) identified 17 ppm of lead, which was below the MTCA Method A Cleanup level of 250 ppm. The soil sample collected from the monitoring well boring MW-1 identified TPH-418.1 in soil at a concentration of 700 ppm. This concentration was above the MTCA Method A recommended cleanup level of 200 ppm.

In addition, the two groundwater samples identified concentrations of TPH-418.1 at 16 mg/L (MW-1) and 1.6 mg/L (MW-2), which exceeded the MTCA Method A recommended cleanup levels of 1 mg/L. The locations of MW-1 and MW-2 are depicted on Figure 9. These sampling results are included in the summary analytical tables (Tables 1 through 7). The approximate area of contamination (the two sampling locations) was by the reclaimed portion of the Port Gardner Bay tide lands where, years ago, loading of materials and moorage of boats occurred.

The Site was located on an area of historic fill in the Port Gardner Bay tide lands. The latest filling reportedly occurred in 1978. A historical review did not identify any process which would produce or cause petroleum contamination in the areas identified.

The report concluded that, based on the information available, it did not appear that this discovery was of major impact. The levels of TPH, though in excess of MTCA closure levels, should be protective of human health and the environment based on the occupancy and exposure.

May, September, and October 2006 and May 2007 Soil and Groundwater Sampling performed by SLR on behalf of JELD-WEN – In 2005, at the request of JELD-WEN, SLR conducted a review of historical documents pertaining to the now closed Nord Door facility and conducted a site walk in September 2005. Based on this information, several assessment groupings were identified which warranted further assessment. The areas warranting further investigation included fuel storage locations, Woodlife storage tank, dip tank, thinner (toluene) storage locations, and waste storage areas.

In May 2006 SLR conducted initial investigation work which included the collection of soil and groundwater samples from 42 locations focused on these initial assessment groups. Based on available information, contaminants initially identified as a potential concern at the Site were petroleum hydrocarbons, solvents, PCBs, PCP, and creosote. Sampling locations GP-1 to GP-42 are presented on Figure 9.

The May 2006 assessment identified several areas of environmental impact at the facility due to former operations. Identified impacts included: creosote from historical pole treating operations at the east side of the facility along West Marine View Drive, PAHs and petroleum hydrocarbons from historical fueling oil storage at the east side of the facility, toluene from solvent storage at the northeast corner of the facility, PCP from wood treatment solution storage and usage at the northeast corner of the facility (appeared to be localized), and PAH and TPH from fill material placed at the Site (appeared to be wide-spread but relatively minor). Based on the findings of the May 2006 investigation, subsequent investigations were conducted in September and October 2006 to further evaluate the following data gaps: the potential for creosote and oil impacts to extend off-site to the east under West Marine View Drive; to gain an understanding of the groundwater flow direction and tidal influence at the Site; to gain an understanding of the extent of impacts at the fueling station as identified in assessment location GP-34; to evaluate whether the toluene impacts near the northeastern corner of the Site were limited in extent.

Additional assessment was conducted in September and October 2006 to address the data gaps. The results of the May and September assessment work was as follows:

- Creosote and fuel oil impacts along the eastern portion of the Site – Assessment work included Geoprobe borings near the middle and eastern side of West Marine View Drive (GP-201 through GP-215). Creosote and oil impacts to soil and groundwater extended under a portion of the former manufacturing building and West Marine View Drive. The extent of these impacts had not been fully delineated in an easterly direction.
- Installation of six groundwater monitoring wells – Five groundwater monitoring wells were installed at the Site in October 2006 (MW-1 through MW-5) and one additional well (MW-6) was installed in May 2007. The six wells were sampled for TPH-Dx, TPH-Gx, SVOCs, and VOCs. Groundwater monitoring wells MW-1 through MW-4 and MW-6 were below laboratory PQLs for all analytes. Groundwater monitoring well MW-5 identified benzene (9.46 micrograms per liter [µg/L]), naphthalene (11.1µg/L), toluene (4.12 µg/L), and xylene (1.05 µg/L). Benzene was identified above the MTCA Method A Cleanup Level for benzene in groundwater (5 µg/L). Concentrations of naphthalene, toluene, and xylene identified in groundwater were well below their respective MTCA Method A Cleanup Levels.
- Groundwater flow direction and tidal influences – Pressure transducers were placed in monitoring wells MW-1 through MW-5 well for a one-week period in October 2006. The monitoring well locations are shown on Figure 9, with MW-1 located along the southern edge of the Site, MW-2 near the western edge of the Site within the Rinker Materials facility, MW-3 near the northern edge of the Site, MW-4 near the boiler, and MW-5 near West Marine View Drive. The transducer data showed tidally-influenced groundwater at the Site, with a general groundwater flow direction from the eastern, center portion of the Site toward the west (MW-2) and north (MW-3). The observed water level in MW-1 was higher than the other four monitoring wells indicating an uncharacteristically high

groundwater “mound” in that area, or an error in the measured elevation of the casing of this well.

- Fueling station impacts – In October 2006, test-pit excavations were completed at the Site near the former fueling station extending over the Geoprobe sampling location GP-34. This assessment was completed to further assess the extent of oil impacted soil in this area. The test pit excavation exposed an area containing wood debris (lumber and saw dust) along with other miscellaneous waste (asphalt pieces, bottles, scrap metal) to a depth of five to six feet below the surface. Soil sampling conducted at the edges of the test-pit excavation resulted in relatively low concentrations of oil in the soil, with some elevated PAH concentrations.
- Toluene impacts – In October 2006 test-pit excavations were installed near the former thinner (toluene) storage tank at the northeastern portion of the Site. The test-pits defined the extent of the toluene impacts to the shallow soil in this area.

Based on the findings of these investigations, a release report was submitted to Ecology via their on-line reporting system on September 19, 2006. The Site is listed under Ecology’s website database as Ecology Identifier or facility number 2757.

APPENDIX C

SEA LEVEL RISE / CLIMATE CHANGE ASSESSMENT

Description: Provides a site-specific evaluation of the effects of climate change and projected sea level rise that is used to inform the future environmental setting and potential climate change impacts on the evaluated remedial alternatives.

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ANCHOR
QEA

Memorandum

March 29, 2021

To: Nathan Soccorsy, Anchor QEA. LLC

From: Sam Giannakous, Anchor QEA, LLC

Re: Sea Level Rise Considerations
Jeld-Wen/Nord Door Site, Everett, Washington

Introduction

For the purpose of the evaluating future environmental conditions, this memorandum evaluates the effect of global climate change relative to the Jeld-Wen/Nord Door Site (Site) in Everett, Washington. The effects of climate change have been assessed in accordance with Washington State Department of Ecology (Ecology) guidance. Relatively recent Everett-specific projections (Miller et al. 2018) and Federal Emergency Management Agency (FEMA) floodplain information were reviewed to determine Site-specific projections and evaluations to inform the future environmental setting and considerations relative to remediation.

Washington Department of Ecology Guidelines for a Site Vulnerability Assessment

A report prepared for the Washington Department of Ecology (Ecology) titled *Adaptation Strategies for Resilient Cleanup Remedies: A Guide for Cleanup Project Managers to Increase the Resilience of Toxic Cleanup Sites to the Impacts from Climate Change* (Asher et al. 2017) provides guidelines to assess the vulnerability of a project site to several risk factors related to climate change. The following are the site-specific risk scenarios detailed by Ecology, including a summary of sea level rise and severe storm assumptions.

Low-risk scenario. Cleanup sites to be remediated via full removal in the near future (1 to 2 years) with no long-term monitoring. This scenario considers a remedy with no further action. Future climate projections need not be addressed. For this scenario, 0.5 to 1 foot of sea level rise atop the mean higher high water (MHHW) elevation may need to be considered to account for flooding.

Short-term risk. Cleanup sites to be remediated within the next 10 years, including full removal, with or without post-construction monitoring or short-term natural attenuation. It may be appropriate to consider near-term climate projections (mid-century), 1 to 2 feet atop MHHW at a minimum. Current 100-year storm events will occur more frequently, becoming a 25-year storm. Extreme precipitation events will occur more frequently, with more frequent erosion likely in vulnerable areas.

Long-term or high risk. Remedial cleanup of sites involving contamination being left in place, long-term monitored natural recovery, cleanup levels taking more than 10 years to meet, or where damage potential is high, even if there is a low probability of that event happening. A sea level rise at the high end of the projections assumed for the end of the century (4 to 6 feet) may be appropriate to consider, as well as inundation under both the base flood elevation and MHHW. These sites may need to consider that a 100-year storm event will occur at least every 10 years.

Site Assessment

In order to address the many uncertainties in climate projections, the remedy timeframe, consequences of a failed remedy, and adaptive management should be taken into consideration. Long term remedies will involve more uncertainty because they depend more heavily on long-term climate projections that are not as reliable. Failed remedies of higher risk sites, particularly those where contamination is left in place, can have more severe impacts resulting from inundation even if the probability of such inundation is lower. Lastly, repair cost and/or adaptive management should be considered in the case that climate change consideration proves to be underestimated or sea level rise were to accelerate. Each specified remedial alternative should be suited to handle this magnitude of sea level rise depending on the risk scenario to which it can be applied.

The eight remedial alternatives outlined as potential cleanup actions range from source control, to capping, to full or partial removal. Based on the eight remedial alternatives, the low-risk scenario does not apply to this site, and thus climate change and sea level rise considerations need to be addressed.

Short-term and long-term risk scenarios may both apply to the site depending on the remedial alternative selected. Each alternative should be carefully considered in determining which risk scenario to apply. Design should account for the potential impacts of climate change as detailed by Ecology.

Remedial alternatives that include some degree of contamination left in place (capping or partial removal) should be classified as long-term or high-risk scenarios and consider the appropriate climate change projections for high-risk sites.

Sea Level Rise Estimates

A report prepared for the Washington Coastal Resiliency Project (WCRP) in 2018 provided an updated assessment of projected sea level rise and the associated hazards for Washington state. The updated projections for sea level rise are more comprehensive than past estimates, taking into consideration recent research, land movement, and greenhouse gas emissions. Greenhouse gas emission projections depend on a variety of factors related to human behavior. Therefore, probabilistic projections for sea level rise have been made based on both low and high greenhouse gas scenarios.

Climate projections are made for two greenhouse gas emissions scenarios in this report: Representative Concentration Pathway (RCP) 4.5 and RCP 8.5. RCP 4.5 is a low estimate in which greenhouse gas estimates stabilize by mid-century and decrease thereafter. RCP 8.5 is a high scenario in which there is continued increase in greenhouse gasses until the end of the 21st century (Mauger 2015). Tables C-1 and C-2 present the probability of exceedance of sea level rise, in feet, for the RCP 4.5 and RCP 8.5 greenhouse gas scenarios. Highlighted rows indicated mid-century (50-year) and end of century projections (100-year). These projections were estimated for the coastal area in Snohomish County where the project site is located. Vertical land movement of -0.1 ± 0.2 foot per century is factored into these projections.

Table C-1
Assessed Likelihood (in Percentages) of Sea Level Reaching or Exceeding a Threshold for Different Sea Levels (in feet) and Dates for RCP 4.5 Scenario

19-year period centered on:	0	0.5	1	1.5	2	2.5	3	4	5	6	7	8	9	10
2010	97	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	99	0	0	0	0	0	0	0	0	0	0	0	0	0
2030	100	11	0	0	0	0	0	0	0	0	0	0	0	0
2040	100	54	0	0	0	0	0	0	0	0	0	0	0	0
2050	100	82	10	0	0	0	0	0	0	0	0	0	0	0
2060	100	93	36	3	0	0	0	0	0	0	0	0	0	0
2070	100	96	62	14	2	1	0	0	0	0	0	0	0	0
2080	100	98	77	33	8	2	1	0	0	0	0	0	0	0
2090	100	98	85	51	19	6	2	1	0	0	0	0	0	0
2100	100	98	90	65	34	13	5	1	1	0	0	0	0	0
2110	100	99	92	74	47	24	10	3	1	1	0	0	0	0
2120	100	99	94	79	57	33	17	5	2	1	1	0	0	0
2130	100	99	94	83	64	43	26	8	3	2	1	1	0	0
2140	100	98	94	85	69	51	34	12	5	3	1	1	1	0
2150	100	99	95	87	74	58	42	18	7	4	2	1	1	1

Source: WA Coastal Network; http://wacoastalnetwork.com/chrn/research/sea-level-rise/

Based on the low-level projections, by mid-century, it is likely the sea level will rise between 0.5 and 1 foot along the coastline in Everett, Washington. By the turn of the century and shortly thereafter, it is projected that sea level could increase up to 3 feet under the low greenhouse gas scenario.

Projections based on the RCP 8.5 high scenario suggest slightly more aggressive rates of sea level rise at the Jeld-Wen site. By middle to late century, the sea level could rise between 1 and 2 feet, and up to 5 feet after the turn of the century.

Table C-2
Assessed Likelihood (in Percentages) of Sea Level Reaching or Exceeding a Threshold for Different Sea Levels (in feet) and Dates for RCP 8.5 Scenario

19-year period centered on:	0	0.5	1	1.5	2	2.5	3	4	5	6	7	8	9	10
2010	95	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	100	0	0	0	0	0	0	0	0	0	0	0	0	0
2030	100	9	0	0	0	0	0	0	0	0	0	0	0	0
2040	100	59	1	0	0	0	0	0	0	0	0	0	0	0
2050	100	87	15	1	0	0	0	0	0	0	0	0	0	0
2060	100	96	48	5	1	0	0	0	0	0	0	0	0	0
2070	100	99	77	26	4	1	0	0	0	0	0	0	0	0
2080	100	99	90	54	18	5	2	0	0	0	0	0	0	0
2090	100	100	95	74	39	15	5	1	0	0	0	0	0	0
2100	100	100	97	85	61	34	15	3	1	0	0	0	0	0
2110	100	100	99	90	69	41	20	5	2	1	0	0	0	0
2120	100	100	99	94	80	59	36	10	4	2	1	0	0	0
2130	100	100	99	96	87	70	50	19	7	3	1	1	1	0
2140	100	100	100	98	91	78	62	29	12	5	3	1	1	1
2150	100	100	100	98	93	84	70	41	19	9	5	3	2	1

Source: WA Coastal Network; http://wacoastalnetwork.com/chrn/research/sea-level-rise/

Tidal datums recorded within the Port of Everett, just south of the Jeld-Wen site, are presented in Table C-3. LiDAR data taken for the Snohomish River Estuary provided elevation contours for the site. Based on the LiDAR elevation data, the majority of the Jeld-Wen site is at elevations ranging from 12 to 14 feet with select features up to elevation +17 feet MLLW.

Table C-3
Tidal Datums for NOAA Station 9447659 (Everett, WA)

Tide	Tide Level (feet MLLW)
Mean Higher High Water (MHHW)	11.09
Mean High Water (MHW)	10.21
Mean Tide Level (MTL)	6.51
Mean Sea Level (MSL)	6.48
Mean Low Water (MLW)	2.8
Mean Lower Low Water (MLLW)	0

Source: Center for Operational Oceanographic Products and Services; NOAA tides & Currents

Ecology guidance is to add feet of sea level rise to the MHHW datum to project potential inundation caused by high tides over the course of a day. The potential for mid-century sea level rise of 1 to 2 feet (RCP 8.5) results in a new MHHW elevation of up to 14 feet. Projections for sea level rise at the turn of the century of 5 feet would result in MHHW elevation over 16 feet. Figure C-1 highlights the inundation possible at the Jeld-Wen site resulting from this degree of sea level rise. Elevation contours of 13, 15, and 17 feet are highlighted to reflect 2, 4, and 6 feet of sea level rise.

NOTES:
1. Contours developed from the Snohomish River Estuary LiDAR survey from 2009.

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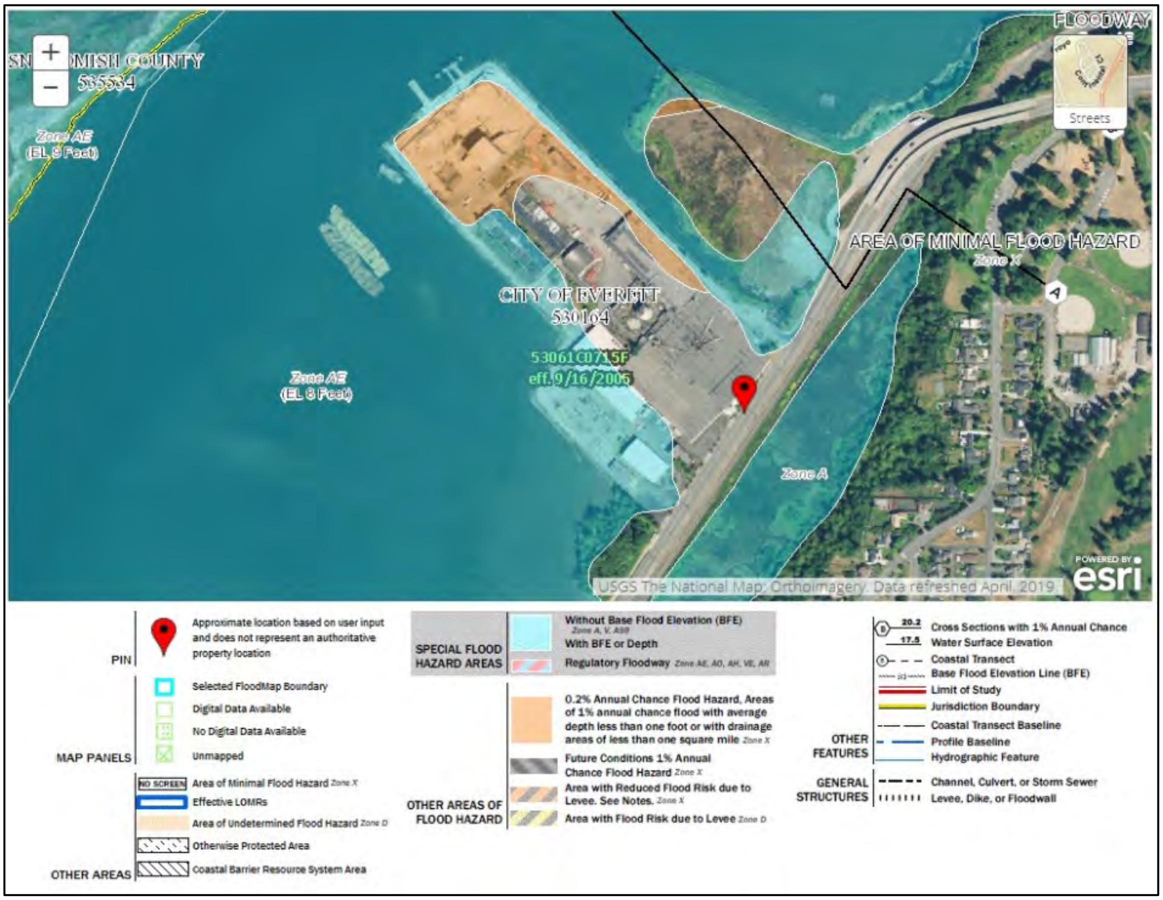
Figure C-1
Sea Level Rise
Jeld-Wen/Former Nord Door Facility

FEMA Flood Risk

The sea level rise estimates previously presented are not related to coastal flood risk assessments performed by FEMA (Miller et al. 2018). FEMA has created floodplain maps of visual inundation caused by a 100-year flood (also termed base flood elevation or BFE) as a risk assessment tool for insurance purposes. The current effective 100-year floodplain map is shown in Figure C-2.

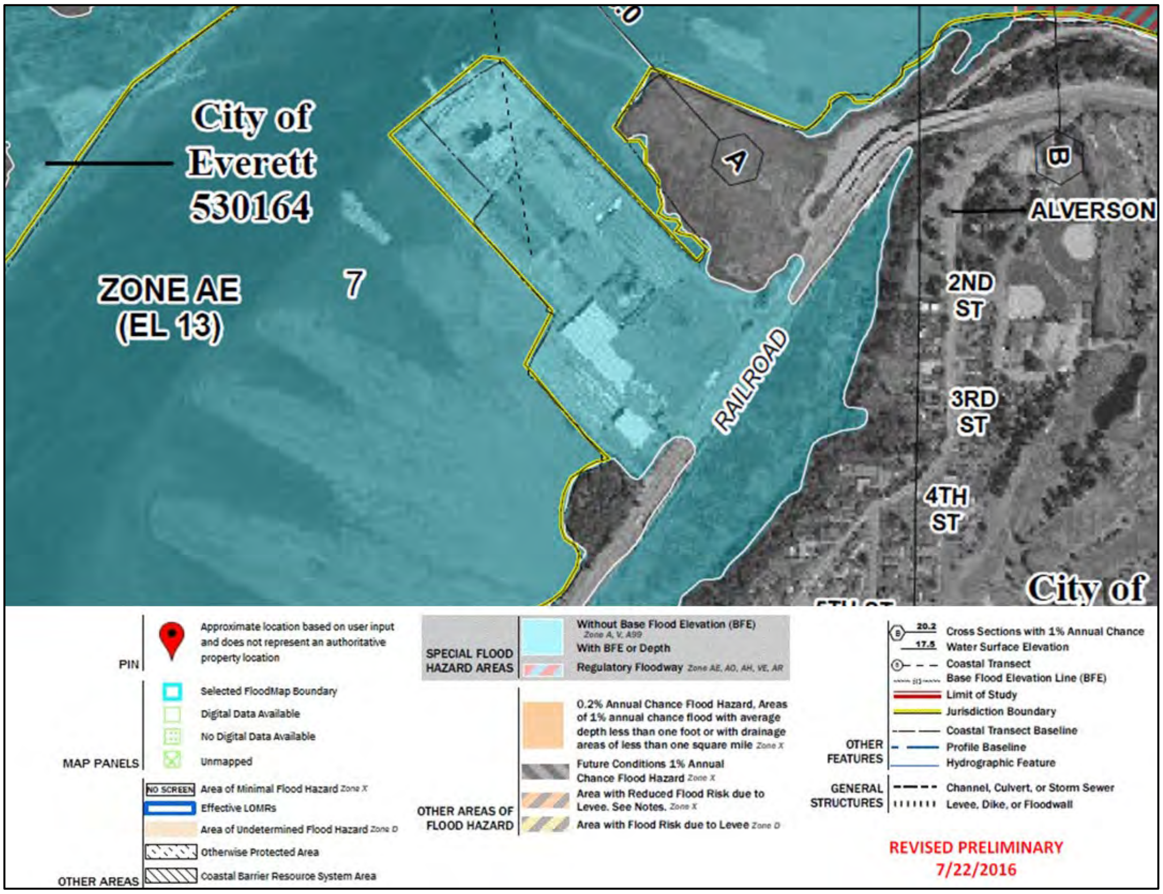
Figure C-2
Current Effective FEMA Floodplain Map



Source: FEMA Flood Map Service

Under the current effective BFE, most of the site is mapped as being inundated during a 100-year flood, with breaching of West Marine View Drive resulting in full inundation of the low-lying marshland landward of the Jeld-Wen site. FEMA's preliminary updated floodplain map is shown in Figure C-3. Although not yet approved, these preliminary data suggest that the site would be completely inundated under the future BFE.

Figure C-3
Preliminary FEMA Floodplain Map



Source: FEMA Flood Map Service

The impacts of the 100-year floodplain (the BFE), as the determination of the risk category for a project site, can result in the BFE becoming a 25-year or 10-year storm event. This level of inundation or impacts as severe as this level of inundation may occur on a more frequent time scale as a result of climate change.

References

Asher, C., T. Michelsen, S. O'Dowd, and H. Froyland, 2017. *Adaptation Strategies for Resilient Cleanup Remedies: A Guide for Cleanup Project Managers to Increase the Resilience of Toxic Cleanup Sites to the Impacts from Climate Change*. Prepared for Washington Department of Ecology Toxic Cleanup Program. Publication No. 17-09-052. November 2017.

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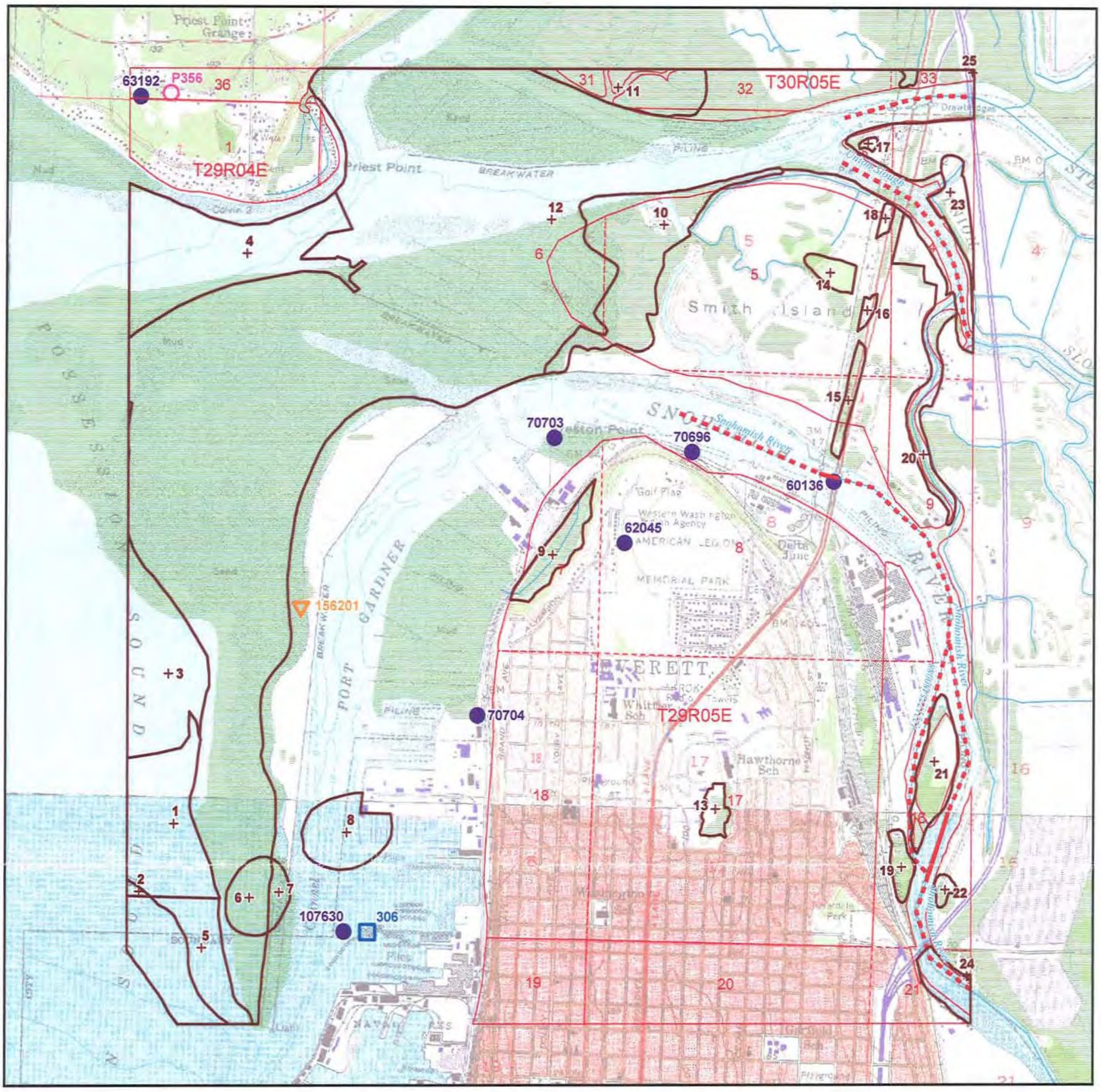
APPENDIX D

WDFW FIGURES

Description: Provides habitats and species maps used to inform the upland ecological understanding of the site, information regarding listed and candidate Endangered Species Act fish species in the project area, and a 2019 Critical Areas Report used to inform the marine ecological understanding of the site and allow for the avoidance, minimization, and mitigation of impacts related to future cleanup activities.



Washington Department of Fish and Wildlife
HABITATS AND SPECIES MAP
IN THE VICINITY OF T29R05E SECTION 7

Map Scale 1:24,000 - Production Date: Sep 10, 2010
Coordinate System - State Plane South Zone 5626 (NAD83 HPGN)
Map Designed by WDFW Information Technology Services GIS

PLEASE NOTE

This map and the accompanying reports are not for general distribution. Washington State Law (RCW 42.56.430(2)) exempts Sensitive Fish and Wildlife information from public inspection and copying.

Washington Department of Fish and Wildlife (WDFW) considers sensitive species and habitat locations displayed on this map and accompanying reports to be confidential. WDFW is the exclusive owner of the Sensitive Fish and Wildlife Information and locations shall in all respects be treated as proprietary information in accordance with all procedures reasonably necessary to protect WDFW's proprietary rights therein.

DISCLAIMER

This map and the accompanying reports only inclulde information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site specific surveys are frequently necessary to rule out the presence of priority resources.

Locations of mapped wildlife and habitat features are generally within a quarter mile of the locations displayed on this map. Locations of fish and wildlife resources are subject to variation caused by disturbance, changes in season and weather, and other factors. WDFW does not recommend using maps more than six months old and information should not be used for future projects.

For questions about how the information may apply to a specific project or site, contact the WDFW Regional Office for your region at:
http://wdfw.wa.gov/about/regions/index.html

MAIN DATA SOURCES

Priority Habitats and Species polygon, Habitat point, Klickitat County Oak, Wildlife Survey Data Management polygon/point, Spotted Owls, Seal /Sea Lion Haulouts, 1:24K streams and fish presence data: Wa. Dept. of Fish and Wildlife.
Seabird Colony data: US National Oceanic and Atmospheric Administration.
Kelp Bed, Oak Stand, Eelgrass, Turf Algae and Township/Section data: Wa. Dept. of Natural Resources.
Wetland data: US Fish and Wildlife Service, National Wetlands Inventory.
1:24K Quadrangle Image: US Geological Survey.

Map Legend

Priority Habitats/Species:

- Priority Habitats and Species (PHS) Polygon Borders
- Priority Wildlife Areas (WSDM)
- ● Priority Wildlife Sites (WSDM)
- ◇ Priority Habitat Sites
- ⊕ Marbled Murrelet Occupancy Sites
- ✱ Spotted Owl Sites - Status 1-3
- ✱ Spotted Owl Sites - Status 4
- △ Priority Seabird Colonies
- □ Priority Seal/Sea Lion Haulouts
- Priority Fish Presence
- National Wetlands Inventory
- Oak Stands
- Kelp Beds
- Eelgrass
- Turf Algae

Other Habitats/Species:

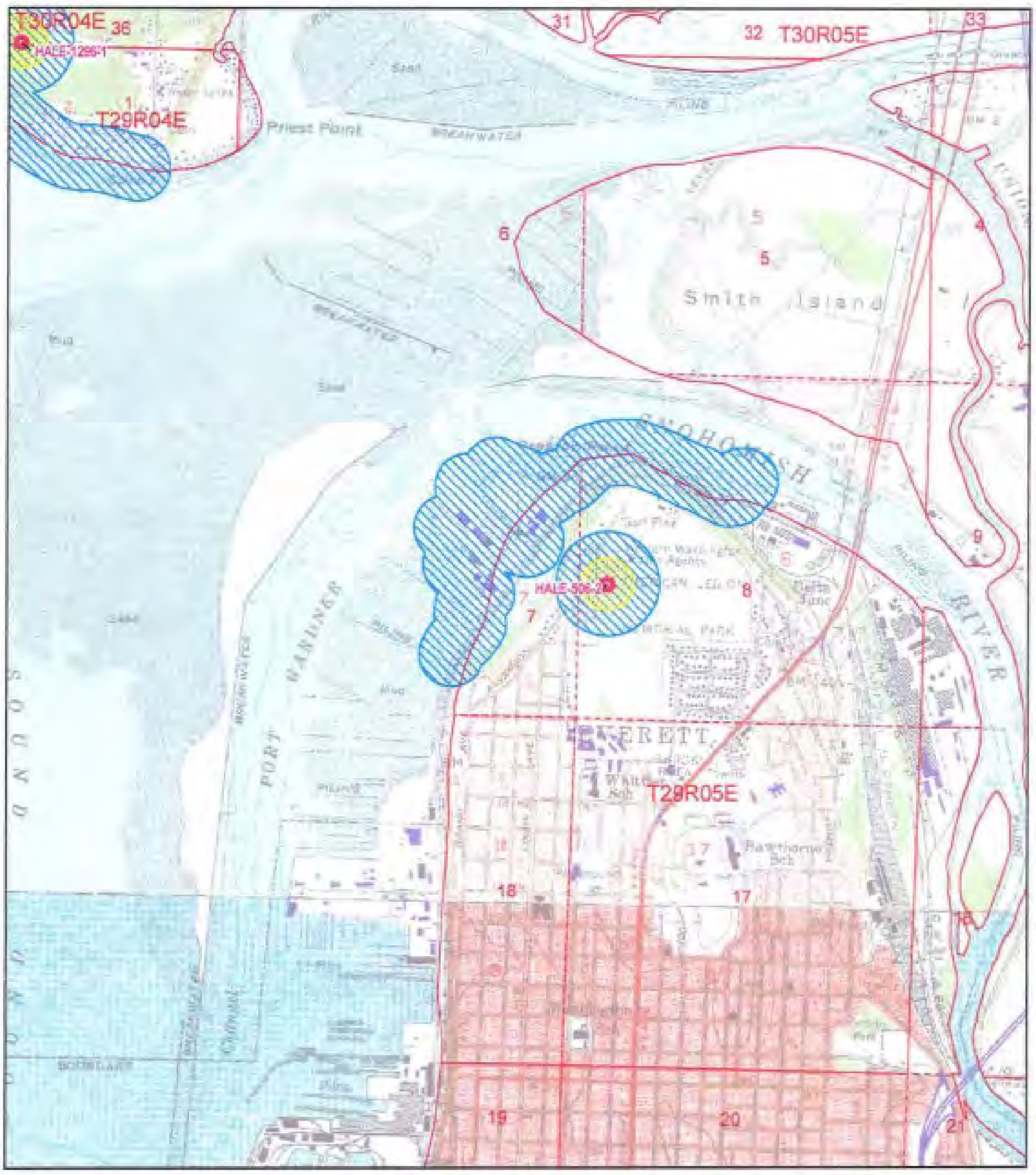
- ▽ Other Seabird Colonies
- ▣ Other Seal/Sea Lion Haulouts
- Spotted Owl Management Circles Established Territory
- Spotted Owl Management Circles Insufficient Evidence to Establish Territory
- Marbled Murrelet Detection Sections (WDFWSTAT 1 through 4)
- Marbled Murrelet 1.5 Mile Buffers (Status 1 through 3)

Other Symbols:

- Rivers and Streams
- Section Lines
- Township Lines

Washington Department of FISH and WILDLIFE

Figure D.1-1
WDFW Habitat and Species Map
Remedial Investigation/Feasibility Study
Jeld-Wen/Former Nord Door Facility



Washington Department of Fish and Wildlife

BALD EAGLE BUFFER MANAGEMENT ZONE MAP

IN THE VICINITY OF T29R05E SECTION 7

Map Scale 1:24,000 - Production Date: Sep 10, 2010
Coordinate System - State Plane South Zone 5626 (NAD83 HPGN)
Map Designed by WDFW Information Technology Services GIS

MAP INFORMATION

This map is intended to help you determine if a Bald Eagle Management Plan (BEMP) is needed for your project. A BEMP is a habitat protection agreement between Washington Department of Fish and Wildlife (WDFW) and a landowner ensuring minimal impact on bald eagles and resonable land use for the owner. For a list of bald eagle management contacts and a fact sheet that addresses frequently asked questions, visit the following WDFW web site at:
http://wdfw.wa.gov/wlm/diversty/soc/baldeagle/eagle_management.htm

PLEASE NOTE

All Fish and wildlife species are vulnerable to harm from human activities. By receiving information on this map, from the Washington Department of Fish and Wildlife (WDFW), you incur an obligation to use it in a way that does not cause undue harm to our public fish and wildlife resources.

DISCLAIMER

This map only includes information that WDFW maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the locations of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site specific surveys are frequently necessary to rule out the presence of priority resources.

This information is highly variable regarding source, some of it is based on field surveys while others are based on "best professional judgement" of the biologist involved. This information has been generalized for the release to the general public. For questions about how the information may apply to a specific project or site, contact the WDFW Regional Office for your region. Contact information available online at:
http://wdfw.wa.gov/about/regions/index.html

MAIN DATA SOURCES

Priority Habitat and Species polygon, Wildlife Survey Data Management polygon/point, and Bald Eagle Buffer Data: Washington Deptartment of Fish and Wildlife.
Township/Section Data: Washington Deptartment of Natural Resources.
1:24K Quadrangle Image: US Geological Survey.

Map Legend

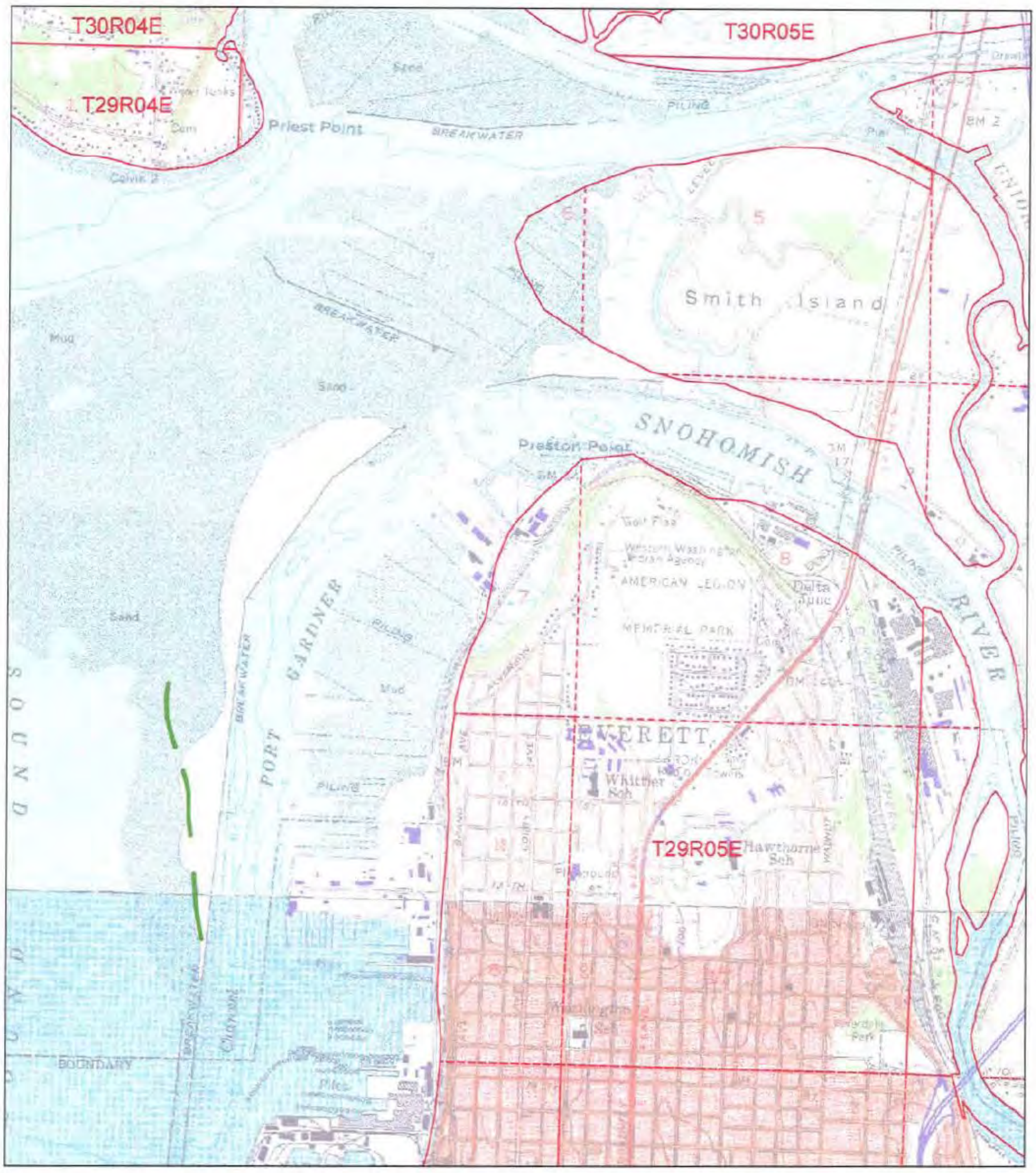
Bald Eagle Information:

- ● Nest Site (Species Code-Occurrence-Sequence)
- ◆ Communal Roost Site (Species Code-Occurrence-Sequence)
- ▦ Communal Roost Area
- 🟨 400 Foot Nest Buffer
- ▨ 800 Foot and Shoreline Nest Buffer
- ▨ 1,320 Foot Communal Roost Buffer

Other Symbols:

- ⬚ Section Lines
- ☐ Township Lines

Figure D.1-2
WDFW Bald Eagle Buffer Management Zone Map
Remedial Investigation/Feasibility Study
Jeld-Wen Former Nord Door Facility



Washington Department of Fish and Wildlife

SURF SMELT, SAND LANCE, ROCK SOLE AND HERRING MAP

IN THE VICINITY OF T29R05E SECTION 7

Map Scale 1:24,000 - Production Date: Sep 10, 2010
Coordinate System - State Plane South Zone 5626 (NAD83 HPGN)
Map Designed by WDFW Information Technology Services GIS

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http://wdfw.wa.gov/about/regions/index.html

MAIN DATA SOURCES
Marine Resources and Forage Fish Survey Data: Washington Deptartment of Fish and Wildlife.
Township/Section Data: Washington Deptartment of Natural Resources.
1:24K Quadrangle Image: US Geological Survey.

Map Legend

Forage Fish/Marine Resouces Data:

- ▬ Documented Surf Smelt Spawning Areas
- ▬ Documented Sand Lance Spawning Areas
- ▬ Documented Rock Sole Spawning Areas
- 🟨 Documented Herring Spawning Areas
- ▨ Documented Herring Holding Areas
- ▬ Potential Surf Smelt/Sand Lance Spawning Areas

Other Symbols:

- ⬚ Section Lines
- □ Township Lines

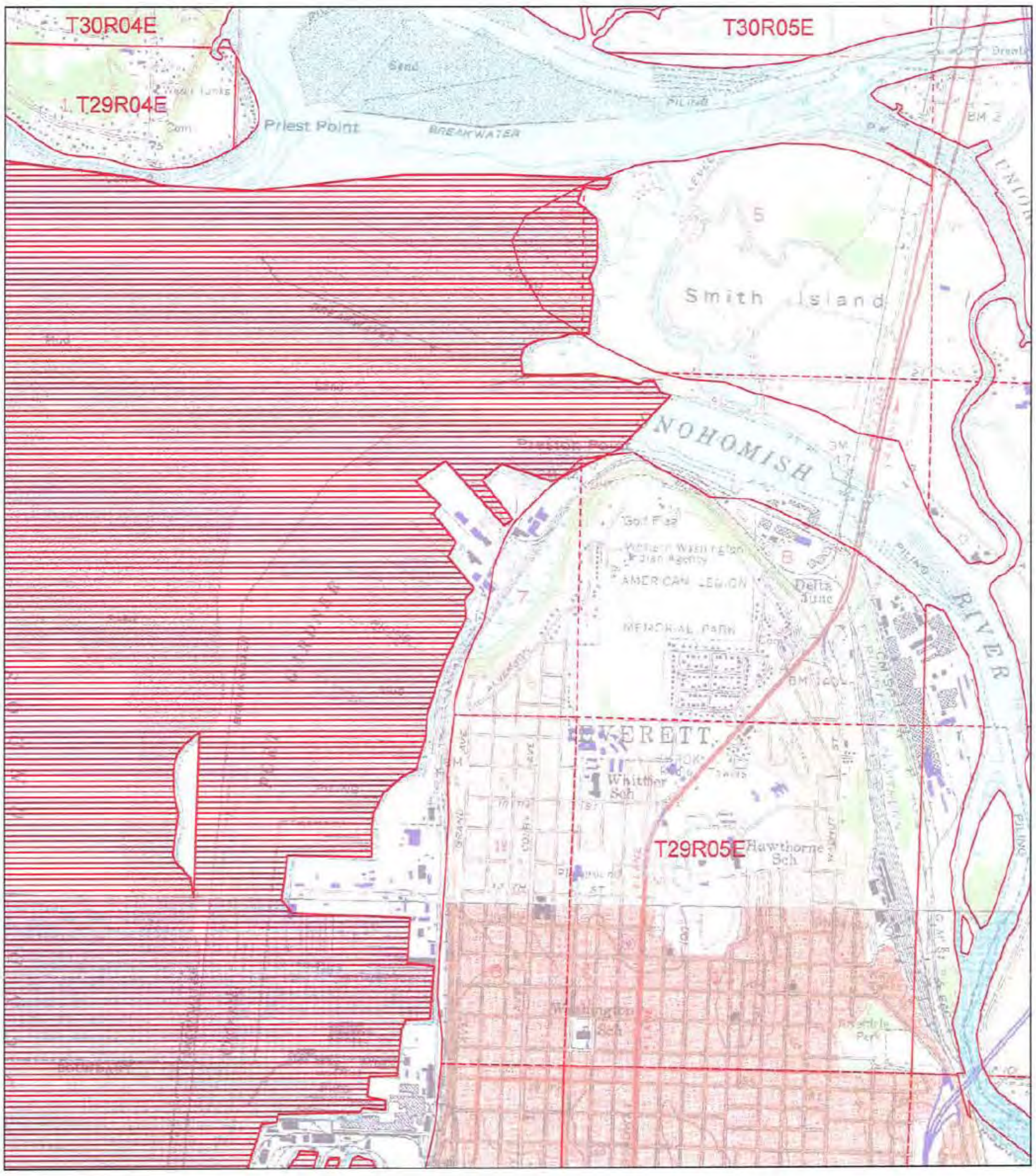
NOTE:
The spawning information for surf smelt, sand lance and rock sole are offset from the shoreline for display purposes only. The typical depths for herring spawning are +3 feet to -20 feet (MLLW).

Washington Department of Fish and Wildlife

Area Location Map

0 0.5 1
Miles

Figure D.1-3
WDFW Surf Smelt, Sand Lance, Rock Sole and Herring Map
Remedial Investigation/Feasibility Study
Jeld-Wen/Former Nord Door Facility



Washington Department of Fish and Wildlife

DUNGENESS CRAB, PANDALID SHRIMP AND SEA URCHIN MAP

IN THE VICINITY OF T29R05E SECTION 7

Map Scale 1:24,000 - Production Date: Sep 10, 2010
Coordinate System - State Plane South Zone 5626 (NAD83 HPGN)
Map Designed by WDFW Information Technology Services GIS

Map Legend

Marine Resouces Data:

- Sea Urchin
- Dungeness Crab
- Pandalid Shrimp

Other Symbols:

- Section Lines
- Township Lines

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http://wdfw.wa.gov/about/regions/index.html

MAIN DATA SOURCES

Marine Resources Data: Washington Deptartment of Fish and Wildlife.
Township/Section Data: Washington Deptartment of Natural Resources.
1:24K Quadrangle Image: US Geological Survey.

Washington Department of FISH and WILDLIFE

Figure D.1-4
WDFW Dungeness Crab, Pandalid Shrimp, and Sea Urchin Map
Remedial Investigation/Feasibility Study
Jeld-Wen/Former Nord Door Facility

March 2021
Former Nord/JELD-WEN Cleanup Site

Critical Areas Report

Prepared for JELD-WEN, Inc. and Washington State Department of Ecology

March 2021
Former Nord/JELD-WEN Cleanup Site

Critical Areas Report

Prepared for
JELD-WEN, Inc.
Klamath Falls, Oregon
and
Washington State Department of Ecology
Olympia, Washington

Prepared by
Anchor QEA, LLC
1201 3rd Avenue, Suite 2600
Seattle, Washington 98101

Project Number: 120909-01.02

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APPENDICES

ABBREVIATIONS

CAR	Critical Areas Report
Corps	U.S. Army Corps of Engineers
DPS	distinct population segment
Ecology	Washington State Department of Ecology
EMC	Everett Municipal Code
ESA	Endangered Species Act
ESU	evolutionarily significant unit
FS	Feasibility Study
FWHCA	Fish and Wildlife Habitat Conservation Area
JELD-WEN	JELD-WEN, Inc.
MTCA	Model Toxics Control Act
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
OHWM	ordinary high water mark
Order	Agreed Order Number DE 5095
PHS	Priority Habitats and Species
RCW	Revised Code of Washington
RI	Remedial Investigation
SMP	Shoreline Master Program
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife

1 Introduction

This Critical Areas Report (CAR) has been prepared for the former E.A. Nord, Inc., door facility site (through its successor, JELD-WEN, Inc.). The site is located in the city of Everett in Snohomish County, Washington, along the marine shoreline of Port Gardner Bay in Possession Sound (Figure 1).

In accordance with the requirements of Model Toxics Control Act (MTCA) Agreed Order Number DE 5095 (Order) between JELD-WEN, Inc. (JELD-WEN) and the Washington State Department of Ecology (Ecology), a draft Remedial Investigation/Feasibility Study (RI/FS) Report was prepared and submitted to Ecology in 2016 (Anchor QEA and SLR International Corporation 2016). Ecology provided comments on the RI/FS Report in a February 2019 letter (Ecology 2019a). The objective of the RI was to collect the data necessary to adequately characterize the site for the purpose of developing and evaluating cleanup action alternatives. The purpose of the FS was to develop and evaluate cleanup action alternatives to enable a cleanup action to be selected for the site.

This CAR has been prepared in response to the Ecology comment letter requesting information on critical areas at the site, including a delineation of the marine shoreline ordinary high water mark (OHWM), wetland delineations, and a description of wildlife and wildlife habitat characteristics. These characteristics include but are not limited to, existing marine, estuarine, and riparian vegetation communities; shoreline features and characteristics; and intertidal substrate and species composition. The study area for this investigation includes the developed portions of the site, the site shoreline, and tidal mudflats adjacent to the site (Figure 2).

Information collected for this CAR will be used to assess conditions in the study area, and to avoid, minimize and mitigate for impacts related to cleanup activities that will occur under the Order. The information will also be used to inform opportunities for restoration of site habitat. Potential impacts and mitigation associated with cleanup activities are not addressed in this CAR and will be evaluated during the design process.

Existing critical areas and associated regulated buffers are identified in this CAR as defined in Chapter 19.37 of the Everett Municipal Code (EMC; City of Everett 2019a). Anchor QEA ecologists conducted a review of the Critical Areas chapter of the EMC, gathered and reviewed existing information, and performed a site visit on July 1 and 3, 2019, to identify, assess, and delineate critical areas within the study area.

During the investigation, 14 estuarine wetlands were identified and delineated within the study area (Wetlands E1 through E14). As described in this CAR, most of the estuarine wetlands are small patches or groups of small patches of salt-tolerant vegetation near the marine OHWM, and 8 of the 14 wetlands are less than 100 square feet in total area. No freshwater wetlands or stream critical areas were identified within the study area. A delineation of the OHWM of the marine shoreline of

Port Gardner Bay in the study area was performed. The OHWM delineation also included a delineation of piles and derelict structures within the study area below the OHWM. Under EMC Chapter 19.37.190, the Port Gardner Bay shoreline is defined as a Fish and Wildlife Habitat Conservation Area (FWHCA) under the category of "habitats of primary association."

The following sections of this report describe the methods used in the field investigation and Anchor QEA's findings:

- A description of the study area is included in Section 2.
- Summaries of the findings of the wetland delineation are included in Section 3.
- The marine shoreline OHWM and the pile and derelict structures delineation is included in Section 4.
- Section 5 includes the habitat assessment and an Endangered Species Act (ESA) species and critical habitat assessment.

Photographs of features in the study area are presented in Appendix A. Wetland field data forms are in Appendix B, and the Ecology wetland rating forms are included in Appendix C.

1.1 Review of Existing Information

Anchor QEA ecologists reviewed the following sources of information to support field observations:

- Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2019)
- U.S. Fish and Wildlife Service (USFWS) Wetlands Mapper for National Wetlands Inventory map information (USFWS 2019a)
- USFWS ESA status reviews and listing information (USFWS 2019b)
- National Marine Fisheries Service (NMFS) ESA status reviews and listing information (NMFS 2019)
- EMC (City of Everett 2019a)
- City of Everett critical areas maps (City of Everett 2019b)
- City of Everett Shoreline Master Program (SMP) (City of Everett 2016)
- Snohomish County critical areas maps (Snohomish County 2019)
- Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) Maps (WDFW 2019a)
- WDFW SalmonScape website (WDFW 2019b)
- Comments on the "Marine" portion of the Final Draft Remedial Investigation/Feasibility Study for the Former E.A. Nord Door Site in Everett, Washington (Ecology 2019a)
- *Final Draft Remedial Investigation/Feasibility Study – Former E.A. Nord Door Site* (Anchor QEA and SLR International Corporation 2016)
- *Bay Wood Remediation Project Habitat Assessment Report* (Shannon & Wilson, Inc. 2019)
- Aerial photographs, Google Earth, July 2019

2 Study Area Description

The developed portion of the study area is the former Nord Door site, located in an industrially zoned area in the city of Everett, Snohomish County, Washington (Township 29 North, Range 5 East, Section 7; Figure 1). The site is an approximately 33-acre area located at 300 West Marine View Drive, on Possession Sound near the confluence of the Snohomish River and Port Gardner Bay. The site lies on an area of fill that extends into Port Gardner Bay with tidal mudflats located to the north, south, and west. Structures on the site include a variety of active and inactive buildings, warehouses, storage tanks, and machinery.

The west portion of the site is an active asphalt batch plant. The main structures in the asphalt batch plant include an approximately four-story asphalt building, feeder shed, and a conveyor system. In addition to the structures, surface features at the site include asphalt paved areas and unpaved gravel areas. Approximately 95% of the site is currently paved or gravel or covered by structures. The developed portions of the site include parcels 29050700101200, 29050700100400, 29050700400100, and 29050700400101. Parcel boundaries are shown in Figure 3.

The study area for this CAR includes the upland portion of the site and associated marine shoreline, adjacent tidal mudflat habitat, and marine shoreline and tidal mudflat habitat south of the site adjacent to West Marine View Drive. The tidal mudflats and shorelines in the study area include parcels 29050700100800, 29050700401900, 2905070040200, 29050700401100, and 29050700401200 (Figure 3).

An approximately 2-acre vegetated knoll is located at the southern end of the developed portion of the study area. The knoll area was created in the early to mid-1960s when approximately 12 to 20 feet of sandy fill dredge material containing visible shell fragments was placed over this portion of the study area (Anchor QEA and SLR International Corporation 2016). An aerial photograph of the study area and existing conditions are shown in Figure 2.

Vacant land owned by the City of Everett is located north of the study area. West Marine View Drive is located east of the study area, and BNSF Railway railroad tracks are located east of West Marine View Drive. A large freshwater emergent wetland system identified as Maulsby Swamp (referred to as Maulsby Marsh in the RI/FS) is located east of the railroad tracks. Residential property is located on the hillside to the east of Maulsby Swamp (Figure 2).

2.1 Topography

Overall, the topography of the site is relatively flat, with a maximum elevation of approximately 15 feet above mean sea level. Slopes are limited to the shoreline adjacent to Port Gardner Bay. Almost the entire shoreline within the study area is armored with riprap, large rocks, and large and small pieces of concrete and asphalt. The OHWM of the Port Gardner Bay shoreline within the study area was delineated as part of the investigation, as described in Section 4.

2.2 Soils

The NRCS Web Soil Survey (USDA 2019) identifies two soil series in the location of the study area: urban land and fluvaquents tidal. Urban land is soil that has been modified by disturbance of the natural layers with additions of fill material several feet thick to accommodate large industrial and housing installations. Fluvaquents tidal are soils in tidal areas. NRCS mapped soils are shown in Figure 4.

2.3 Hydrology

The study area is located in Water Resource Inventory Area 7, Snohomish (Ecology 2019b). Hydrologic characteristics in the study area are influenced by regional groundwater, direct precipitation, surface water runoff, and tidal fluctuations of Port Gardner Bay. A stormwater catch basin is located at the west end of the site within the area of an active asphalt batch plant. Several surface water outfalls located within the developed portion of the study area drain to Port Gardner Bay (Figure 2).

The confluence of the Snohomish River and Port Gardner Bay is located north of the study area. City of Everett (2019b) and Snohomish County (2019) critical area maps, WDFW PHS data (WDFW 2019a), and SalmonScape data (WDFW 2019b) do not identify any freshwater surface stream channels to Port Gardner Bay within the study area. East of the study area, Snohomish County (2019) critical area maps, WDFW PHS data (WDFW 2019a), and SalmonScape data (WDFW 2019b) identify an unnamed stream associated with Maulsby Swamp that flows through a culvert beneath West Marine View Drive and empties into Port Gardner Bay within the study area. Approximately 90% of the culvert is buried beneath the surface below the OHWM within the upper intertidal zone.

2.4 Plant Communities

Approximately 95% of the developed portion of the study area is currently paved, gravel, or covered by structures. Vegetation within the developed portion of the study area is primarily limited to patches of grass and weedy herbaceous vegetation or nonnative invasive shrubs. Shoreline vegetation includes narrow patches of trees, shrubs, and grass and weedy herbaceous vegetation in areas above the OHWM. Patches of salt-tolerant vegetation are located on and at the base of the shoreline slopes. An approximately 2-acre vegetated knoll is located at the southern end of the developed portion of the study area (Figure 2). Plant communities and wildlife habitat are described in Section 5.

The USFWS Wetlands Mapper for National Wetlands Inventory Map Information (USFWS 2019a), City of Everett (2019b) and Snohomish County (2019) critical area maps, and WDFW PHS data

(WDFW 2019a) do not identify freshwater wetland habitat within the study area. Anchor QEA did not identify any freshwater wetlands in the study area during the field investigation.

The marine environment of Port Gardner Bay within and outside the study area is mapped as estuarine subtidal habitat unconsolidated bottom (E1UB) and estuarine intertidal habitat unconsolidated shore (E2UB) (Snohomish County 2019, USFWS 2019a, WDFW 2019a). Anchor QEA identified and delineated 14 estuarine wetlands within the study area (Wetlands E1 through E14) as described in Section 3. County critical area maps do not identify any “Snohomish County wetland inventory” wetlands within the study area, but they do identify “Remote Sensing-Based Wetland Model” wetlands in locations similar to the patches of estuarine wetlands described in Section 3 (Snohomish County 2019).

3 Wetland Delineation

On July 1 and 3, 2019, Anchor QEA ecologists performed a wetland delineation and wetland rating analysis of wetland habitat in the study area. Fourteen estuarine wetlands (EW1 through E14) were identified and delineated. As described in this section, the estuarine wetlands are small patches or groups of small patches of salt-tolerant vegetation near the OHWM boundary. Most of the wetlands total less than 100 square feet in area. A description and wetland rating of the estuarine wetlands is provided in this section based on data collected during the investigation. No freshwater wetland features were identified during the investigation.

3.1 Wetland Delineation Methods

As specified by the EMC Chapter 19.37.190 (City of Everett 2019a), the boundaries of the wetlands were delineated according to the methods defined in the U.S. Army Corps of Engineers (Corps) *Wetland Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (Corps 2010), and the Washington Department of Ecology *Washington State Wetland Identification and Delineation Manual* (Ecology 1997). Soil colors were classified by their numerical description, as identified on a Munsell Soil Color Chart (Munsell 1994). Wetland plant indicator status was obtained from the Corps National Wetland Plant List website (Corps 2019). Estuarine wetland boundary points were collected with a Trimble GeoExplorer 6000 Series GeoXH hand-held GPS.

Vegetation, soils, and hydrology information was collected at sample plots and recorded on field data forms from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Corps 2010). Sampling plot field data forms for Wetlands EW1 through EW14 are included in Appendix B.

Wetlands EW1 through EW14 were rated using the most current version of Ecology guidance in the *Washington State Wetland Rating System – Western Washington: 2014 Update* (Hruby 2014) and according to City of Everett wetland rating criteria in Chapter 19.37.090 of the EMC (City of Everett 2019a). Wetland rating forms are included in Appendix C.

As described in Section 3.1, due to the similar characteristics and ratings of the estuarine wetlands, sampling plot field data forms and Ecology wetland rating forms have been combined to describe the 14 estuarine wetlands rather than providing individual field data forms and Ecology rating forms for each wetland.

3.1 Wetland Delineation Results

The following subsections provide a description of the estuarine wetlands delineated within the study area. Wetlands within about 200 feet of the study area are also described based on existing information and visual observations from the study area during the investigation.

3.1.1 Estuarine Wetlands EW1 Through EW 14

Fourteen estuarine wetlands (EW1 through E14) were delineated within the study area (Figures 5 through 9). The estuarine wetlands are small patches or groups of small patches of salt-tolerant emergent vegetation near the OHWM boundary. Most of the estuarine wetlands include several small patches of vegetation a few feet apart that are less than 100 total square feet in area. Photographs of the estuarine wetlands are included in Appendix A. A summary of vegetation, soils, and hydrology data collected at the wetland sampling plots is presented in this section and in the field data forms in Appendix B.

Dominant estuarine wetland vegetation includes baltic rush (*Juncus balticus*), fleshy jaumea (*Jaumea carnosa*), pickleweed (*Salicornia virginica*), seacoast bulrush (*Schoenoplectus maritimus*), sea plantain (*Plantago maritima*), and silverweed (*Potentilla anserina*). Additional species include American threesquare (*Schoenoplectus americanus*), fat-hen saltbush (*Atriplex patula*), Puget Sound gumweed (*Grindelia integrifolia*), salt grass (*Distichilis spicata*), sea milkwort (*Lysimachia maritima*), and seaside arrowgrass (*Triglochin maritima*).

Most of the wetlands do not have any adjacent vegetated buffers due to their locations within or at the toe of slope of the armored shoreline. As described in Section 5, existing upland shoreline vegetation, when present, is limited to narrow bands of vegetation at the top of the armored shoreline slope several feet or more from the estuarine wetland vegetation. Only 2 of the 14 estuarine wetlands have adjacent vegetated buffers: Wetlands EW3 and EW4. These two wetlands are located at the southern end of the developed portion of the study area where there is a vegetated knoll (Figure 2). The dominant buffer vegetation of Wetlands EW3 and EW4 includes big-leaf maple (*Acer macrophylum*) and red alder (*Alnus rubra*) and the nonnative invasive species Himalayan blackberry (*Rubus armeniacus*), Japanese knotweed (*Polygonum cuspidatum*), and English ivy (*Hedera helix*).

Soils were consistent with beach substrate dominated by sand, gravel, and cobble material. Wetland vegetation was frequently growing amongst concrete, asphalt, and angular rocks. The substrate was not penetrable below a few inches in many of the estuarine wetlands. Due to the dominant presence of beach sand, gravel, and cobble substrate and armored shoreline material with little or no silt or clay, hydric soil characteristics were present in only two of the wetlands, Wetlands EW3 and EW4. These wetlands had very dark gray (10YR 3/1) to very dark grayish brown (10YR 3/2) sandy soils with yellowish brown (10YR 5/4) redoximorphic features a few inches deep above sand and gravel material.

Upland soils primarily included fill material with little or no silt or clay associated with the armored shoreline inland of the estuarine wetlands. Soils in the Wetland EW3 and EW4 upland plots were dark yellowish brown (10YR 4/4) sandy loam with gravel.

Estuarine wetland hydrology is associated with tidal activity. Soil saturation was at the surface or within a few inches of the surface in most of the wetlands, and the depth to the water table fluctuated from near the surface to several inches deep based on the tide conditions when the sample plot data were collected. In the upland plots, there were no hydrologic indicators.

Due to the soil substrate conditions, the wetland determinations were based on the vegetation and hydrology indicators, as well as the locations at an elevation at or near the OHWM. Estuarine wetland vegetation, soil, and hydrology characteristics for the 14 wetlands are presented in Table 1. Photographs of the estuarine wetlands are included in Appendix A.

Table 1
Estuarine Wetland Characteristics

Wetland Name	Vegetation	Soils	Hydrology	Area (sf)	Notes
EW1	Fleshy jaumea, pickleweed, salt grass	Beach sand and gravel and angular rock	Saturated substrate; water table varies with tide fluctuations.	~60	Vegetation is in patches.
EW2	Fleshy jaumea, pickleweed, sea plantain, salt grass, silverweed	Beach sand and gravel and angular rock	Saturated substrate; water table varies with tide fluctuations.	~80	Vegetation is in patches.
EW3	Fleshy jaumea, pickleweed, Puget Sound gumweed, silverweed	Beach sand and gravel	Saturated substrate; water table varies with tide fluctuations.	~330	Located adjacent to vegetated knoll.
EW4	Baltic rush, fat-hen saltbush, seacoast bulrush, seaside arrowgrass, silverweed	Beach sand and gravel	Saturated substrate; water table varies with tide fluctuations.	~1,600	Vegetation is in patches. Located adjacent to vegetated knoll.
EW5	Baltic rush, fat-hen saltbush, seacoast bulrush, sea plantain, silverweed	Beach sand, gravel, and cobble and pieces of angular rock	Saturated substrate; water table varies with tide fluctuations.	~150	Vegetation is in patches and sparsely vegetated.

Wetland Name	Vegetation	Soils	Hydrology	Area (sf)	Notes
EW6	Baltic rush, fat-hen saltbush, fleshy jaumea, pickleweed, seacoast bulrush, sea plantain, silverweed	Beach sand, gravel, and cobble and pieces of asphalt and angular rock	Saturated substrate; water table varies with tide fluctuations.	~260	Vegetation is in patches.
EW7	Baltic rush, fleshy jaumea, silverweed	Beach sand, gravel, and cobble and pieces of asphalt and angular rock	Saturated substrate; water table varies with tide fluctuations.	~200	Vegetation is in patches and sparsely vegetated.
EW8	Baltic rush, fleshy jaumea, silverweed	Beach sand, gravel, and cobble and pieces of asphalt and angular rock	Saturated substrate; water table varies with tide fluctuations.	~50	Vegetation is in patches.
EW9	Baltic rush, silverweed	Beach sand, gravel, and cobble and pieces of asphalt and angular rock	Saturated substrate; water table varies with tide fluctuations.	~60	Vegetation is in patches.
EW10	Pickleweed, sea plantain	Beach sand, gravel, and cobble and pieces of asphalt, angular rock, and riprap	Saturated substrate; water table varies with tide fluctuations.	~10	Sparsely vegetated.
EW11	Sea plantain, silverweed	Beach sand, gravel, and cobble and pieces of angular rock and riprap	Saturated substrate; water table varies with tide fluctuations.	~30	Vegetation is in patches and sparsely vegetated.
EW12	Silverweed	Beach sand and gravel and pieces of angular rock and riprap	Saturated substrate; water table varies with tide fluctuations.	~20	Sparsely vegetated amongst armored shoreline material.
EW13	Silverweed	Beach silt, sand, and gravel and pieces of angular rock and riprap	Saturated substrate; water table varies with tide fluctuations.	~20	Sparsely vegetated amongst armored shoreline material.
EW14	Seacoast bulrush, silverweed	Beach sand and gravel and pieces of angular rock	Saturated; water table associated with tide activity.	~20	Sparsely vegetated amongst armored shoreline material

3.1.2 Wetlands Outside the Study Area

This subsection describes wetlands located within about 200 feet of the study area boundary. North of the study area wetlands are located along the shoreline of the vacant land owned by the City of Everett (Figures 2 and 3). Three wetlands are located along the south side of the vacant lot according to the *Bay Wood Remediation Project Habitat Assessment Report* (Shannon & Wilson, Inc. 2019).

These wetlands are identified as Wetlands A, B, and C. Wetlands A and B are identified as estuarine wetlands and Wetland C is identified as a palustrine emergent depressional wetland.

Wetland A is located along the shoreline and is described as including several patches of salt-tolerant vegetation including salt grass, tufted hairgrass (*Deschampsia cespitosa*), and an unidentified sedge species. Wetland B is located at the terminus of the inlet between the study area and the adjacent property behind a disintegrating wood bulkhead. Vegetation includes salt grass, tufted hairgrass, and creeping bentgrass (*Agrostis stolonifera*). Wetland B ends near the chain-link fence that serves as the property line boundary. Wetland B does not extend into the study area. Wetlands A and B were visible from the study area and match the descriptions in the report (Shannon & Wilson, Inc. 2019).

Wetland C is located east of Wetland B, inland of the shoreline, and was identified as a constructed ditch with reed canarygrass. Wetland C was not visible from the study area.

A large freshwater wetland system with tidal influence, identified as Maulsby Swamp, is located east of the study area on the east side of West Marine View Drive and the railroad tracks (Figure 2). Maulsby Swamp is identified as a palustrine emergent wetland system by the USFWS Wetlands Mapper for National Wetlands Inventory Map Information (USFWS 2019a). Maulsby Swamp is also identified on City of Everett (2019b) and Snohomish County (2019) critical area maps, and WDFW PHS data (WDFW 2019a). City of Everett critical areas maps and the SMP identify Maulsby Swamp as a significant biological area of local importance. The SMP designates Maulsby Swamp as aquatic conservancy (City of Everett 2016).

Dominant vegetation observed within Maulsby Swamp during the investigation included cattail (*Typha latifolia*), hardstem bulrush (*Schoenoplectus maritimus*), common duckweed (*Lemna minor*), and sedge and rush species that were not identifiable to the species level from a distance.

A culvert below West Marine View Drive and the railroad tracks connects Maulsby Swamp with the marine environment of Port Gardner Bay. Flow from the culvert empties into Port Gardner Bay within the study area (Figure 2). The culvert opening is below the OHWM in the upper intertidal area. and approximately 90% of the culvert is buried beneath the surface. Salt-tolerant emergent plant species similar to those present within the study area are also present within Maulsby Swamp near the culvert.

Snohomish County (2019) critical area maps, WDFW PHS data (WDFW 2019a), and SalmonScape data (WDFW 2019b) identify an unnamed stream associated with Maulsby Swamp and the culvert. The SMP identifies the culvert associated with Maulsby Swamp as an approximately 200-foot-long, 36-inch-diameter concrete culvert that is a restoration opportunity for fish barrier removal (City of Everett 2016). Fish use of Maulsby Swamp is described in Section 5.2.4.

3.2 Wetland Rating and Buffer Guidance

3.2.1 Wetland Rating

Under the EMC Chapter 19.37.090 (Everett 2019a), wetlands are rated and regulated according to the categories defined by Ecology's *Washington State Wetland Rating System – Western Washington: 2014 Update* (Hruby 2014). All 14 estuarine wetlands meet the criteria for a Category II estuarine wetland under Ecology's *Washington State Wetland Rating System*. This rating system does not score functions for estuarine wetlands. Instead, estuarine wetlands are assigned a Category I or Category II rating. Category I estuarine wetlands include wetlands within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151. Category I wetlands also include wetland units at least 1 acre in size that meet two of the following three conditions:

- The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species).
- At least three quarters of the landward edge of the wetland has a 100-foot buffer of shrub, forest, or ungrazed or unmowed grassland.
- The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.

Based on Ecology's rating criteria, the 14 estuarine wetlands identified in the study area do not meet two of the three conditions above and are therefore Category II estuarine wetlands.

The shoreline within the study area is a shoreline of the state. Under the SMP, all wetlands associated with shorelines of the state are identified as shorelands (City of Everett 2016).

3.2.2 Wetland Buffer Guidance

Required wetland buffers have been identified according to the current EMC (Everett 2019a). The EMC Chapter 19.37.110 identifies minimum protective buffer widths based on the wetland category and the Ecology habitat rating score, per the 2014 Ecology rating system. As described in Section 3.2.1, habitat scores are not applicable for estuarine wetlands. Accordingly, Wetlands EW1 through EW14 require a 150-foot buffer for a Category II estuarine wetland system.

The 2014 wetland rating forms for Wetlands EW1 through EW14 are included in Appendix C. Due to the similar characteristics and ratings of the estuarine wetlands, the Ecology wetland rating forms have been combined to describe the 14 estuarine wetlands rather than providing individual Ecology rating forms for each wetland. The wetland boundaries and protective buffers extending into the study area are shown in Figures 5 through 9. Table 2 lists the Ecology wetland ratings and classifications and the City of Everett buffer widths.

Table 2
Summary of Wetland Ratings, Classifications, and Buffer Widths

Wetland Name	Area (sf)	Hydrogeomorphic Classification	Ecology and City of Everett Rating	City of Everett Buffer Width (ft)
EW1	~60	Estuarine	II	150
EW2	~80	Estuarine	II	150
EW3	~330	Estuarine	II	150
EW4	~1,600	Estuarine	II	150
EW5	~150	Estuarine	II	150
EW6	~260	Estuarine	II	150
EW7	~200	Estuarine	II	150
EW8	~50	Estuarine	II	150
EW9	~60	Estuarine	II	150
EW10	~10	Estuarine	II	150
EW11	~30	Estuarine	II	150
EW12	~20	Estuarine	II	150
EW13	~20	Estuarine	II	150
EW14	~20	Estuarine	II	150

4 Ordinary High Water Mark Delineation

This section describes the delineation of the marine shoreline OHWM in the study area. No freshwater stream surface channels are located within the study area. As described in Section 3, a culvert connected to Maulsby Swamp flows into the upper intertidal area within the study area.

4.1 Methods

To document and describe the marine shoreline characteristics within the study area, Anchor QEA reviewed existing information (Section 1.1), performed an aerial photograph assessment, and conducted site visits on July 1 and 3, 2019. During the site visits, Anchor QEA ecologists documented general information regarding shoreline characteristics while walking through the study area.

A delineation of the OHWM of the marine shoreline of the site was performed on July 1 and 3, 2019. The OHWM delineation included the entire shoreline of the study area. Anchor QEA ecologists identified the marine OHWM boundary consistent with Chapter 90.58 of the Revised Code of Washington (RCW), Chapter 173-22 of the Washington Administrative Code (WAC), and Ecology's technical report, *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Ecology 2016). WAC defines the OHWM as follows:

> "Ordinary high water line" means the mark on the shores of all waters that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual and so long continued in ordinary years, as to mark upon the soil or vegetation a character distinct from that of the abutting upland: Provided, that in any area where the ordinary high water line cannot be found the ordinary high water line adjoining saltwater shall be the line of mean higher high water and the ordinary high water line adjoining freshwater shall be the elevation of the mean annual flood.

The following criteria clarify this mark on tidal waters (WAC 173-22-030, Definitions):

> (a) Tidal waters.
>
> (i) In high energy environments where the action of waves or currents is sufficient to prevent vegetation establishment below mean higher high tide, the ordinary high water mark is coincident with the line of vegetation. Where there is no vegetative cover for less than one hundred feet parallel to the shoreline, the ordinary high water mark is the average tidal elevation of the adjacent lines of vegetation. Where

the ordinary high water mark cannot be found, it is the elevation of mean higher high tide;

(ii) In low energy environments where the action of waves and currents is not sufficient to prevent vegetation establishment below mean higher high tide, the ordinary high water mark is coincident with the landward limit of salt tolerant vegetation. 'Salt tolerant vegetation' means vegetation which is tolerant of interstitial soil salinities greater than or equal to 0.5 parts per thousand

The marine shoreline of Port Gardner Bay within the study area is a high-energy environment.

The OHWM delineation also included a delineation of piles and derelict structures below the OHWM within the study area. The OHWM, pile, and derelict structure field data points were collected with a Trimble GeoExplorer 6000 Series GeoXH hand-held GPS.

4.2 OHWM Marine Shoreline

The marine OHWM delineation within the study area included a 5,840-foot reach of shoreline. The marine shoreline is armored with large and small pieces of concrete and asphalt, riprap and large rocks, and exposed rebar and pieces of metal. The only reach of shoreline that is not armored is a vegetated knoll located at the southern end of the developed portion of the study area (Figure 2). With the exception of the vegetated knoll, shoreline vegetation is absent or limited to narrow patches of trees and nonnative shrub, grass, and herbaceous vegetation growing on top of the shoreline above the OHWM. Shoreline vegetation is described in Section 5. The marine OHWM delineation results are shown in Figures 5 through 9. Existing conditions of the marine shoreline are shown in the photographs in Appendix A.

Under the SMP, the study area marine shoreline is identified as a shoreline of the state. Shorelands are defined as all lands extending landward 200 feet of the shoreline of the state OHWM. The SMP also identifies the area of Port Gardner Bay seaward of the extreme low tide as a shoreline of statewide significance. The aquatic area of the inlet north of the study area is designated as aquatic conservancy (City of Everett 2016).

As described in Section 3, 14 estuarine wetlands, Wetlands EW1 through EW 14, are located along the shoreline OHWM. The marine environment of Port Gardner Bay within and outside the study area is mapped as estuarine subtidal habitat unconsolidated bottom (E1UB) and estuarine intertidal habitat unconsolidated shore (E2UB) (Snohomish County 2019, USFWS 2019a, WDFW 2019a).

4.3 Piles and Derelict Structures

Several dozen derelict piles are located within and near the study area. Piles are located along the north and south shorelines of the developed portions of the study area. There are rows of piles perpendicular to the shoreline adjacent to West Marine View Drive that extend into the bay outside the study area boundary. Derelict structures observed within or near the study area below the OHWM, include an abandoned barge, a remnant barge structure, and a remnant wood bulkhead with piles. These features are shown in Figures 5 through 9 and the photographs in Appendix A.

5 Habitat Assessment

This section describes wildlife species and habitats in the study area, including terrestrial and aquatic habitats and plant communities. WDFW-documented species and priority habitats, and ESA-listed species and critical habitats, within and near the study area are also identified.

Per EMC Chapter 19.37.190 (City of Everett 2019a), Port Gardner Bay in the study area is classified as a FWHCA under the category of "habitats of primary association." Habitats of primary association are defined as critical component(s) of the habitats of federally or state-listed endangered, threatened, candidate, sensitive, and priority wildlife or plant species which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term. Habitats of primary association include, but are not limited to, winter ranges, migration ranges, breeding sites, nesting sites, regular large concentrations, communal roosts, roosting sites, staging areas, and priority habitats listed by WDFW.

5.1 Methods

The habitat assessment was performed based on the reporting requirements identified in Chapter 19.37.190 of the EMC (Everett 2019a). Anchor QEA performed an aerial photograph assessment, conducted site visits on July 1 and 3, 2019, and reviewed the WDFW, USFWS, and NMFS databases (Section 1.1) for information on state-protected species and priority habitats and federally listed species and critical habitats protected under the ESA that may occur in or near the study area. During the site visit, Anchor QEA ecologists documented general information regarding habitats and dominant plant species and communities while walking through the study area. The entire study area was accessible during the investigation. All wildlife species, tracks, and other signs observed during the site visit were documented. All observations were qualitative; no quantitative wildlife surveys were performed.

5.2 Habitat Assessment

The study area is located in an industrially zoned area in Possession Sound near the confluence of the Snohomish River and Port Gardner Bay. The developed portion of the study area lies on fill that extends into Port Gardner Bay, with tidal mudflats located to the north, south, and west. Structures in the developed portion of the study area are described in Section 2. Overall, approximately 95% of the developed portion of the study area is currently paved, gravel, or covered by structures. Figure 2 provides an aerial photograph of the study area and existing conditions.

5.2.1 Vegetation

Vegetation communities within the study area include the following five general categories:

- The developed portion of the study area, which includes the top of slope of the armored shoreline and some patches of vegetation inland of the slope
- The vegetated knoll at the southern end of the developed portion of the study area
- The shoreline along West Marine View Drive
- Patches of American dune grass (*Leymus mollis*) above the OHWM
- Estuarine wetlands

Estuarine wetland vegetation and habitat characteristics are described in Section 3. Photographs of vegetation within the study area are presented in Appendix A.

Trees in the developed portion of the study area are limited to a few areas at the top of the armored slope. Lombardy popular (*Populus nigra*) is the most common species, with a few domestic apple trees (*Malus domestica*) observed. Shrub vegetation is dominated by the nonnative invasive species Himalayan blackberry (*Rubus armeniacus*), butterfly bush (*Buddleja davidii*), and Scotch broom (*Cytisus scoparius*). These shrubs are also located inland of the armored slope in isolated patches growing in gravel or cracks in paved surfaces. Herbaceous vegetation includes grass and weedy species such as common velvet grass (*Holcus lanatus*), curly dock (*Rumex crispus*), Canadian thistle (*Cirsium arvense*), tall fescue (*Festuca arundinacea*), and yarrow (*Achillea millefolium*).

The vegetated knoll includes a variety of native and nonnative vegetation. Dominant native species include big-leaf maple, black cottonwood (*Populus trichocarpa*), paper birch (*Betula papyrifera*), red alder (*Alnus rubra*), Indian plum (*Oemleria cerasiformis*), Nootka rose (*Rosa nutkana*), oceanspray (*Holodiscus discolor*), and red elderberry (*Sambucus racemosa*). Dominant nonnative species include butterfly bush, Himalayan blackberry, Scotch broom, Japanese knotweed, English ivy, and orchard morning glory (*Convolvulus arvensis*). There are several trails within the vegetated knoll, with debris and trash scattered throughout the area.

Vegetation along West Marine View Drive between the pavement and the shoreline is limited to a narrow strip of managed grass with ornamental hedges and shrubs and a few western white pine trees (*Pinus monticola*) at the top of the armored slope. Patches of American dune grass are located above the OHWM along West Marine View Drive and the southern shoreline of the developed portion of the study area. The American dune grass patches are small, less than 100 square feet in area. The American dune grass locations were surveyed as part of the investigation and are shown in Figures 5 through 9. Table 3 provides a list of all plant species observed during the investigation.

Table 3
Plant Communities and Species Observed in the Study Area

Scientific Name	Common Name
Trees	
Acer macrophylum	Big-leaf maple
Alnus rubra	Red alder
Betula papyrifera	Paper birch
Malus domestica	Domestic apple
Pinus monticola	Western white pine
Populus nigra	Lombardy popular
Populus trichocarpa	Black cottonwood
Prunus emarginata	Bitter cherry
Shrubs	
Cytisus scoparius	Scotch broom
Hedera helix	English ivy
Holodiscus discolor	Oceanspray
Ilex aquifolium	Holly
Lonicera involucrata	Twinberry
Mahonia aquifolium	Tall Oregon grape
Oemleria cerasiformis	Indian plum
Rosa nutkana	Nootka rose
Rubus armeniacus	Himalayan blackberry
Rubus parviflorus	Western thimbleberry
Sambucus racemosa	Red elderberry
Symphoricarpos albus	Snowberry
Grass, Ferns, and Herbaceous	
Achillea millefolium	Yarrow
Atriplex patula	Fat-hen saltbush
Cirsium arvense	Canadian thistle
Convolvulvus arvensis	Orchard morning glory
Distichlis spicata	Salt grass
Epilobium angustifolium	Fireweed
Equisetum arvense	Field horsetail
Festuca arundinacea	Tall fescue
Geranium robertianum	Stinky bob
Grindelia integrifolia	Puget Sound gumweed
Holcus lanatus	Common velvet grass
Hypericum perforatum	St. John’s wort

Scientific Name	Common Name
Jaumea carnosa	Fleshy jaumea
Juncus balticus	Baltic rush
Leymus mollis	American dune grass
Lysimachia maritima	Sea milkwort
Pelvetiopsis limitata	Rockweed
Plantago maritima	Sea plantain
Potentilla anserina	Silverweed
Polygonum cuspidatum	Japanese knotweed
Polystichum munitum	Sword fern
Rumex crispus	Curly dock
Salicornia virginica	Pickleweed
Schoenoplectus americanus	American threesquare
Schoenoplectus maritimus	Seacoast bulrush
Scirpus acutus	Hardstem bulrush
Taraxacum officinale	Common dandelion
Triglochin maritima	Seaside arrowgrass

5.2.2 Terrestrial Wildlife Species

A variety of terrestrial wildlife species were observed during the investigation. All of the observed wildlife species were birds, with the exception of one mammal species, European rabbit (*Oryctolagus cuniculus*). Rabbits were observed four times within the developed portions of the study area.

The most common bird species included barn swallow (*Hirundo rustica*), crow (*Corvus brachyrhynchos*), glaucous-winged gull (*Larus glaucescens*), and ring-billed gull (*Pandion haliaetus*). Three osprey (*Pandion haliaetus*) nests were observed on piles outside the study area. Two of the three nests were occupied on both days of the investigation. The osprey nest locations are shown in Figure 5. No amphibian or reptile species, or tracks or other signs, were observed during the investigation. Table 4 provides a list of all terrestrial wildlife species observed during the investigation.

Table 4
Terrestrial Wildlife Species Observed in the Study Area

Scientific Name	Common Name	Notes
Mammals		
Oryctolagus cuniculus	European rabbit	Occasionally observed in developed areas.
Birds		
Anas platyrhynchos	Mallard	Occasionally observed in mudflat habitat.
Ardea herodias	Great blue heron	Occasionally observed in mudflat habitat.
Branta canadensis	Canada goose	Adults with young observed in intertidal habitat and broken egg shells were present amongst emergent vegetation.
Charadrius vociferous	Killdeer	Occasionally observed in developed gravel areas.
Columba livia	Rock dove	Frequently observed perched on structures.
Corvus brachyrhynchos	American crow	Frequently observed perched on trees and structures and flying over study area.
Hirundo rustica	Barn swallow	Frequently observed foraging over intertidal and subtidal habitat.
Larus delawarensis	Ring-billed gull	Frequently observed perched on piles and structures and mudflat habitat.
Larus glaucescens	Glaucous-winged gull	Frequently observed perched on piles and structures and mudflat habitat.
Larus occidentalis	Western gull	Frequently observed perched on piles and structures and mudflat habitat.
Pandion haliaetus	Osprey	Three active nests observed on piles.
Parus articapillus	Black-capped chickadee	Frequently observed in tree and shrub vegetation.
Passer domesticus	House sparrows	Frequently observed near structures.
Turdus migratorius	American robin	Frequently observed in trees and flying over study area.
Zenaida macroura	Mourning dove	Frequently observed perched on structures.

5.2.3 Aquatic Wildlife Species

Aquatic wildlife species observed within the study area were limited to barnacles on the armored shoreline material below the OHWM. The shoreline also lacked diverse shells and shell hash commonly found along Puget Sound shorelines, indicating a relative lack of shellfish diversity in the mudflat habitat. Clam siphon holes were common within the mudflat habitat. The SMP identifies the mudflat habitat on the south side of the study area as Maulsby Mudflat and as a restoration opportunity. As described in Section 3, the culvert associated with Maulsby Swamp is also identified as a restoration opportunity for fish barrier removal (City of Everett 2016). Fish use in the study area and Port Gardner Bay is described in Section 5.2.4.

Clam surveys were performed in the mudflat habitat in 2013 as part of the RI/FS analysis (Anchor QEA and SLR International Corporation 2016). The clam surveys included areas of the mudflat habitat inside and seaward of the study area. Soft shell clam (*Mya arenaria*), an introduced species, was the only clam species observed during the clam surveys. The clams were typically collected within 10 to 12 inches of the surface, and siphon holes were often indicators of where clams were found. The dominant silt content of the mudflat habitat does not provide the sand and gravel substrate typically associated with Puget Sound native clam species.

5.2.4 Priority Species and Habitats

The WDFW PHS website (WDFW 2019a) does not identify any documented occurrences of any terrestrial species in the developed portions of the study area. The WDFW PHS website identifies the marine habitat within the study area as habitat for shorebird concentrations.

City of Everett critical area maps do not identify habitats of primary association for terrestrial species within the study area (City of Everett 2019b). Habitats of primary association outside the study area identified by City of Everett critical areas maps include the following:

- Bald eagle nest occurrences are located inland of the study area.
- Purple martin habitat is located north and south of the study area.
- Arctic tern nests are located south of the study area.
- Osprey nests are located in Port Gardner Bay west of the study area.
- Harbor seal and California sea lion haul outs are located south of the study area.
- Intertidal hard shell clam habitat is located west of the study area.
- Regular large concentrations of waterfowl are located west of the study area.

Fish species documented in Port Gardner Bay according to the WDFW PHS and SalmonScape websites (WDFW 2019a, 2019b) include fall Chinook salmon (*Oncorhynchus tshawytscha*), fall chum salmon (*O. keta*), pink salmon (*O. gorbuscha*), coho salmon (*O. kisutch*), and winter steelhead trout (*O. mykiss*). These fish species are also identified by the WDFW PHS and SalmonScape websites as occurring within Maulsby Swamp. Additional analysis of federally listed species and critical habitats protected under the ESA, as identified by USFWS and NMFS, is presented in Section 5.3.

Rearing coho and sockeye salmon (*Oncorhynchus nerka*) and the presence of summer/fall Chinook salmon, summer/winter steelhead, pink salmon, fall chum salmon, bull trout (*Salvelinus confluentus*), and residential coastal cutthroat (*O. clarkii clarkii*) are documented in the Snohomish River north of the study area (City of Everett 2016).

The SMP (City of Everett 2016) identifies the most abundant nonsalmonid species in the Snohomish River and Port Gardner Bay estuary to include juvenile starry flounder (*Platichthys stellatus*), peamouth chub (*Mylocheilus caurinus*), Pacific staghorn sculpin (*Leptocottus armatus*), and prickly sculpin (*Cottus asper*). Species also documented include three-spined stickleback (*Gasterosteus aculeatus*) and shiner perch (*Cymatogaster aggregata*). Less abundant species include candlefish *(Thaleichthys pacificus*), Pacific herring (*Clupea pallasi*), and pumpkinseed (*Lepomis gibbosus*).

In the marine habitat in Port Gardner Bay and Possession Sound, common species include starry flounder and English sole (*Parophrys vetulus*). Numerous other species, typically associated with estuarine habitats for at least part of their life history, are also found in Port Gardner Bay. These species include tadpole sculpin (*Enophrys bison*), striped seaperch (*Embiotoca lateralis*), Pacific tomcod (*Microgadus proximusin*), saddleback gunnel (*Pholis ornata*), sand sole (*Psettichthys melanostictus*), Pacific hake (*Merlucclus productus*), walleye pollock (*Theragra chalcogramma*), copper rockfish (*Sebastes caurinus*), spiny dogfish (*Squalus acanthias*), snake prickleback (*Lumpenus sagitta*), and bay goby (*Lepidogobius lepidus*).

The WDFW PHS website (WDFW 2019a) and City of Everett (2019b) critical area maps identify the marine habitat of Port Gardner Bay within the study area as habitat for Dungeness crab (*Cancer magister*). City of Everett critical area maps also identify the Dungeness crab habitat within the study area as a FWHCA under the category of habitats of primary association.

5.3 ESA-Listed Species and Critical Habitat Assessment

ESA-listed species and critical habitats under NMFS and USFWS jurisdiction in western Washington are referenced on the agencies' websites. The USFWS identifies ESA-listed species that occur or may occur within a specific location where a project is proposed (USFWS 2019b). The NMFS identifies ESA-listed species that occur or may occur within a broad geographic area, such as an evolutionarily significant unit (ESU) or a distinct population segment (DPS) rather than a project-specific location (NMFS 2019).

5.3.1 Federally Listed Species that May Occur in the Study Area

The July 2019 status of federally listed species and critical habitats protected under the ESA that occur or may occur within the study area is presented in Table 5.

As shown in Table 5, 10 ESA-listed species occur or may occur within the study area. Of these species, nine are aquatic (seven fish and two marine mammals) and one is terrestrial (bird). No ESA-listed plant or insect species are identified as potentially occurring within the study area. Designated critical habitat for 9 of the 10 species is present within Snohomish County. The following discussion provides an assessment of the potential presence of ESA-listed species and habitats within the study area.

Table 5
Federally Listed Species that May Occur in the Study Area, with their ESA and Critical Habitat Status

Species	Status	Agency	Critical Habitat
Salmonids			
Chinook salmon (*Oncorhynchus tshawytscha*)	Threatened (Puget Sound ESU)	NMFS	Designated
Chum salmon (*Oncorhynchus keta*)	Threatened (Hood Canal ESU)	NMFS	Designated (does not include study area)
Puget Sound steelhead trout (*Oncorhynchus mykiss)*	Threatened (Puget Sound ESU)	NMFS	Designated
Bull trout (*Salvelinus confluentus*)	Threatened (Puget Sound DPS)	USFWS	Designated Puget Sound
Rockfish			
Bocaccio (*Sebastes paucispinus)*	Endangered (Puget Sound/Georgia Basin DPS)	NMFS	Designated Puget Sound
Canary rockfish (*Sebastes pinniger)*	Threatened (Puget Sound/Georgia Basin DPS)	NMFS	Designated Puget Sound
Yelloweye rockfish *(Sebastes ruberrimus)*	Threatened (Puget Sound/Georgia Basin DPS)	NMFS	Designated Puget Sound
Marine Mammals			
Killer whale (*Orcinus orca*)	Endangered (Southern Resident DPS)	NMFS	Designated
Humpback whale (*Megapterus novaeangliae*)	Endangered	NMFS	None designated or proposed
Birds			
Marbled murrelet *(Brachyramphus marmoratus*)	Threatened	USFWS	Designated (does not include study area)

5.3.1.1 Aquatic Listed Species

All nine of the ESA-listed aquatic species identified in Table 5 are documented in Puget Sound and are known to occur or potentially occur in Possession Sound.

The fish species bocaccio, canary rockfish, and yelloweye rockfish are associated with deepwater habitats of Puget Sound and typically breed and forage near the ocean floor. Adults of these species are unlikely in inner Port Gardner Bay. Juveniles of these species do migrate in nearshore habitats and could potentially occur in the nearshore habitat of Port Gardner Bay in the vicinity of the study area.

Southern Resident killer whale sightings typically occur in the deepwater habitat of Puget Sound and may occur in outer Possession Sound, but they are unlikely to occur in the narrow waterway of Port

Gardner Bay in the vicinity of the study area. Areas with water less than 20 feet deep are not designated as critical habitat for killer whales. Offshore habitats of Possession Sound and Port Gardner Bay with water deeper than 20 feet meet the criteria for killer whale designated critical habitat.

Humpback whale sightings generally occur off the outer coast but do occur in Puget Sound. They are unlikely to occur in the narrow confines of the study area in the vicinity of Port Gardner Bay.

Of the nine ESA-listed aquatic species, only the following four species are likely to occur within Port Gardner Bay in the vicinity of the study area:

- Chinook salmon (Puget Sound ESU)
- Chum salmon (Hood Canal ESU)
- Steelhead trout (Puget Sound ESU)
- Bull trout (Coastal-Puget Sound DPS)

The marine habitat of Possession Sound and Port Gardner Bay is within designated critical habitat for Chinook salmon, steelhead, and bull trout.

5.3.1.2 Terrestrial Listed Species

Marbled murrelets forage in Puget Sound and could occur offshore of the study area in Possession Sound. In Snohomish County, designated critical habitat for marbled murrelet includes old-growth forest with specific tree stand characteristics.

5.3.2 Federally Listed Species that Do Not Occur in the Study Area

There are six ESA-listed or proposed species identified by the USFWS and NMFS as potentially occurring in the study area that do not occur in Possession Sound or the vicinity of the study area based on the species' life history and habitat requirements. These species are identified in Table 6.

Table 6
Federally Listed Species with Life History and Habitat Requirements that Do Not Occur in the Study Area, with their ESA and Critical Habitat Status

Species	Status	Agency	Critical Habitat
Fish			
Green sturgeon *(Acipenser medirostris)*	Threatened (Southern DPS)	NMFS	None in Puget Sound
Turtles			
Leatherback sea turtle (*Dermochelys coriacea*)	Endangered	NMFS	None designated or proposed in Washington state
Mammals			
Gray wolf (Canis *lupus*)	Proposed Endangered	USFWS	None designated or proposed
Wolverine (*Gulo gulo luscus*)	Proposed Threatened	USFWS	None designated or proposed
Birds			
Streaked horned lark (*Eremophila alpestris strigata)*	Threatened	USFWS	Designated (does not include study area)
Yellow-billed cuckoo (*Coccyzus americanus)*	Threatened	USFWS	Proposed (does not include study area)

As identified in Table 6, two ESA-listed aquatic species that could occur in Puget Sound are not likely to occur in the study area due to the location in Port Gardner Bay and the species' life history and habitat requirements. These include the southern DPS of green sturgeon and leatherback sea turtle. Observations of green sturgeon in Puget Sound are much less common compared to coastal Washington estuaries and bays and the Lower Columbia River estuary. Leatherback sea turtles primarily occur in outer coastal areas and are extremely rare in Puget Sound.

Potential habitat for the other four ESA-listed terrestrial species identified in Table 6 (gray wolf, wolverine, streaked horned lark, and yellow-billed cuckoo) is not located within miles of the study area and these species are not associated with areas of human activity.

6 Conclusions

Wildlife rely on vegetation for food, shelter, and cover from predators. Wildlife diversity is generally related to the structure and composition of plant species within vegetation communities. In general, vegetation communities that contain few species or vegetative layers (herbaceous, shrubs, or trees) support a low diversity of wildlife, whereas vegetation communities that are more complex and contain a wide variety of plant species and vegetative layers can support a greater diversity of wildlife. Forested and riparian areas with well-developed shrub layers are likely to support the greatest number of species and populations of wildlife.

Overall, the study area includes potential habitat for terrestrial wildlife species typical of industrial areas with marine shorelines. Potential wildlife habitat of the estuarine wetlands is limited due to the small size of the wetlands and their location along an armored shoreline. Wildlife use of the habitat in the study area likely includes a variety of native and nonnative wildlife species typical of populated, developed areas in Snohomish County and western Washington. Habitat surrounding the study area includes similar industrial properties and disturbed areas associated with residential and commercial development.

The marine habitat of Port Gardner Bay provides foraging habitat for waterfowl and other birds and aquatic species typically found in the marine and estuarine environments of Puget Sound. The mudflat habitat lacks sand and gravel substrate that would support a more diverse selection of shellfish and other invertebrate species.

While critical areas maps and databases identify very limited habitat and terrestrial wildlife species presence within the study area, the marine habitat in the study area is a FWHCA under the City of Everett category of habitats of primary association. A variety of wildlife species and habitats are identified in the surrounding aquatic and shoreline habitats of Possession Sound.

Even with the dominant presence of development in the study area and vicinity, Port Gardner Bay and the Snohomish River provide habitat that supports a wide variety of fish and other aquatic and terrestrial wildlife species for breeding, foraging, and resting.

The following is a summary of the regulatory results of the investigation:

- The 14 estuarine wetlands delineated within the study area are Category II wetlands according to Ecology and City of Everett guidelines.
- The shoreline within the study area is a shoreline of the state.
- All wetlands associated with shorelines of the state are identified as shorelands under the SMP.
- Shorelands are also defined as all lands extending landward 200 feet from the shoreline of the state OHWM.

- The marine habitat in the study area is a FWHCA under the category of habitats of primary association.
- Port Gardner Bay seaward of the extreme low tide is a shoreline of statewide significance under the SMP.
- The aquatic area of the inlet north of the study area is designated as aquatic conservancy under the SMP.
- Maulsby Swamp, located outside the study area, is designated as aquatic conservancy under the SMP.

7 References

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Figures

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ANCHOR QEA

Figure 1
Site and Vicinity Map
Critical Areas Report
Jeld-Wen/Former Nord Door Facility

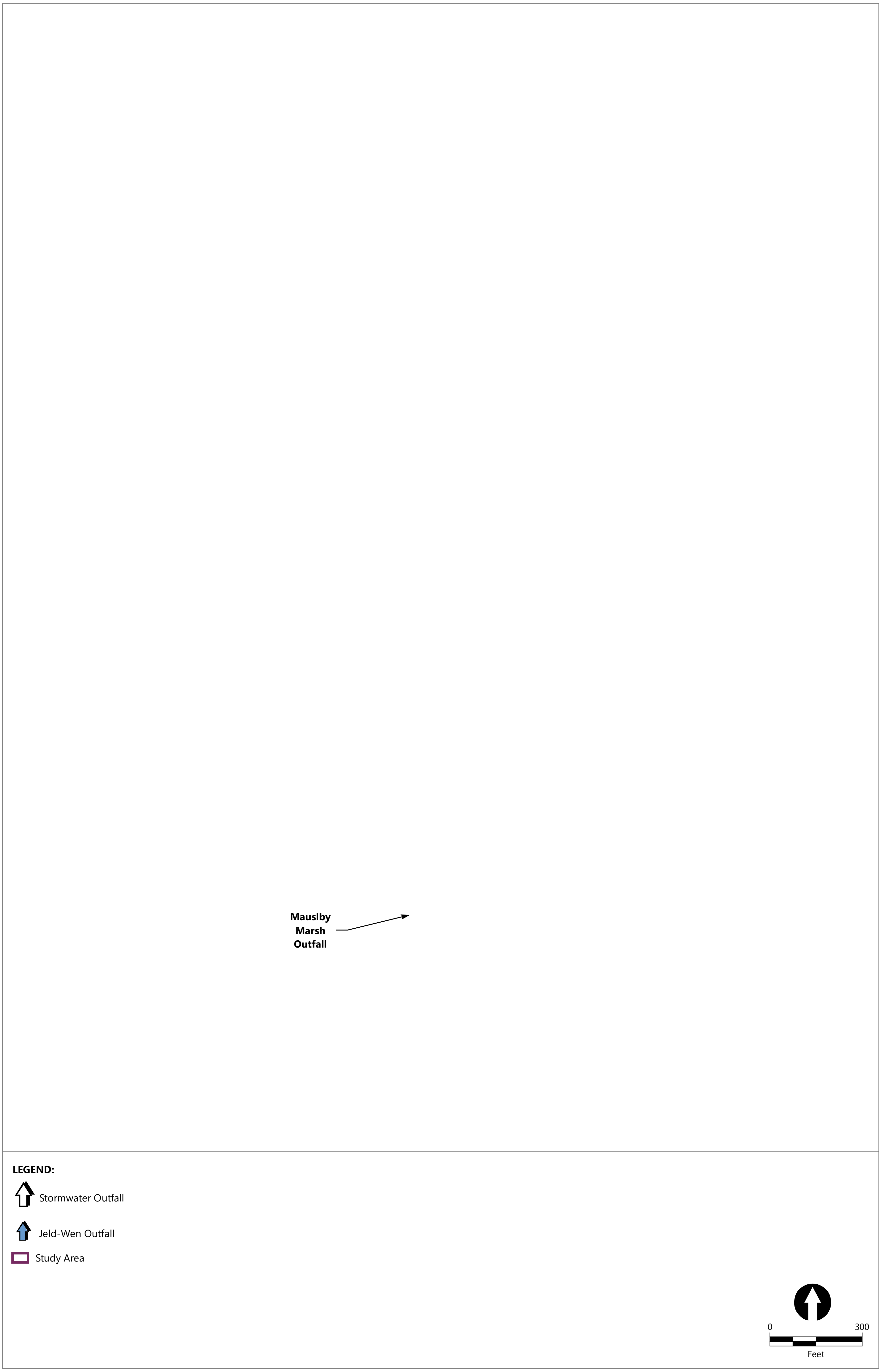

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Figure 2
Study Area and Outfalls
Critical Areas Report
Jeld-Wen/Former Nord Door Facility

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ANCHOR QEA

SLR

Figure 3

Parcel Boundary Map

Critical Areas Report

Jeld-Wen/Former Nord Door Facility

LEGEND:

▭ Study Area

USDA Soil Classifications

- ▨ ALDERWOOD-EVERETT-COMPLEX (0074)
- ▨ ALDERWOOD-URBANLAND-COMPLEX (0079)
- ▨ BELLINGHAM (0494)
- ▨ FLUVAQUENTS (2228)
- ▨ MUKILTEO (4836)
- ▨ URBANLAND (8520)
- ▨ WINSTON (9137)
- ▨ WATER

0 300
Feet

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Figure 4
USDA Soil Map
Critical Areas Report
Jeld-Wen/Former Nord Door Facility

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Figure 5
Habitat Assessment Study Area – Overview
Critical Areas Report
Jeld-Wen/Former Nord Door Facility

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Figure 6
Habitat Assessment Study Area – Northern Portion
Critical Areas Report
Jeld-Wen/Former Nord Door Facility

LEGEND:

Habitat Survey Points (2019)

- ψ Dune Grass
- ● Piles
- — Ordinary High Water Mark (OHWM)
- 🟩 Estuarine Wetland and Designation (EW#)
- ▭ Wetland Buffer (150 feet)
- ☒ Abandoned Barge Structure
- ☒ Remnant Barge Structure
- ☒ Remnant Wood Bulkhead and Piles
- ▭ Study Area

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Figure 7
Habitat Assessment Study Area – North Central Portion
Critical Areas Report
Jeld-Wen/Former Nord Door Facility

LEGEND:

Habitat Survey Points (2019)
- ѱ Dune Grass
- ⊕ Outfall and Pile
- ● Piles
- — Ordinary High Water Mark (OHWM)
- ▨ Estuarine Wetland and Designation (EW#)
- ⬚ Wetland Buffer (150 feet)

- ⊠ Abandoned Barge Structure
- ⊠ Remnant Barge Structure
- ⊠ Remnant Wood Bulkhead and Piles
- ☐ Study Area

0 100
Feet

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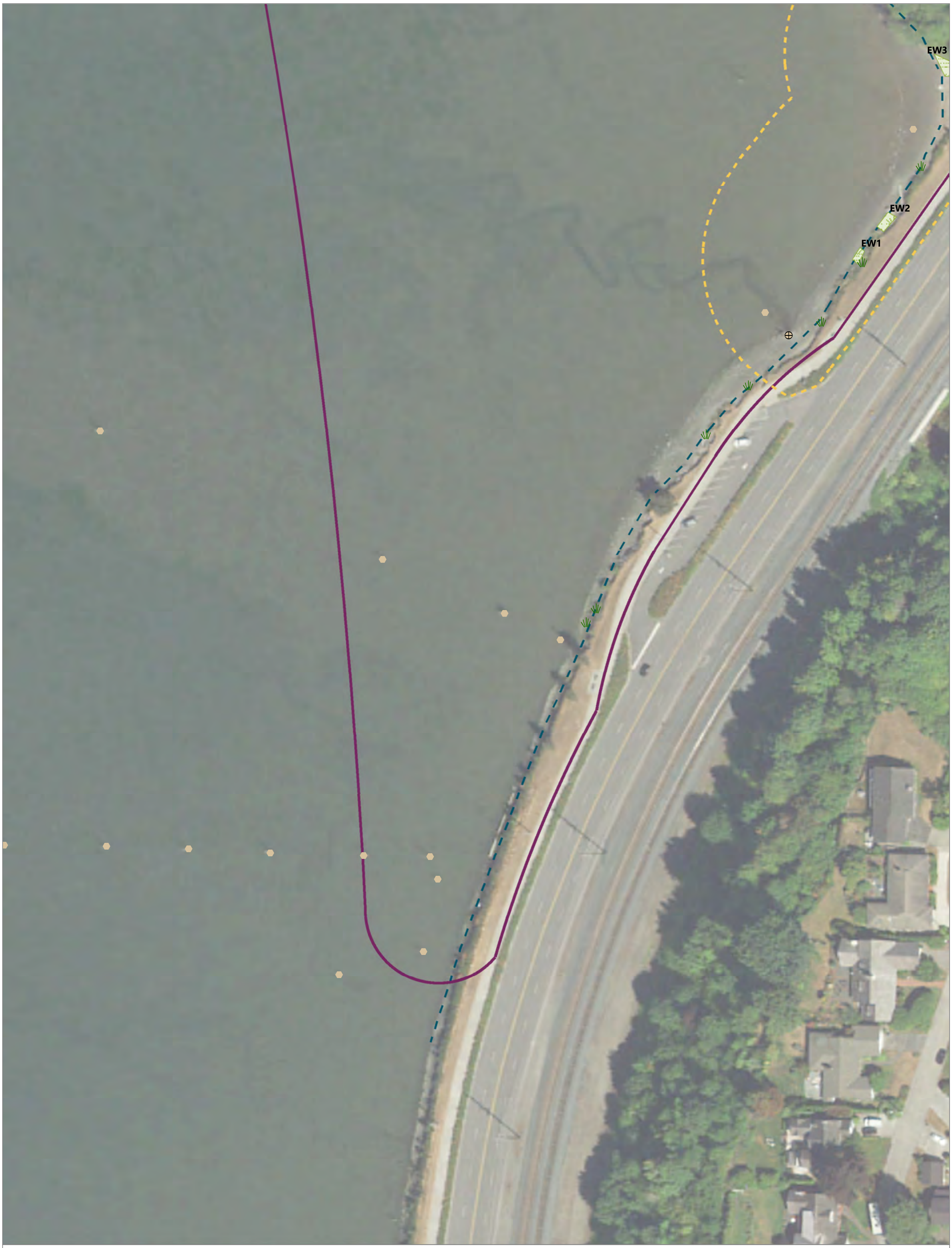
ANCHOR QEA

SLR

Figure 8
Habitat Assessment Study Area – South Central Portion
Critical Areas Report
Jeld-Wen/Former Nord Door Facility



LEGEND:

Habitat Survey Points (2019)

- ⩛ Dune Grass
- ⊕ Outfall and Pile
- ● Piles
- ▬ Ordinary High Water Mark (OHWM)
- 🟩 Estuarine Wetland and Designation (EW#)
- ▭ Wetland Buffer (150 feet)
- ☒ Abandoned Barge Structure
- ☒ Remnant Barge Structure
- ☒ Remnant Wood Bulkhead and Piles
- ▭ Study Area

0 100
Feet

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Figure 9
Habitat Assessment Study Area – Southern Portion
Critical Areas Report
Jeld-Wen/Former Nord Door Facility

Appendix A

Study Area Photographs

Photograph 1: Wetland EW1 facing south, dune grass in background

Photograph 2: Wetland EW2 facing south

Photograph 3: Wetland EW3 facing east, adjacent to vegetated knoll

Photograph 4: Wetland EW4 facing east, adjacent to vegetated knoll

Photograph 5: Wetland EW5 facing west

Photograph 6: Wetland EW6 facing west, patches of vegetation extends into background

Photograph 7: Wetland EW7 facing west

Photograph 8: Wetland EW8 facing east

Photograph 9: Wetland EW9 facing south

Photograph 10: Wetland EW10 facing south

Photograph 11: Wetland EW11 facing southwest

Photograph 12: Wetland EW12 facing southwest

Photograph 13: Wetland EW13 facing southwest

Photograph 14: Shoreline conditions, vegetation, and mudflat habitat along West View Marine Drive facing north

Photograph 15: Culvert in upper intertidal area associated with Maulsby Swamp

Photograph 16: Shoreline conditions, vegetation, and mudflat habitat on south side of developed areas facing east, vegetated knoll in background

Photograph 17: Shoreline conditions, vegetation, and mudflat habitat on south side of developed areas facing west

Photograph 18: Shoreline conditions, vegetation, and mudflat habitat on south side of developed areas facing west, abandoned barge in background

Photograph 19: Shoreline conditions, vegetation, and barnacles on armored material on west side of developed areas facing south, active asphalt facilities in background

Photograph 20: Shoreline conditions, vegetation, and mudflat habitat on north side of developed areas facing west

Photograph 21: Shoreline conditions, vegetation, and mudflat habitat on north side of developed areas facing east

Photograph 22: Shoreline conditions, vegetation, mudflat habitat, and remnant wood bulkhead and piles in the inlet on the north side of developed areas facing west

Photograph 23: Dune grass vegetation patch along West View Marine Drive facing north, vegetated knoll in background

Appendix B

Wetland Field Data Forms

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: JELD-WENN City/County: Everett /Snohomish Sampling Date: July 3, 2019
Applicant/Owner: JELD-WENN State: WA Sampling Point: SP1W Wet EW1-EW2
Investigator(s): C. Douglas Section, Township, Range: S07 T29N R5E
Landform (hillslope, terrace, etc.): Beach Local relief (concave, convex, none): concave Slope (%): 0% to 5%
Subregion (LRR): A Lat: 47.23N Long: -122.59W Datum: _____
Soil Map Unit Name: Made Land NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No ☐	**Is the Sampled Area within a Wetland?**	**Yes** ☒ **No** ☐
Hydric Soil Present?	Yes ☒ No ☐		
Wetland Hydrology Present?	Yes ☒ No ☐		

Remarks: **Wetlands are estuarine systems located along an armored shoreline near the marine OHWM. Substrate is beach material, sand, gravel, cobble, and pieces of angular rock, concrete, and riprap. Wetlands are small patches of salt tolerant vegetation, typically less than 100 total square feet in area. Due to the similar characteristics and small sizes of the wetlands, the wetland rating forms represent two of the delineated wetlands (EW1 and EW2).**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	____	____
2. _____	_____	____	____
3. _____	_____	____	____
4. _____	_____	____	____
50% = _____, 20% = _____	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 foot radius)			
1. _____	_____	____	____
2. _____	_____	____	____
3. _____	_____	____	____
4. _____	_____	____	____
5.	_____	____	____
50% = _____, 20% = _____	0	= Total Cover	
Herb Stratum (Plot size: 5 foot radius)			
1. *Distichlis spicate*	30	yes	FACW
2. *Jaumea carnosa*	30	yes	OBL
3. *Plantago maritima*	5	no	OBL
4. *Potentilla anserina*	5	no	OBL
5. *Salicornia virginica*	20	yes	OBL
6. _____	_____	____	____
7. _____	_____	____	____
8. _____	_____	____	____
9. _____	_____	____	____
10. _____	_____	____	____
11. _____	_____	____	____
50% = 45, 20% = 18	90	= Total Cover	
Woody Vine Stratum (Plot size: 3 foot radius)			
1. _____	_____	____	-
2. _____	_____	____	____
50% = _____, 20% = _____	_____	= Total Cover	
% Bare Ground in Herb Stratum 10			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x1 =	0
FACW species	0	x2 =	0
FAC species	_____	x3 =	_____
FACU species	_____	x4 =	4
UPL species	0	x5 =	0
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: 100% dominant wetland vegetation per the Dominance Test. Salt tolerant wetland vegetation. Vegetation is in small patches. Wetlands EW1 and EW2 have similar species composition.

Project Site: Costacos Property

SOIL

Sampling Point: SP1W Wet EW1-EW2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 18+	NA	NA	None	None	None	None	Sand	w/gravel and angular rock

[1] Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

☐ 2 cm Muck (A10)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Beach substrate

Depth (inches): Difficlut to dig below about 10 inches

Hydric Soils Present? **Yes** ☒ **No** ☐

Remarks: Sand and gravel beach substrate with pieces of armored shoreline material. Hydric soils based on location at and below the marine OHWM. Wetlands EW1 and EW2 have similar soil and substrate characteristics.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☒ High Water Table (A2)
☒ Saturation (A3)
☒ Water Marks (B1)
☐ Sediment Deposits (B2)
☒ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
☐ Salt Crust (B11)
☒ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Stunted or Stresses Plants (D1) **(LRR A)**
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) **(LRR A)**
☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☒ No ☐ Depth (inches): 4
Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): surface

Wetland Hydrology Present? **Yes** ☒ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Hydrology associated with tidal activity. Water table fluctuates with tide condition at the time of the sample plot data collection. Wetlands located near marine OHWM. Wetlands EW1 and EW2 have similar hydrology characteristics.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: JELD-WENN City/County: Everett /Snohomish Sampling Date: July 3, 2019

Applicant/Owner: JELD-WENN State: WA Sampling Point: SP2U Wet EW1-EW2

Investigator(s): C. Douglas Section, Township, Range: S07 T29N R5E

Landform (hillslope, terrace, etc.): Beach Local relief (concave, convex, none): concave Slope (%): 0% to 5%

Subregion (LRR): A Lat: 47.23N Long: -122.59W Datum: _____

Soil Map Unit Name: Urban Land NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are “Normal Circumstances” present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes** ☐ **No** ☒
Hydric Soil Present?	Yes ☐	No ☒		
Wetland Hydrology Present?	Yes ☐	No ☒		

Remarks: **Wetlands are estuarine systems located along an armored shoreline near the marine OHWM. Substrate is beach material, sand, gravel, cobble, and pieces of angular rock, concrete, and riprap. Wetlands are small patches of salt tolerant vegetation, typically less than 100 total square feet in area. Due to the similar characteristics and small sizes of the wetlands, the wetland rating forms represent two of the delineated wetlands (EW1 and EW2).**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = _____, 20% = _____	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 foot radius)			
1. *Ornamental hedge*	20	yes	UPL
2.			
3.			
4.			
5.			
50% = 10, 20% = 4	20	= Total Cover	
Herb Stratum (Plot size: 3 foot radius)			
1. *Leymus mollis*	10	yes	FACU
2. *Mowed grass*	5	yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = 7.5, 20% = 3	15	= Total Cover	
Woody Vine Stratum (Plot size: 3 foot radius)			
1.			-
2.			
50% = _____, 20% = _____	0	= Total Cover	
% Bare Ground in Herb Stratum 85			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	0	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0	(A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x1 =	0
FACW species	0	x2 =	0
FAC species	0	x3 =	0
FACU species	0	x4 =	0
UPL species	0	x5 =	0
Column Totals:	_____ (A)		0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☐ **No** ☒

Remarks: Upland vegetation on armored slope and mowed vegetation at the top of armored slope. Wetlands EW1 and EW2 have similar upland species composition.

Project Site: JELD-WENN

SOIL

Sampling Point: SP2U Wet EW1-EW2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 18+	10YR 4/4	20	None	None	None	None	Sand	and gravel and armored shoreline material

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

☐ 2 cm Muck (A10)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Armored slope substrate

Depth (inches): Difficlut to dig below about 12 inches

Hydric Soils Present? Yes ☐ No ☒

Remarks: Sand and gravel beach substrate with pieces of armored shoreline material with minor component of silt and clay. Wetlands EW1 and EW2 have similar upland soil and substrate characteristics.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
☐ Salt Crust (B11)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Stunted or Stresses Plants (D1) **(LRR A)**
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) **(LRR A)**
☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☒ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks*:* Armored slope substrate, no hydric indicators

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: JELD-WENN City/County: Everett /Snohomish Sampling Date: July 3, 2019
Applicant/Owner: JELD-WENN State: WA Sampling Point: SP3W Wet EW3
Investigator(s): C. Douglas Section, Township, Range: S07 T29N R5E
Landform (hillslope, terrace, etc.): Beach Local relief (concave, convex, none): concave Slope (%): 0% to 5%
Subregion (LRR): A Lat: 47.23N Long: -122.59W Datum: _____
Soil Map Unit Name: Made Land NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are “Normal Circumstances” present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒	No ☐	**Is the Sampled Area within a Wetland?**	**Yes** ☒ **No** ☐
Hydric Soil Present?	Yes ☒	No ☐		
Wetland Hydrology Present?	Yes ☒	No ☐		

Remarks: **Wetland is an estuarine system located along a vegetated knoll and armored shoreline near the marine OHWM. Substrate is beach material, sand, gravel, cobble, with angular rock and riprap. Wetland is small patches of salt tolerant vegetation.**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = _____, 20% = _____	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 foot radius)			
1.			
2.			
3.			
4.			
5.			
50% = _____, 20% = _____		= Total Cover	
Herb Stratum (Plot size: 5 foot radius)			
1. *Jaumea carnosa*	40	yes	OBL
2. *Grindelia integrifolia*	10	no	FACW
3. *Potentilla anserina*	20	yes	FACW
4. *Salicornia virginica*	30	yes	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = 50, 20% = 20	100	= Total Cover	
Woody Vine Stratum (Plot size: 3 foot radius)			
1.			-
2.			
50% = _____, 20% = _____		= Total Cover	
% Bare Ground in Herb Stratum 0			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x1 =	0
FACW species	0	x2 =	0
FAC species		x3 =	
FACU species		x4 =	4
UPL species	0	x5 =	0
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: 100% dominant wetland vegetation per the Dominance Test. Salt tolerant wetland vegetation

Project Site: JELD-WENN

SOIL

Sampling Point: SP3W Wet EW3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 5	10YR 3/1-3/2	95	10YR 5/4	5	D	M	Sandy loam	w/gravel
5 to 18+	None	100	None	None	None	None	Sand	w/gravel and cobble

[1] Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☒ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Bech substrate

Depth (inches): Difficult to dig below about 8 inches

Hydric Soils Present? **Yes** ☒ **No** ☐

Remarks: Sand and gravel beach substrate with upper layer with silt and clay material.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☒ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☒ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☒	No	☐	Depth (inches):	6
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches):	surface

Wetland Hydrology Present? **Yes** ☒ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Hydrology associated with tidal activity. Water table fluctuates with tide condition at the time of the sample plot data collection.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: JELD-WENN City/County: Everett /Snohomish Sampling Date: July 3, 2019
Applicant/Owner: JELD-WENN State: WA Sampling Point: SP4U Wet EW3
Investigator(s): C. Douglas Section, Township, Range: S07 T29N R5E
Landform (hillslope, terrace, etc.): Beach Local relief (concave, convex, none): concave Slope (%): 0% to 5%
Subregion (LRR): A Lat: 47.23N Long: -122.59W Datum: ____
Soil Map Unit Name: Urban Land NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐ No ☒	**Is the Sampled Area within a Wetland?**	**Yes** ☐ **No** ☒
Hydric Soil Present?	Yes ☐ No ☒		
Wetland Hydrology Present?	Yes ☐ No ☒		

Remarks: **Wetland is an estuarine system located along a vegetated knoll and an armored shoreline near the marine OHWM. Substrate is beach material, sand, gravel, cobble, with angular rock and riprap. Wetland is small patches of salt tolerant vegetation.**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra*	30	yes	FAC
2. ____	____	____	____
3. ____	____	____	____
4. ____	____	____	____
50% = 15, 20% = 6	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 foot radius)			
1. *Rosa nutkana*	20	yes	FACU
2. *Rubus armeniacus*	40	yes	FAC
3. ____	____	____	____
4. ____	____	____	____
5.	____	____	____
50% = 30, 20% = 12	60	= Total Cover	
Herb Stratum (Plot size: 3 foot radius)			
1. *Achillea millefolium*	10	yes	FACU
2. *Taraxacum officinale*	5	no	FACU
3. *Mowed grass*	20	yes	FAC
4. ____	____	____	____
5. ____	____	____	____
6. ____	____	____	____
7. ____	____	____	____
8. ____	____	____	____
9. ____	____	____	____
10. ____	____	____	____
11. ____	____	____	____
50% = 17.5, 20% = 7	35	= Total Cover	
Woody Vine Stratum (Plot size: 3 foot radius)			
1. *Hedera helix*	20	yes	UPL
2. ____	____	____	____
50% = 10, 20% = 4	20	= Total Cover	
% Bare Ground in Herb Stratum 65			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	6	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50	(A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x1 =	0
FACW species	0	x2 =	0
FAC species	0	x3 =	0
FACU species	0	x4 =	0
UPL species	0	x5 =	0
Column Totals:	____ (A)		0 (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is $\leq$3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks: FAC or better species cover is 50% and upland vegetation dominated by invasive species Himalyan blackberry on vegetated knoll and mowed vegetation at the top of armored slope.

Project Site: JELD-WENN

SOIL

Sampling Point: SP4U Wet EW3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 18+	10YR 4/4	80	None	None	None	None	Sandy loam	w/ gravel and armored shoreline material

[1] Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

☐ 2 cm Muck (A10)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: ____
Depth (inches): ____

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: No hydric indicators, sandy soils on vegetated knoll.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
☐ Salt Crust (B11)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Stunted or Stresses Plants (D1) **(LRR A)**
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) **(LRR A)**
☐ Frost-Heave Hummocks (D7)

Field Observations:
Surface Water Present? Yes ☐ No ☒ Depth (inches): ____
Water Table Present? Yes ☐ No ☒ Depth (inches): ____
Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): ____

Wetland Hydrology Present? **Yes** ☐ **No** ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks*:* No hydric indicators

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: JELD-WENN City/County: Everett /Snohomish Sampling Date: July 3, 2019

Applicant/Owner: JELD-WENN State: WA Sampling Point: SP5W Wet EW4

Investigator(s): C. Douglas Section, Township, Range: S07 T29N R5E

Landform (hillslope, terrace, etc.): Beach Local relief (concave, convex, none): concave Slope (%): 0% to 5%

Subregion (LRR): A Lat: 47.23N Long: -122.59W Datum: _____

Soil Map Unit Name: Made Land NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are “Normal Circumstances” present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒ No ☐	**Is the Sampled Area within a Wetland?**	**Yes** ☒ **No** ☐
Hydric Soil Present?	Yes ☒ No ☐		
Wetland Hydrology Present?	Yes ☒ No ☐		

Remarks: **Wetland is an estuarine system located along a vegetated knoll near the marine OHWM. Substrate is beach material, sand, gravel, and cobble. Wetland is small patches of salt tolerant vegetation.**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = _____, 20% = _____	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 foot radius)			
1.			
2.			
3.			
4.			
5.			
50% = _____, 20% = _____	0	= Total Cover	
Herb Stratum (Plot size: 5 foot radius)			
1. *Atriplex patula*	10	no	FACW
2. *Juncus balticus*	5	no	FACW
3. *Potentilla anserina*	15	no	FACW
4. *Schoenoplectus maritimus*	50	yes	OBL
5. *Triglochin maritima*	20	yes	OBL
6.			
7.			
8.			
9.			
10.			
11.			
50% = 50, 20% = 20	100	= Total Cover	
Woody Vine Stratum (Plot size: 3 foot radius)			
1.			-
2.			
50% = _____, 20% = _____		= Total Cover	
% Bare Ground in Herb Stratum 0			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x1 =	0
FACW species	0	x2 =	0
FAC species		x3 =	
FACU species		x4 =	4
UPL species	0	x5 =	0
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☐ 1 – Rapid Test for Hydrophytic Vegetation

☒ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0[1]

☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ 5 - Wetland Non-Vascular Plants[1]

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: 100% dominant wetland vegetation per the Dominance Test. Salt tolerant wetland vegetation

Project Site: JELD-WENN

SOIL

Sampling Point: SP5W Wet EW4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 6	10YR 3/1-3/2	90	10YR 5/4	10	D	M	Sandy loam	w/gravel
6 to 18+	None	100	None	None	None	None	Sand	w/gravel and cobble

[1] Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☒ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Bech substrate

Depth (inches): Difficult to dig below about 8 inches

Hydric Soils Present? **Yes** ☒ **No** ☐

Remarks: Sand and gravel beach substrate with upper layer with silt and clay material.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☒ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☒ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☒	No	☐	Depth (inches):	5
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches):	surface

Wetland Hydrology Present? **Yes** ☒ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Hydrology associated with tidal activity. Water table fluctuates with tide condition at the time of the sample plot data collection.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: JELD-WENN City/County: Everett /Snohomish Sampling Date: July 3, 2019

Applicant/Owner: JELD-WENN State: WA Sampling Point: SP6U Wet EW4

Investigator(s): C. Douglas Section, Township, Range: S07 T29N R5E

Landform (hillslope, terrace, etc.): Beach Local relief (concave, convex, none): concave Slope (%): 0% to 5%

Subregion (LRR): A Lat: 47.23N Long: -122.59W Datum: ____

Soil Map Unit Name: Urban Land NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are “Normal Circumstances” present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes** ☐ **No** ☒
Hydric Soil Present?	Yes ☐	No ☒		
Wetland Hydrology Present?	Yes ☐	No ☒		

Remarks: **Wetland is an estuarine system located along a vegetated knoll near the marine OHWM. Substrate is beach material, sand, gravel, and cobble. Wetland is small patches of salt tolerant vegetation.**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra*	40	yes	FAC
2. ____	____	____	____
3. ____	____	____	____
4. ____	____	____	____
50% = 20, 20% = 8	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 foot radius)			
1. *Polygonum cuspidatum*	20	yes	FAC
2. *Rubus armeniacus*	50	yes	FAC
3. ____	____	____	____
4. ____	____	____	____
5.	____	____	____
50% = 35, 20% = 14	70	= Total Cover	
Herb Stratum (Plot size: 3 foot radius)			
1. *Cirsium arvense*	5	yes	FACU
2. *Taraxacum officinale*	5	yes	FACU
3. ____	____	____	____
4. ____	____	____	____
5. ____	____	____	____
6. ____	____	____	____
7. ____	____	____	____
8. ____	____	____	____
9. ____	____	____	____
10. ____	____	____	____
11. ____	____	____	____
50% = 5, 20% = 2	10	= Total Cover	
Woody Vine Stratum (Plot size: 3 foot radius)			
1. *Hedera helix*	20	yes	UPL
2. ____	____	____	____
50% = 10, 20% = 4	20	= Total Cover	
% Bare Ground in Herb Stratum 90			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	6	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50	(A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x1 =	0
FACW species	0	x2 =	0
FAC species	0	x3 =	0
FACU species	0	x4 =	0
UPL species	0	x5 =	0
Column Totals:	____ (A)		0 (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☐ **No** ☒

Remarks: FAC or better species are upland vegetation on vegetated knoll dominated by invasive species Himalyan blackberry, English ivy, and Japanese knotweed.

Project Site: JELD-WENN

SOIL

Sampling Point: SP6U Wet EW4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 18+	10YR 4/4	80	None	None	None	None	Sandy loam	w/ gravel and cobbles

[1] Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

☐ 2 cm Muck (A10)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: No hydric indicators, sandy soils on vegetated knoll.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
☐ Salt Crust (B11)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Stunted or Stresses Plants (D1) **(LRR A)**
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) **(LRR A)**
☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☒ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? **Yes** ☐ **No** ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks*:* No hydric indicators

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: JELD-WENN City/County: Everett /Snohomish Sampling Date: July 3, 2019

Applicant/Owner: JELD-WENN State: WA Sampling Point: SP7W Wet EW5-EW9

Investigator(s): C. Douglas Section, Township, Range: S07 T29N R5E

Landform (hillslope, terrace, etc.): Beach Local relief (concave, convex, none): concave Slope (%): 0% to 5%

Subregion (LRR): A Lat: 47.23N Long: -122.59W Datum: _____

Soil Map Unit Name: Made Land NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are “Normal Circumstances” present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒	No ☐	**Is the Sampled Area within a Wetland?**	**Yes** ☒ **No** ☐
Hydric Soil Present?	Yes ☒	No ☐		
Wetland Hydrology Present?	Yes ☒	No ☐		

Remarks: **Wetlands are estuarine systems located along an armored shoreline near the marine OHWM. Substrate is beach material, sand, gravel, cobble, and pieces of angular rock, concrete, and riprap. Wetlands are small patches of salt tolerant vegetation, typically less than 100 total square feet in area. Due to the similar characteristics and small sizes of the wetlands, the wetland rating forms represent two of the delineated wetlands (EW5 through EW9).**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	____	____
2. _____	_____	____	____
3. _____	_____	____	____
4. _____	_____	____	____
50% = _____, 20% = _____	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 foot radius)			
1. _____	_____	____	____
2. _____	_____	____	____
3. _____	_____	____	____
4. _____	_____	____	____
5.	_____	____	____
50% = _____, 20% = _____	0	= Total Cover	
Herb Stratum (Plot size: 5 foot radius)			
1. *Atriplex patula*	5	no	FACW
2. *Jaumea carnosa*	5	no	OBL
3. *Juncus balticus*	20	yes	FACW
4. *Plantago maritima*	15	no	FACW
5. *Potentilla anserina*	15	no	FACW
6. *Salicornia virginica*	10	no	OBL
7. *Schoenoplectus maritimus*	20	yes	OBL
8. _____	_____	____	____
9. _____	_____	____	____
10. _____	_____	____	____
11. _____	_____	____	____
50% = 45, 20% = 18	90	= Total Cover	
Woody Vine Stratum (Plot size: 3 foot radius)			
1. _____	_____	____	-
2. _____	_____	____	____
50% = _____, 20% = _____	_____	= Total Cover	
% Bare Ground in Herb Stratum 10			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x1 =	0
FACW species	0	x2 =	0
FAC species	_____	x3 =	_____
FACU species	_____	x4 =	4
UPL species	0	x5 =	0
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: 100% dominant wetland vegetation per the Dominance Test. Salt tolerant wetland vegetation. Vegetation is in small patches. Wetlands EW5 through EW9 have similar species composition.

Project Site: JELD-WENN

SOIL

Sampling Point: SP7W Wet EW5-EW9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 18+	NA	NA	None	None	None	None	Sand gravel	w/cobble, angular rock, concrete, riprap

[1] Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

☐ 2 cm Muck (A10)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Beach substrate

Depth (inches): Difficlut to dig below about 6 inches

Hydric Soils Present? **Yes** ☒ **No** ☐

Remarks: Sand, gravel, and cobble beach substrate with pieces of armored shoreline material. Hydric soils based on location at and below the marine OHWM. Wetlands EW5 through EW9 have similar soil and substrate characteristics.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☒ High Water Table (A2)
☒ Saturation (A3)
☒ Water Marks (B1)
☐ Sediment Deposits (B2)
☒ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
☐ Salt Crust (B11)
☒ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Stunted or Stresses Plants (D1) **(LRR A)**
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) **(LRR A)**
☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☒ No ☐ Depth (inches): 4
Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): surface

Wetland Hydrology Present? **Yes** ☒ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Hydrology associated with tidal activity. Water table fluctuates with tide condition at the time of the sample plot data collection. Wetlands located near marine OHWM. Wetlands EW5 through EW9 have similar hydrology characteristics.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: JELD-WENN City/County: Everett /Snohomish Sampling Date: July 3, 2019

Applicant/Owner: JELD-WENN State: WA Sampling Point: SP8U Wet EW5-EW9

Investigator(s): C. Douglas Section, Township, Range: S07 T29N R5E

Landform (hillslope, terrace, etc.): Beach Local relief (concave, convex, none): concave Slope (%): 0% to 5%

Subregion (LRR): A Lat: 47.23N Long: -122.59W Datum: _____

Soil Map Unit Name: Urban Land NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are “Normal Circumstances” present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐ No ☒	**Is the Sampled Area within a Wetland?**	**Yes** ☐ **No** ☒
Hydric Soil Present?	Yes ☒ No ☐		
Wetland Hydrology Present?	Yes ☐ No ☒		

Remarks: **Wetlands are estuarine systems located along an armored shoreline near the marine OHWM. Substrate is beach material, sand, gravel, cobble, and pieces of angular rock, concrete, and riprap. Wetlands are small patches of salt tolerant vegetation, typically less than 100 total square feet in area. Due to the similar characteristics and small sizes of the wetlands, the wetland rating forms represent two of the delineated wetlands (EW5 through EW9).**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	____	____
2. _____	_____	____	____
3. _____	_____	____	____
4. _____	_____	____	____
50% = _____, 20% = _____	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 foot radius)			
1. *Rubus armeniacus*	10	yes	FAC
2. _____	_____	____	____
3. _____	_____	____	____
4. _____	_____	____	____
5.	_____	____	____
50% = 5, 20% = 2	10	= Total Cover	
Herb Stratum (Plot size: 3 foot radius)			
1. _____	_____	____	____
2. _____	_____	____	____
3. _____	_____	____	____
4. _____	_____	____	____
5. _____	_____	____	____
6. _____	_____	____	____
7. _____	_____	____	____
8. _____	_____	____	____
9. _____	_____	____	____
10. _____	_____	____	____
11. _____	_____	____	____
50% = _____, 20% = _____	0	= Total Cover	
Woody Vine Stratum (Plot size: 3 foot radius)			
1. _____	_____	____	-
2. _____	_____	____	____
50% = _____, 20% = _____	0	= Total Cover	
% Bare Ground in Herb Stratum 100			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x1 =	0
FACW species	0	x2 =	0
FAC species	0	x3 =	0
FACU species	0	x4 =	0
UPL species	0	x5 =	0
Column Totals:	_____ (A)		0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: Upland vegetation limited to narrow patch of invasive species Himalayan blackberry on top of armored slope. Wetlands EW5 through EW9 have similar upland species composition.

Project Site: JELD-WENN

SOIL

Sampling Point: SP8U Wet EW5-EW9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 18+	None	None	None	None	None	None	Sand gravel	w/cobble, angular rock, concrete, riprap

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

☐ 2 cm Muck (A10)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Armored slope substrate

Depth (inches): Difficlut to dig below about 6 inches

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: Sand and gravel beach substrate with pieces of armored shoreline material with no silt or clay. Wetlands EW5 through EW9 have similar upland soil and substrate characteristics.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
☐ Salt Crust (B11)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Stunted or Stresses Plants (D1) **(LRR A)**
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) **(LRR A)**
☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☒ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? **Yes** ☐ **No** ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks*:* Armored slope substrate, no hydric indicators

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: JELD-WENN   City/County: Everett /Snohomish   Sampling Date: July 3, 2019

Applicant/Owner: JELD-WENN   State: WA   Sampling Point: SP9W Wet EW10-EW14

Investigator(s): C. Douglas   Section, Township, Range: S07 T29N R5E

Landform (hillslope, terrace, etc.): Beach   Local relief (concave, convex, none): concave   Slope (%): 0% to 5%

Subregion (LRR): A   Lat: 47.23N   Long: -122.59W   Datum: _____

Soil Map Unit Name: Made Land   NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are “Normal Circumstances” present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒	No ☐	**Is the Sampled Area within a Wetland?**	**Yes** ☒ **No** ☐
Hydric Soil Present?	Yes ☒	No ☐		
Wetland Hydrology Present?	Yes ☒	No ☐		

Remarks: **Wetlands are estuarine systems located along an armored shoreline near the marine OHWM. Substrate is beach material, sand, gravel, cobble, and pieces of angular rock, concrete, and riprap. Wetlands are small patches of salt tolerant vegetation, typically less than 100 total square feet in area. Due to the similar characteristics and small sizes of the wetlands, the wetland rating forms represent two of the delineated wetlands (EW10 through EW14).**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = _____, 20% = _____	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 foot radius)			
1.			
2.			
3.			
4.			
5.			
50% = _____, 20% = _____	0	= Total Cover	
Herb Stratum (Plot size: 5 foot radius)			
1. *Plantago maritima*	30	yes	FACW
2. *Potentilla anserina*	25	yes	FACW
3. *Salicornia virginica*	20	yes	OBL
4. *Schoenoplectus maritimus*	5	no	OBL
5.			FACW
6.			
7.			
8.			
9.			
10.			
11.			
50% = 40, 20% = 16	80	= Total Cover	
Woody Vine Stratum (Plot size: 3 foot radius)			
1.			-
2.			
50% = _____, 20% = _____		= Total Cover	
% Bare Ground in Herb Stratum 20			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x1 =	0
FACW species	0	x2 =	0
FAC species		x3 =	
FACU species		x4 =	4
UPL species	0	x5 =	0
Column Totals:	(A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: 100% dominant wetland vegetation per the Dominance Test. Salt tolerant wetland vegetation. Vegetation is in small patches. Wetlands EW10 through EW14 have similar species composition.

Project Site: JELD-WENN

SOIL

Sampling Point: SP9W EW10-EW14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 18+	NA	NA	None	None	None	None	Sand gravel	w/cobble, angular rock, concrete, riprap

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Beach substrate

Depth (inches): Difficlut to dig below about 6 inches

Hydric Soils Present? **Yes** ☒ **No** ☐

Remarks: Sand, gravel, and cobble beach substrate with pieces of armored shoreline material. Hydric soils based on location at and below the marine OHWM. Wetlands EW10 through EW14 have similar soil and substrate characteristics.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☒ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☒ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): ______

Water Table Present? Yes ☒ No ☐ Depth (inches): 7

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): surface

Wetland Hydrology Present? **Yes** ☒ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Hydrology associated with tidal activity. Water table fluctuates with tide condition at the time of the sample plot data collection. Wetlands located near marine OHWM. Wetlands EW10 through EW14 have similar hydrology characteristics.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: JELD-WENN City/County: Everett /Snohomish Sampling Date: July 3, 2019
Applicant/Owner: JELD-WENN State: WA Sampling Point: SP10U Wet EW10-EW14
Investigator(s): C. Douglas Section, Township, Range: S07 T29N R5E
Landform (hillslope, terrace, etc.): Beach Local relief (concave, convex, none): concave Slope (%): 0% to 5%
Subregion (LRR): A Lat: 47.23N Long: -122.59W Datum: _____
Soil Map Unit Name: Urban Land NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are “Normal Circumstances” present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐ No ☒	**Is the Sampled Area within a Wetland?**	**Yes** ☐ **No** ☒
Hydric Soil Present?	Yes ☒ No ☐		
Wetland Hydrology Present?	Yes ☐ No ☒		

Remarks: **Wetlands are estuarine systems located along an armored shoreline near the marine OHWM. Substrate is beach material, sand, gravel, cobble, and pieces of angular rock, concrete, and riprap. Wetlands are small patches of salt tolerant vegetation, typically less than 100 total square feet in area. Due to the similar characteristics and small sizes of the wetlands, the wetland rating forms represent two of the delineated wetlands (EW10 through EW14).**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	____	____
2. _____	_____	____	____
3. _____	_____	____	____
4. _____	_____	____	____
50% = _____, 20% = _____	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 foot radius)			
1. *Rubus armeniacus*	10	yes	FAC
2. _____	_____	____	____
3. _____	_____	____	____
4. _____	_____	____	____
5.	_____	____	____
50% = 5, 20% = 2	10	= Total Cover	
Herb Stratum (Plot size: 3 foot radius)			
1. _____	_____	____	____
2. _____	_____	____	____
3. _____	_____	____	____
4. _____	_____	____	____
5. _____	_____	____	____
6. _____	_____	____	____
7. _____	_____	____	____
8. _____	_____	____	____
9. _____	_____	____	____
10. _____	_____	____	____
11. _____	_____	____	____
50% = _____, 20% = _____	0	= Total Cover	
Woody Vine Stratum (Plot size: 3 foot radius)			
1. _____	_____	____	-
2. _____	_____	____	____
50% = _____, 20% = _____	0	= Total Cover	
% Bare Ground in Herb Stratum 100			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x1 =	0
FACW species	0	x2 =	0
FAC species	0	x3 =	0
FACU species	0	x4 =	0
UPL species	0	x5 =	0
Column Totals:	______ (A)		0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☐ **No** ☒

Remarks: Upland vegetation limited to narrow patch of invasive species Himalyan blackberry on top of armored slope. Wetlands EW10 through EW14 have similar upland species composition.

Project Site: JELD-WENN

SOIL

Sampling Point: SP10U EW10-EW14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 18+	None	None	None	None	None	None	Sand gravel	w/cobble, angular rock, concrete, riprap

[1] Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

☐ 2 cm Muck (A10)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Armored slope substrate

Depth (inches): Difficlut to dig below about 6 inches

Hydric Soils Present? Yes ☐ No ☒

Remarks: Sand and gravel beach substrate with pieces of armored shoreline material with no silt or clay. Wetlands EW10 through EW14 have similar upland soil and substrate characteristics.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
☐ Salt Crust (B11)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Stunted or Stresses Plants (D1) **(LRR A)**
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) **(LRR A)**
☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☒ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? **Yes** ☐ **No** ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Armored slope substrate, no hydric indicators

Appendix C

Wetland Rating Forms

RATING SUMMARY – Western Washington

Name of wetland (or ID #): EW1 through EW14 Date of site visit: July 2019

Rated by C. Douglas Trained by Ecology? ☒ Yes ☐ No Date of training 2007

HGM Class used for rating Estuarine Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.

Source of base aerial photo/map ____

OVERALL WETLAND CATEGORY II (based on functions ☐ or special characteristics ☒)

1. Category of wetland based on FUNCTIONS

_______ **Category I** – Total score = 23 - 27

_______ **Category II** – Total score = 20 - 22

_______ **Category III** – Total score = 16 - 19

_______ **Category IV** – Total score = 9 - 15

FUNCTION	**Improving Water Quality**	**Hydrologic**	**Habitat**	
			Circle the appropriate ratings	
Site Potential	H M L	H M L	H M L	
Landscape Potential	H M L	H M L	H M L	
Value	H M L	H M L	H M L	**TOTAL**
Score Based on Ratings				

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	**CATEGORY**
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	X

Wetland name or number EW1-EW14

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	**To answer questions:**	**Figure #**
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	**To answer questions:**	**Figure #**
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream *(can be added to another figure)*	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	**To answer questions:**	**Figure #**
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	**To answer questions:**	**Figure #**
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to figure above)*	S 4.1	
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number EW1-EW14

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

○ NO – go to 2 ● **YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

● **NO – Saltwater Tidal Fringe (Estuarine)** ○ **YES – Freshwater Tidal Fringe**

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for ***Riverine*** *wetlands. If it is Saltwater Tidal Fringe it is an* ***Estuarine*** *wetland and is not scored. This method* ***cannot*** *be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

● NO – go to 3 ○ **YES** – The wetland class is **Flats**

If your wetland can be classified as a Flats wetland, use the form for ***Depressional*** *wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?
   - ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
   - ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

● NO – go to 4 ○ **YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?
   - ☐ The wetland is on a slope (*slope can be very gradual*),
   - ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
   - ☐ The water leaves the wetland **without being impounded**.

● NO – go to 5 ○ **YES** – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?
   - ☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
   - ☐ The overbank flooding occurs at least once every 2 years.

● NO – go to 6 ○ **YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

● NO – go to 7 ○ **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

● NO – go to 8 ○ **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

If you are still unable to determine which of the above criteria apply to your wetland, or if you have ***more than 2 HGM classes*** *within a wetland boundary, classify the wetland as Depressional for the rating.*

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: ***NOTE:*** *This question is independent of the land use between the wetland unit and the priority habitat.*

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

— **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

— **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

— **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

— **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

— **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

— **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

— **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

— **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

— **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

— **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? X The dominant water regime is tidal, X Vegetated, and X With a salinity greater than 0.5 ppt ● Yes –Go to **SC 1.1** ○ No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ○ Yes = **Category I** ● No - Go to **SC 1.2**	○ **Cat. I**
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina*, see page 25) — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ○ Yes = **Category I** ● No = **Category II**	○ **Cat. I** ● **Cat. II**
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ○ Yes **–** Go to **SC 2.2** ○ No **–** Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ○ Yes **= Category I** ○ No **= Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ○ Yes **– Contact WNHP/WDNR and go to SC 2.4** ○ No **= Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ○ Yes **= Category I** ○ No **= Not a WHCV**	○ **Cat. I**
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ○ Yes – Go to **SC 3.3** ○ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ○ Yes – Go to **SC 3.3** ○ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ○ Yes = **Is a Category I bog** ○ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ○ Yes = **Is a Category I bog** ○ No **= Is not a bog**	○ **Cat. I**

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

- **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.
- **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

○Yes = **Category I** ○No **= Not a forested wetland for this section**

○**Cat. I**

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks
- The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)*

○Yes – Go to **SC 5.1** ○No = **Not a wetland in a coastal lagoon**

SC 5.1. Does the wetland meet all of the following three conditions?

- The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).
- At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.
- The wetland is larger than $^{1}/_{10}$ ac (4350 ft^{2})

○Yes = **Category I** ○No = **Category II**

○**Cat. I**

○**Cat. II**

SC 6.0. Interdunal Wetlands

Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.***

In practical terms that means the following geographic areas:

- Long Beach Peninsula: Lands west of SR 103
- Grayland-Westport: Lands west of SR 105
- Ocean Shores-Copalis: Lands west of SR 115 and SR 109

○Yes – Go to **SC 6.1** ○No = **not an interdunal wetland for rating**

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ○Yes = **Category I** ○No – Go to **SC 6.2**

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?

○Yes = **Category II** ○No – Go to **SC 6.3**

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?

○Yes = **Category III** ○No = **Category IV**

○**Cat I**

○**Cat. II**

○**Cat. III**

○**Cat. IV**

Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	II

APPENDIX F

UPLAND SOIL BORINGS AND TEST PIT LOGS

Description: Provides field observations, soil lithology, and sample locations for upland test pit and drilling activities. Some of these boring logs were used to develop site cross sections and determine extents of remedial action areas.

SLR Sampling Event – May 2006

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BORING NUMBER GP-1

PAGE 1 OF 1

CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/4/06 **COMPLETED** 5/4/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 6.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0					0.3	0 to 0.25 feet: ASPHALT.	
		GP	NS	GM	5.5	0.25 to 5.5 feet: SILTY GRAVEL (GM): light brown, fine to coarse gravel, some fines, trace fine to coarse sand, moist, no odor.	1.0
5		GP	GP1-6*	ML	8.0	∇ 5.5 to 8 feet: SILT with SAND (ML): dark brown, few fine sand, few organics (roots and wood pieces), moist to wet, hydrocarbon-like odor, visible sheen.	1.8
10		GP	GP1-10* GP1-GW*	SM	11.0	8 to 11 feet: SILTY SAND (SM): medium gray, fine to coarse sand, some fines, trace fine gravel, trace organics (roots), wet, hydrocarbon-like odor, visible product product (looks like creosote) on soil and acetate liner.	1.5
				SP	12.0	11 to 12 feet: SAND (SP): medium gray, fine to coarse sand, trace fines, wet, no odor.	

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-2

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/4/06
COMPLETED 5/4/06
GROUND ELEVATION
HOLE SIZE 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 5.0 ft
LOGGED BY B. Johnson
CHECKED BY
AT END OF DRILLING —
NOTES
AFTER DRILLING —

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
	☒	GP	NS	SM		0.25 to 5 feet: SAND with SILT (SM): medium brown, fine to coarse sand, some fines, few fine to coarse gravel, moist to wet, no odor.	2.1
5	☒	GP	GP2-5* GP2-GW*	SP	5.0 ▽	5 to 11.5 feet: SAND (SP): medium gray, fine to coarse sand, trace fines, wet, no odor.	1.9
10	☒	GP	NS		11.5		1.4
				ML	11.6	11.5 to 11.6 feet: SILT (ML): medium gray, trace fine sand, moist, no odor.	
				SP	12.0	11.6 to 12 feet: SAND (SP): medium gray, fine to coarse sand, trace fines, wet, no odor.	

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-3

PAGE 1 OF 1

CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/4/06 **COMPLETED** 5/4/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 5.5 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
	☒	GP	NS	GM	2.5	0.25 to 2.5 feet: GRAVEL with SILT (GM): brown, fine to coarse gravel, some fines, trace fine sand, moist, no odor.	1.7
				SP		2.5 to 12 feet: SAND (SP): light brown to medium gray, fine to coarse sand, trace fines, moist to wet, strong solvent-like odor, visible sheen on soil.	
5	☒	GP	GP3-5.5 GP3-GW*			▽	<2,000
10	☒	GP	GP3-9*		12.0		<2,000

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-4

PAGE 1 OF 1

CLIENT JELD-WEN, inc	**PROJECT NAME** Former Nord Door
PROJECT NUMBER 008.0228.00013	**PROJECT LOCATION** Everett, WA
DATE STARTED 5/4/06 **COMPLETED** 5/4/06	**GROUND ELEVATION** **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling	**GROUND WATER LEVELS:**
DRILLING METHOD Direct Push	▽ **AT TIME OF DRILLING** 4.5 ft
LOGGED BY B. Johnson **CHECKED BY**	**AT END OF DRILLING** ---
NOTES	**AFTER DRILLING** ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0							
	☒	HA	NS	CO	0.8	0 to 0.75 feet: CONCRETE.	0.3
	☒	HA	NS	SP	2.0	0.75 to 2 feet: SAND (SP): gray-brown to brown, fine to coarse sand, few organics (wood pieces), moist, no odor.	0.3
	☒	HA	NS	ML	2.5	2 to 2.5 feet: SILT (ML): gray, moist, no odor.	0.3
	☒	HA	NS	SM	4.0	2.5 to 4 feet: SILTY SAND (SM): brown to gray, fine to coarse sand, little fines, moist, no odor.	0.3
5	☒	HA	GP4-4.5* GP4-GW*	ML	4.5	▽ 4 to 4.5 feet: SILT (ML): dark brown, few fine to medium sand, trace orgainics (roots), moist, no odor.	80
	☒	HA	NS	SP	5.5	4.5 to 5.5 feet: SAND (SP): dark gray, fine to coarse sand, trace fines, wet, no odor.	4

Boring completed at 6 feet.

Temporary well was installed with screen at depths from approximately 0.5 to 5.5 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
HA = Soil samples were collected by using a decontaminated 12-inch long, 4-inch diameter hand auger sampling device.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-5

PAGE 1 OF 1

CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/4/06 **COMPLETED** 5/4/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 6.5 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
		GP	NS	SP	3.5	0.25 to 3.5 feet: SAND (SP): medium gray, fine to coarse sand, few fine to coarse gravel, trace fines, moist, no odor.	2.2
5		GP	GP5-6.5* GP5-GW*	ML	6.5 ▽	3.5 to 6.5 feet: SILT (ML): gray, trace fine sand, trace organics (roots), moist, no odor.	2.3
10		GP	GP5-12*	SP	12.0	6.5 to 12 feet: SAND (SP): dark gray, fine to coarse snad, trace fines, trace fine gravel, wet, slight solvent-like odor, no visible sheen.	1.0

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-6

PAGE 1 OF 1

CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/2/06 **COMPLETED** 5/2/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 5.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				CO	0.5	0 to 0.5 feet: CONCRETE.	
		GP	NS	SP		0.5 to 8 feet: SAND (SP): light to dark brown and medium brown, trace fines, trace organics (wood pieces), mosit to wet, no odor.	1.2
5		GP	GP6-5* GP6-GW*		8.0	∇	0.7

Boring completed at 8 feet.

Temporary well was installed with screen at depths from approximately 3 to 8 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/2/06 **COMPLETED** 5/2/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 5.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		GP	NS	AS	0.3	0 to 0.25 feet: ASPHALT.	0.8
				GM	1.0	0.25 to 1 feet: GRAVEL with SILT (GM): light brown, fine to coarse gravel, some fines, trace fine to coarse sand, moist, no odor.	
				SP		1 to 8 feet: SAND (SP): light brown to black and gray, fine to coarse sand, trace fines, trace organics (wood pieces), moist to wet, no odor.	
5		GP	GP7-5* GP7-GW*			∇	1.0
					8.0		

Boring completed at 8 feet.

Temporary well was installed with screen at depths from approximately 3 to 8 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-8

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/2/06 **COMPLETED** 5/2/06
GROUND ELEVATION
HOLE SIZE 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 5.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0	☒	GP	NS	AS	0.3	0 to 0.25 feet: ASPHALT.	1.3
				GM	2.0	0.25 to 2 feet: GRAVEL with SILT (GM): light brown, fine to coarse gravel, some fines, trace fine to coarse sand, moist, no odor.	
				SP	4.5	2 to 4.5 feet: SAND (SP): light brown, fine to coarse sand, trace fines, moist, no odor.	
5	☒	GP	GP8-5* GP8-GW*	ML	5.0	▽ 4.5 to 5 feet: SILT (ML): dark gray, trace fine sand, trace organics (wood pieces), moist, no odor.	0.5
				SP	8.0	5 to 8 feet: SAND (SP): light brown to dark gray, fine to coarse sand, trace fines, wet, no odor.	

Boring completed at 8 feet.

Temporary well was installed with screen at depths from approximately 3 to 8 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-9

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/1/06 **COMPLETED** 5/1/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 6.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
		GP	NS	SM		0.25 to 5.5 feet: SAND with SILT (SM): light to dark brown, fine to coarse sand, little fines, moist, no odor.	1.2
5		GP	GP9-6 GP9-GW*	SP	5.5	▽ 5.5 to 12 feet: SAND (SP): medium gray, fine to coarse sand, few fines, wet, hydrocarbon-like odor, visible product on acetate liner, sheen on soil.	25.9
10		GP	GP9-12*		12.0		26.3

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-10

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/1/06 **COMPLETED** 5/1/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 6.5 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
		GP	GP10-3	SM	5.0	0.25 to 5 feet: SAND with SILT (SM): light to dark brown, fine to coarse sand, few fines, few orgaincs (wood pieces), moist, no odor.	4.9
5		GP	GP10 -GW*	SP	9.0	5 to 9 feet: SAND (SP): light to dark gray, fine to coarse sand, trace fines, moist to wet, hydrocabon-like odor, sheen on soil. ∇	5.8
				ML	9.5	9 to 9.5 feet: SILT (ML): medium gray, trace fine sand, wet, slight hydrocarbon-like odor.	
10		GP	GP10-11*	SP	11.8	9.5 to 11.75 feet: SAND (SP): medium gray, fine to coarse sand, trace fines, wet, hydrocarbon-like odor, sheen on soil.	28.3
				ML	12.0	11.75 to 12 feet: SILT (ML): medium brown, trace organics (roots), wet, slight hydrocarbon-like odor.	

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-11

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/4/06 **COMPLETED** 5/4/06
GROUND ELEVATION
HOLE SIZE 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 6.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		GP	NS	SP	3.5	0 to 3.5 feet: SAND with GRAVEL (SP): light brown to gray, fine to coarse sand, few fine to medium gravel, trace fines, trace organics (roots), moist, no odor.	2.0
5		GP	GP11-6* GP11 -GW*	ML	6.0 ∇	3.5 to 6 feet: SILT (ML): brown to gray, trace fine sand, trace organics (wood pieces), moist, no odor.	2.8
				SP	10.5	6 to 10.5 feet: SAND (SP): dark gray, fine to coarse sand, trace silt, wet, strong hydrocarbon-like odor, visible product on acetate liner, sheen on soil.	
10		GP	GP11-12*	ML	12.0	10.5 to 12 feet: SILT (ML): gray with orange mottling, trace fine sand, trace organics (wood pieces), moist, strong hydrocarbon-like odor, no visible sheen.	29.4

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-12

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/2/06 **COMPLETED** 5/2/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 7.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0		GP	NS	AS	1.0	0 to 1 feet: ASPHALT.
				CO	3.0	1 to 3 feet: CONCRETE.
5		GP	GP12-8* GP12-GW*	SP	8.0	3 to 8 feet: SAND (SP): dark brown to gray, fine to coarse sand, trace silt, moist to wet, hydrocabon-like odor, sheen on soil. ▽

Boring completed at 8 feet.

Temporary well was installed with screen at depths from approximately 3 to 8 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-13

PAGE 1 OF 1

CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/1/06 **COMPLETED** 5/1/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 12.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.5	0 to 0.5 feet: ASPHALT.	
	☒	GP	NS	SP	4.0	0.5 to 4 feet: SAND (SP): light to dark gray, fine to coarse sand, trace fines, trace fine to coarse gravel, trace organics (wood pieces), moist, no odor.	0.7
5	☒	GP	NS	SM		4 to 16 feet: SILTY SAND (SM): light to dark brown and black, fine to coarse sand, some fines, trace organics (roots and wood pieces), moist to wet, no odor.	0.9
10	☒	GP	GP13 -11.5* GP13 -GW*			▽	0.8
15	☒	GP	NS		16.0		0.7

Boring completed at 16 feet.

Temporary well was installed with screen at depths from approximately 11 to 16 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-14

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/1/06 **COMPLETED** 5/1/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 8.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0	GP	NS	AS	0.5	0 to 0.5 feet: ASPHALT.	0.8
			GM	2.0	0.5 to 2 feet: GRAVEL with SILT (GM): light gray, fine to coarse gravel, some fines, trace fine to coarse sand, moist, no odor.	
			SP		2 to 6 feet: SAND (SP): light brown, fine to coarse sand, trace fines, trace fine gravel, moist, hydrocarbon-like odor, sheen on soil.	
5	GP	GP14-6*		6.0		4.0
			ML	7.0	6 to 7 feet: SILT (ML): light brown, trace organics (roots), moist, slight hydrocarbon-like odor.	
			SP	8.0 ∇	7 to 8 feet: SAND (SP): light to dark brown, trace fines, trace organics (roots), wet, no odor.	
	GP	GP14 -GW*	ML	8.5	8 to 8.5 feet: SILT (ML): brown to gray, trace fine sand, moist, no odor.	3.1
10			SP	12.0	8.5 to 12 feet: SAND (SP): light brown to gray, trace fines, trace organics, wet, hydrocarbon-like odor, visible product on acetate liner, sheen on soil.	

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-15

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/1/06 **COMPLETED** 5/1/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 7.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
		GP	NS	SP		0.25 to 5.5 feet: SAND (SP): light to dark brown, fine to coarse sand, few fines, trace fine gravel, trace brick pieces, moist, no odor.	0.3
5		GP	GP15 -GW*	ML	5.5 6.0	5.5 to 6 feet: SILT (ML): dark brown, trace fine to coarse sand, moist, no odor.	1.2
				SP		6 to 12 feet: SAND (SP): dark gray, fine to coarse sand, trace fines, moist to wet, slight ▽ hydrocarbon-like odor.	
10		GP	GP15-10*		12.0		1.6

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-16

PAGE 1 OF 1

CLIENT JELD-WEN, inc	**PROJECT NAME** Former Nord Door
PROJECT NUMBER 008.0228.00013	**PROJECT LOCATION** Everett, WA
DATE STARTED 5/1/06 **COMPLETED** 5/1/06	**GROUND ELEVATION** ___ **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling	**GROUND WATER LEVELS:**
DRILLING METHOD Direct Push	▽ **AT TIME OF DRILLING** 8.0 ft
LOGGED BY B. Johnson **CHECKED BY** ___	**AT END OF DRILLING** ---
NOTES	**AFTER DRILLING** ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		GP	NS	AS	0.3	0 to 0.25 feet: ASPHALT.	4.9
				SP	1.0	0.25 to 1 feet: SAND with GRAVEL (SP): light brown, fine to coarse sand, some fine to coarse gravel, trace fines, moist, no odor.	
5		GP	GP16-8*	SP	6.0	1 to 6 feet: SAND (SP): medium brown, fine to coarse sand, few fines, moist, no odor.	4.2
				ML	8.0 ▽	6 to 8 feet: SILT (ML): medium brown, trace fine sand, trace organics, moist, no odor.	
10		GP	GP16 -GW*	SP	12.0	8 to 12 feet: SAND (SP): medium gray, fine to coarse sand, trace fines, trace fine to coarse gravel, wet, no odor.	4.0

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-17

PAGE 1 OF 1

CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/1/06 **COMPLETED** 5/1/06
GROUND ELEVATION
HOLE SIZE 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 5.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		GP	NS	AS	0.5	0 to 0.5 feet: ASPHALT.	
				GP	5.0 ▽	0.5 to 5 feet: GRAVEL with SILT (GM): light brown, fine to coarse gravel, some fines, trace fine to coarse sand, moist, no odor.	
5		GP	GP17-5* GP17 -GW*	SP	10.0	5 to 10 feet: SAND (SP): light brown to light gray, fine to coarse sand, few fines, trace fine to coarse gravel, wet, no odor.	0.3
10		GP	NS	SM	12.0	10 to 12 feet: SILTY SAND (SM): dark gray, fine to coarse sand, some fines, trace fine gravel, trace organics (roots), wet, no odor.	0.4

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-18

PAGE 1 OF 1

CLIENT JELD-WEN, inc	**PROJECT NAME** Former Nord Door
PROJECT NUMBER 008.0228.00013	**PROJECT LOCATION** Everett, WA
DATE STARTED 5/1/06 **COMPLETED** 5/1/06	**GROUND ELEVATION** **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling	**GROUND WATER LEVELS:**
DRILLING METHOD Direct Push	⊽ **AT TIME OF DRILLING** 8.0 ft
LOGGED BY B. Johnson **CHECKED BY**	**AT END OF DRILLING** ---
NOTES	**AFTER DRILLING** ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0	⊠	GP	NS	AS	0.5	0 to 0.5 feet: ASPHALT.	0.5
				SP	3.8	0.5 to 3.75 feet: SAND (SP): light to dark brown, fine to coarse sand, trace fines, moist, no odor.	
5	⊠	GP	GP18-8*	ML	5.0	3.75 to 5 feet: SILT with SAND (ML): dark to medium brown, few fine to coarse sand, moist, no odor.	0.7
				SP		5 to 12 feet: SAND (SP): light to dark gray, fine to coarse sand, trace fines, trace organics, moist to wet ⊽	
10	⊠	GP	GP18 -GW*		12.0		0.3

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
⊽ Water level at time of drilling.

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BORING NUMBER GP-19

PAGE 1 OF 1

CLIENT JELD-WEN, inc	**PROJECT NAME** Former Nord Door
PROJECT NUMBER 008.0228.00013	**PROJECT LOCATION** Everett, WA
DATE STARTED 5/1/06 **COMPLETED** 5/1/06	**GROUND ELEVATION** **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling	**GROUND WATER LEVELS:**
DRILLING METHOD Direct Push	▽ **AT TIME OF DRILLING** 10.0 ft
LOGGED BY B. Johnson **CHECKED BY**	**AT END OF DRILLING** ---
NOTES	**AFTER DRILLING** ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		GP	NS	AS	0.5	0 to 0.5 feet: ASPHALT.	0.5
				SP	1.0	0.5 to 1 feet: SAND (SP): light brown, fine to coarse sand, trace fines, moist, no odor.	
				ML	4.0	1 to 4 feet: SILT (ML): light gray, trace fine gravel, moist, no odor.	
5		GP	NS	ML		4 to 10 feet: SANDY SILT (ML): light gray to light brown, some fine to coarse sand, trace fine to coarse gravel, moist to wet, no odor.	1.0
		GP	GP19-10* GP19 -GW*		10.0 ▽		0.7
10				SM	12.0	10 to 12 feet: SILTY SAND (SM): light to dark gray, fine to coarse sand, some fines, trace fine gravel, wet, no odor.	

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-20

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/4/06 **COMPLETED** 5/4/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 8.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
		GP	NS	SP	3.8	0.25 to 3.75 feet: SAND with GRAVEL (SP): medium gray, fine to coarse sand, few fine to coarse gravel, trace fines, moist, no odor.	1.6
5		GP	NS		7.8	3.75 to 7.75 feet: WOOD WASTE: light brown to black, saw-dust and wood pieces, trace silt, moist, no odor.	1.7
				ML	8.0	∇ 7.75 to 8 feet: SILT (ML): dark brown, trace fine sand, moist, no odor.	
10		GP	GP20-8* GP20 -GW*	SP	12.0	8 to 12 feet: SAND (SP): dark gray, fine to coarse sand, trace fines, wet, no odor.	2.1

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-21

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/4/06 **COMPLETED** 5/4/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 5.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
		GP	NS	SM	3.0	0.25 to 3 feet: SAND with SILT (SM): light brown to medium gray, fine to coarse sand, few fines, trace coarse gravel, trace orgaincs (wood pieces), moist, no odor.	3.0
				SP		3 to 8 feet: SAND (SP): medium gray, fine to coarse sand, trace fines, trace fine gravel, moist to wet, no odor.	
5		GP	GP21-5* GP21 -GW*		8.0	▽	2.4

Boring completed at 8.5 feet.

Temporary well was installed with screen at depths from approximately 3 to 8 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-22

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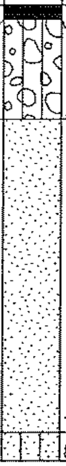
CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/4/06 **COMPLETED** 5/4/06
GROUND ELEVATION
HOLE SIZE 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 6.5 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---



DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		GP	NS	AS	0.3	0 to 0.25 feet: ASPHALT.	2.4
				GM	2.0	0.25 to 2 feet: GRAVEL with SILT (GM): light brown, fine to coarse gravel, some fines, trace fine to coarse sand, moist, no odor.	
				SP	7.5	2 to 7.5 feet: SAND (SP): medium gray, fine to coarse sand, trace fines, trace coarse gravel, trace organics (wood pieces), moist to wet, no odor.	
5		GP	GP22-6.5* GP22 -GW*			∇	1.8
				SM	8.0	7.5 to 8 feet: SILTY SAND (SM): medium gray, fine to coarse sand, some fines, wet, no odor.	

Boring completed at 8 feet.

Temporary well was installed with screen at depths from approximately 3 to 8 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-23

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CLIENT JELD-WEN, inc	**PROJECT NAME** Former Nord Door
PROJECT NUMBER 008.0228.00013	**PROJECT LOCATION** Everett, WA
DATE STARTED 5/1/06 **COMPLETED** 5/1/06	**GROUND ELEVATION** **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling	**GROUND WATER LEVELS:**
DRILLING METHOD Direct Push	▽ **AT TIME OF DRILLING** 6.0 ft
LOGGED BY B. Johnson **CHECKED BY**	**AT END OF DRILLING** ---
NOTES	**AFTER DRILLING** ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION	PID (ppm)
0		GP	NS	AS		0.3	0 to 0.25 feet: ASPHALT.	
				GM		2.0	0.25 to 2 feet: GRAVEL with SILT (GM): light brown, fine to coarse gravel, some fines, trace fine to coarse sand, moist, no odor.	0.4
				SP			2 to 10 feet: SAND (SP): light brown to light gray, fine to coarse sand, trace fines, trace fine gravel, moist to wet, no odor.	
5		GP	GP23-6* GP23 -GW*				▽	0.3
10		GP	NS	ML		10.0	10 to 12 feet: SILT (ML): medium to dark gray, trace organics (roots), moist, no odor.	0.3
						12.0		

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-24

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/3/06 **COMPLETED** 5/3/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
⊻ **AT TIME OF DRILLING** 6.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING —
NOTES
AFTER DRILLING —

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		GP	NS	AS	0.3	0 to 0.25 feet: ASPHALT.	1.1
				GM		0.25 to 8 feet: GRAVEL with SILT (GM): light brown to medium gray, fine to coarse gravel, some fines, trace fine to coarse sand, moist to wet, no odor.	
5		GP	GP24-6* GP24 -GW*		8.0	⊻	1.1
		GP	NS	SP	10.0	8 to 10 feet: SAND (SP): medium gray, fine to coarse sand, trace fines, wet, no odor.	1.0
10				GM	12.0	10 to 12 feet: GRAVEL with SILT (GM): medium to dark gray, fine to coarse gravel, some fines, trace fine to coarse sand, trace organics (wood pieces), wet, no odor.	

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
⊻ Water level at time of drilling.

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BORING NUMBER GP-25

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/3/06 **COMPLETED** 5/3/06
GROUND ELEVATION
HOLE SIZE 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 7.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
		GP	NS	GM	2.0	0.25 to 2 feet: GRAVEL with SILT (GM): medium gray to light brown, fine to coarse gravel, few fines, trace fine to coarse sand, moist, no odor.	0.5
				SP		2 to 12 feet: SAND (SP): light brown to medium gray, fine to coarse sand, trace fines, trace organics (wood pieces), moist to wet, no odor.	
5		GP	GP25-7* GP25 -GW*			@ 5.5 to 5.6 feet: SILT (ML) interbed. ∇	0.7
10		GP	NS		12.0	@ 10 to 10.25 feet: SILT (ML) interbed.	0.4

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-26

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CLIENT JELD-WEN, inc	**PROJECT NAME** Former Nord Door
PROJECT NUMBER 008.0228.00013	**PROJECT LOCATION** Everett, WA
DATE STARTED 5/3/06 **COMPLETED** 5/3/06	**GROUND ELEVATION** **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling	**GROUND WATER LEVELS:**
DRILLING METHOD Direct Push	▽ **AT TIME OF DRILLING** 7.0 ft
LOGGED BY B. Johnson **CHECKED BY**	**AT END OF DRILLING** ---
NOTES	**AFTER DRILLING** ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
				GM	0.5	0.25 to 0.5 feet: GRAVEL with SILT (GM): light brown, fine to coarse gravel, few fines, trace fine to coarse sand, moist, no odor.	
		GP	NS	SP		0.5 to 12 feet: SAND (SP): light brown to medium gray, fine to coarse sand, trace fines, moist to wet, no odor.	0.8
5		GP	GP26-7* GP26 -GW*			▽	1.2
10		GP	NS		12.0		1.3

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-27

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/3/06 **COMPLETED** 5/3/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 7.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
				GM	0.5	0.25 to 0.5 feet: GRAVEL with SILT (GM): light brown, fine to coarse gravel, few fines, moist, no odor.	
		GP	GP27-2*	SP		0.5 to 12 feet: SAND (SP): light brown to medium gray, fine to coarse sand, trace fines, trace organics (wood pieces), moist to wet, no odor.	6.4
5		GP	GP27-7 GP27 -GW*		▽		0.5
10		GP	NS		12.0		0.6

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/3/06 **COMPLETED** 5/3/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 6.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
		GP	NS	GM	1.5	0.25 to 1.5 feet: GRAVEL with SILT (GM): light brown, fine to coarse gravel, few fines, trace fine to coarse sand, moist, no odor.	0.6
				SP		1.5 to 12 feet: SAND (SP): light brown to medium gray, fine to coarse sand, trace fines, moist to wet, no odor.	
5		GP	GP28-6* GP28 -GW*			∇	0.7
10		GP	NS		12.0		0.6

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-29

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/4/06 **COMPLETED** 5/4/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 8.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		GP	NS	AS	0.5	0 to 0.5 feet: ASPHALT.	2.2
				SP	3.5	0.5 to 3.5 feet: SAND with GRAVEL (SP): dark gray, fine to coarse sand, few fine to coarse gravel, few fines, moist, no odor.	
5		GP	GP29-8* GP29 -GW*	SP	6.0	3.5 to 6 feet: SAND (SP): light gray, fine to coarse sand, trace fines, moist, no odor.	1.3
					6.5	6 to 6.5 feet: WOOD DEBRIS: dark brown, moist, no odor.	
				ML	8.0 ▽	6.5 to 8 feet: SILT (ML): light to dark brown, trace fine sand, trace organics (roots), moist, no odor.	
10		GP	NS	SP	12.0	8 to 12 feet: SAND (SP): light to medium gray, fine to coarse sand, trace fines, trace medium to coarse gravel, wet, no odor. @ 9 to 9.1 feet: SILT (ML) interbed. @ 10 to 10.1 feet: WOOD DEBRIS, dark brown, wet, no odor.	1.8

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-30

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/3/06 **COMPLETED** 5/3/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 7.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
		GP	NS	GM	3.5	0.25 to 3.5 feet: GRAVEL with SILT (GM): medium gray, fine to coarse gravel, few fines, trace coarse sand, moist, no odor.	0.6
5		GP	GP30-7* GP30 -GW*	SM	7.0 ▽	3.5 to 7 feet: SILTY SAND (SM): dark brown, fine to coarse sand, some fines, few organics (wood pieces), moist to wet, no odor.	0.6
10		GP	NS	SP	12.0	7 to 12 feet: SAND (SP): medium gray, fine to coarse sand, trace fines, wet, no odor.	0.5

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-31

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/3/06 **COMPLETED** 5/3/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 6.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.5	0 to 0.5 feet: ASPHALT.	
		GP	NS	SP		0.5 to 12 feet: SAND (SP): medium brown to medium gray, fine to coarse sand, trace fine to coarse gravel, trace fines, moist to wet, no odor.	0.3
5		GP	GP31-6* GP31-GW*			▽	2.3
10		GP	NS		12.0		0.7

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-32

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/3/06 **COMPLETED** 5/3/06
GROUND ELEVATION
HOLE SIZE 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 7.5 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
	☒	GP	GP32-2	SM	4.5	0.25 to 4.5 feet: SILTY SAND (SM): light to dark brown, fine to coarse sand, some fines, few fine to coarse gravel, few orgainics (wood pieces), moist, no odor.	19.6
5	☒	GP	GP32-7.5 GP32 -GW*	ML	9.5	4.5 to 9.5 feet: SILT (ML): dark brown, trace fine to coarse sand, trace fine gravel, few organics (wood pieces and roots), moist to wet, no odor. ∇	6.7
10	☒	GP	NS	SP	12.0	9.5 to 12 feet: SAND (SP): dark gray, fine to coarse sand, few fines, trace orgainics (wood pieces), wet, no odor.	2.9

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-33

PAGE 1 OF 1

CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/3/06 **COMPLETED** 5/3/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
⊻ **AT TIME OF DRILLING** 7.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
				GM	0.8	0.25 to 0.75 feet: GRAVEL with SILT (GM): light brown, fine to coarse gravel, few fines, moist, no odor.	
		GP	NS	SP		0.75 to 12 feet: SAND (SP): light brown to medium gray, fine to coarse sand, trace fines, moist to wet, no odor.	0.8
5		GP	GP33-7* GP33-GW*			⊻	1.0
10		GP	NS		12.0		1.1

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
⊻ Water level at time of drilling.

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BORING NUMBER GP-34

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/3/06 **COMPLETED** 5/3/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 3.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		GP	GP34-3 GP34 -GW*	AS	0.3	0 to 0.25 feet: ASPHALT.	0.9
				GM	3.0 ∇	0.25 to 3 feet: GRAVEL with SILT (GM): dark brown, fine to coarse gravel, some fines, trace fine sand, moist, no odor.	
5		GP	GP34-8*	SP	7.0	3 to 7 feet: SAND (SP): dark brown, fine to coarse sand, few fines, trace fine gravel, trace organics (wood pieces), moist to wet, no odor.	1.1
				SM	8.0	7 to 8 feet: SILTY SAND (SM): dark brown, fine to coarse sand, some fines, moist, no odor.	
10		GP	NS	SP	10.5	8 to 10.5 feet: SAND with GRAVEL (SP): dark brown, fine to coarse sand, some fine gravel, trace fines, wet, slight hydrocarbon-like odor.	0.8
				ML	12.0	10.5 to 12 feet: SILT (ML): dark brown, trace fine sand, few organics (wood pieces), moist, no odor.	

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-35

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/4/06 **COMPLETED** 5/4/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 7.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	1.0	0 to 1 feet: ASPHALT.	
		GP	NS	SP		1 to 5 feet: SAND with GRAVEL (SP): light brown to medium gray, fine to coarse sand, few coarse gravel, trace fines, moist, no odor.	2.8
5		GP	GP35-7* GP35-GW*		5.0	5 to 12 feet: SAND (SP): light brown to dark gray, fine to coarse sand, trace coarse gravel, trace fines, moist to wet, no odor. ∇	2.1
10		GP	NS	SP	12.0		0.9

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-36

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CLIENT JELD-WEN, inc

PROJECT NAME Former Nord Door

PROJECT NUMBER 008.0228.00013

PROJECT LOCATION Everett, WA

DATE STARTED 5/3/06

COMPLETED 5/3/06

GROUND ELEVATION

HOLE SIZE 3.25

DRILLING CONTRACTOR Cascade Drilling

GROUND WATER LEVELS:

DRILLING METHOD Direct Push

∇ **AT TIME OF DRILLING** 6.0 ft

LOGGED BY B. Johnson

CHECKED BY

AT END OF DRILLING ---

NOTES

AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
		GP	NS	SP		0.25 to 12 feet: SAND (SP): light brown to light gray, fine to coarse sand, trace fines, moist to wet, no odor.	0.8
5		GP	GP36-6* GP36 -GW*			∇	1.0
10		GP	NS		12.0		0.7

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-37

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CLIENT JELD-WEN, inc		**PROJECT NAME** Former Nord Door	
PROJECT NUMBER 008.0228.00013		**PROJECT LOCATION** Everett, WA	
DATE STARTED 5/2/06	**COMPLETED** 5/2/06	**GROUND ELEVATION**	**HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling		**GROUND WATER LEVELS:**	
DRILLING METHOD Direct Push		⊻ **AT TIME OF DRILLING** 9.0 ft	
LOGGED BY B. Johnson	**CHECKED BY**	**AT END OF DRILLING** ---	
NOTES		**AFTER DRILLING** ---	

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION	PID (ppm)
0				AS		0.3	0 to 0.25 feet: ASPHALT.	
				GP		1.0	0.25 to 1 feet: GRAVEL and SAND (GP): gray, fine to medium gravel, some fine to medium sand, moist, no odor.	
	⨯	GP	NS	SP			1 to12 feet: SAND (SP): light brown to gray, fine to coarse sand, trace fines, trace organics (shell fragments), moist to wet, no odor.	2.1
5	⨯	GP	NS				@ 7 to 8 feet: SILT (ML) interbeds.	1.7
10	⨯	GP	GP37-8* GP37 -GW*			12.0	⊻	1.6

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
⊻ Water level at time of drilling.

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BORING NUMBER GP-38

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/2/06 **COMPLETED** 5/2/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 9.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		GP	NS	AS	0.3	0 to 0.25 feet: ASPHALT.	1.8
				GP	1.5	0.25 to 1.5 feet: GRAVEL (GP): gray to brown, fine to medium gravel, few fine to medium sand, trace fines, moist, no odor.	
				SP		1.5 to 12 feet: SAND (SP): light brown to gray, fine to medium sand, trace fines, trace organics (shell fragments), moist to wet, no odor.	
5		GP	NS				2.6
10		GP	GP38-8* GP38 -GW*		12.0	▽	1.2

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-39

PAGE 1 OF 1

CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/2/06 **COMPLETED** 5/2/06
GROUND ELEVATION
HOLE SIZE 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 9.5 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		GP	NS	AS	0.3	0 to 0.25 feet: ASPHALT.	1.7
				GP	3.0	0.25 to 3 feet: GRAVEL with SAND (GP): light brown, fine to medium gravel, fine to medium sand, trace fines, moist, no odor.	
				SP		3 to 12 feet: SAND (SP): light brown to dark gray, fine to medium sand, trace fines, trace organics (shell fragments), moist to wet, no odor.	
5		GP	NS				1.1
10		GP	GP39-9* GP39 -GW*		12.0	▽	2.0

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-40

PAGE 1 OF 1

CLIENT JELD-WEN, inc	**PROJECT NAME** Former Nord Door
PROJECT NUMBER 008.0228.00013	**PROJECT LOCATION** Everett, WA
DATE STARTED 5/2/06 **COMPLETED** 5/2/06	**GROUND ELEVATION** **HOLE SIZE** 3.25
DRILLING CONTRACTOR Cascade Drilling	**GROUND WATER LEVELS:**
DRILLING METHOD Direct Push	▽ **AT TIME OF DRILLING** 8.0 ft
LOGGED BY B. Johnson **CHECKED BY**	**AT END OF DRILLING** ---
NOTES	**AFTER DRILLING** ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
				GP	1.0	0.25 to 1 feet: GRAVEL (GP): light brown to gray, fine to medium gravel, few fine to medium sand, trace fines, moist, no odor.	
		GP	NS	SP		1 to 8.5 feet: SAND (SP): light brown to gray, fine to medium sand, trace fines, trace organics (shell fragments), moist to wet, no odor.	1.1
5		GP	NS				2.5
					8.5	▽	
				GP	9.0	8.5 to 9 feet: GRAVEL (GP): brown, fine to medium gravel, few fine to medium sand, few fines, wet, no odor.	
10		GP	GP40-8* GP40 -GW*	SP	12.0	9 to 12 feet: SAND (SP): dark brown to dark gray, fine to coarse sand, trace fines, trace orgainics (shell fragments), wet, no odor.	2.2

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-41

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/2/06 **COMPLETED** 5/2/06
GROUND ELEVATION
HOLE SIZE 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 9.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
				GP	1.0	0.25 to 1 feet: GRAVEL and SAND (GP): light gray, fine to medium gravel, some fine to coarse sand, few fines, moist, no odor.	
		GP	NS	SP		1 to 13.5 feet: SAND with GRAVEL (SP): brown, fine to medium sand, fine to coarse gravel, few fines, trace organics (shell fragments), moist to wet, no odor.	2.1
5		GP	NS				2.3
10		GP	GP41-8* GP41-GW*			▽	2.0
		GP	NS		13.5		1.8
				SM	14.0	13.5 to 14 feet: SILTY SAND (SM): dark brown, fine to medium sand, some fines, wet, no odor.	

Boring completed at 14 feet.

Temporary well was installed with screen at depths from approximately 9 to 14 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-42

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 5/2/06 **COMPLETED** 5/2/06
GROUND ELEVATION
HOLE SIZE 3.25
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 9.0 ft
LOGGED BY B. Johnson **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				AS	0.3	0 to 0.25 feet: ASPHALT.	
				GP	1.0	0.25 to 1 feet: GRAVEL with SAND (GP): gray to brown, fine to medium angular gravel, fine to medium sand, trace fines, moist, no odor.	
		GP	NS	SP		1 to 12 feet: SAND (SP): light brown to gray, fine to medium sand, trace fines, trace organics (shell fragments), moist to wet, no odor.	1.7
5		GP	NS				2.2
10		GP	GP42-8* GP42-GW*		12.0	∇	0.9

Boring completed at 12 feet.

Temporary well was installed with screen at depths from approximately 7 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-201

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 9/11/06 **COMPLETED** 9/11/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Boart Longyear
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 5.0 ft
LOGGED BY K Saganski **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0	X	GP	NS	AS	■	0 to 0.75 feet: **ASPHALT.**
					4.0	
5				GP	5.0 ∇	4 to 5 feet: **Sandy GRAVEL (GP):** dark brown, fine to coarse subrounded gravel, some fine to medium sand, little silt, moist, no odors.
	X	GP	GP201-4.5* GP201-GW*	ML		5 to 10 feet: **Sandy SILT (ML):** dark brown, some fine to medium sand, wet, no odors.
10					10.0	

Boring completed at 10 feet.

Temporary well was installed with screen at depths from approximately 4 to 8 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-202

PAGE 1 OF 1

CLIENT JELD-WEN, inc	**PROJECT NAME** Former Nord Door
PROJECT NUMBER 008.0228.00013	**PROJECT LOCATION** Everett, WA
DATE STARTED 9/11/06 **COMPLETED** 9/11/06	**GROUND ELEVATION** ______ **HOLE SIZE** 3.25
DRILLING CONTRACTOR Boart Longyear	**GROUND WATER LEVELS:**
DRILLING METHOD Direct Push	▽ **AT TIME OF DRILLING** 10.0 ft
LOGGED BY K Saganski **CHECKED BY** ______	**AT END OF DRILLING** ---
NOTES ______	**AFTER DRILLING** ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0		GP	NS	AS	2.5	0 to 2.5 feet: **ASPHALT.**
				SM	5.5	2.5 to 5.5 feet: **Silty SAND (SM):** dark brown and grey, fine to coarse, some fines, moist to wet, no odors.
5		GP	GP202-7.5* GP202-GW*	ML	9.0	5.5 to 9 feet: **SILT (ML):** dark brown to black, wet, some organics, strong hydrocarbon-like odors, visible product.
10				ML	10.0 ▽	9 to 10 feet: **Silty SAND (SM):** brown, fine to medium, some fines, wet, strong hydrocoarbon-like odors, visible product.

Boring completed at 10 feet.

Temporary well was installed with screen at depths from approximately 5 to 10 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-203

PAGE 1 OF 1

CLIENT JELD-WEN, inc	**PROJECT NAME** Former Nord Door
PROJECT NUMBER 008.0228.00013	**PROJECT LOCATION** Everett, WA
DATE STARTED 9/11/06 **COMPLETED** 9/11/06	**GROUND ELEVATION** ____ **HOLE SIZE** 3.25
DRILLING CONTRACTOR Boart Longyear	**GROUND WATER LEVELS:**
DRILLING METHOD Direct Push	▽ **AT TIME OF DRILLING** 5.0 ft
LOGGED BY K Saganski **CHECKED BY** ____	**AT END OF DRILLING** ---
NOTES	**AFTER DRILLING** ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0		GP	NS	AS	4.0	0 to 4 feet: **ASPHALT**.
5				SP	5.5	4 to 5.5 feet: **SAND (SP):** dark brown, fine to coarse sand, moist to wet, strong hydrocarbon-like ▽ odors at 5 feet, visible product, some asphalt pieces.
		GP	GP203-5.5*	ML	7.5	5.5 to 7.5 feet: **SILT (ML):** dark brown, some organics, wet, strong hydrocarbon-like odors.
10				SP	10.0	7.5 to 10 feet: **SAND (SP):** dark brown, fine to medium sand, some fines, wet, strong hydrocarbon-like odors, visible sheen on soil.

Boring completed at 10 feet.

Temporary well was installed with screen at depths from approximately 5 to 10 feet below ground surface.

REMARKS

* = Soil sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-204

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 9/11/06 **COMPLETED** 9/11/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Boart Longyear
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 5.5 ft
LOGGED BY K Saganski **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0	⊠	GP	NS	AS	■ 2.5	0 to 2.5 feet: **ASPHALT.**
				SP	░	2.5 to 7.5 feet: **SAND (SP):** light brown, fine to medium, trace coarse sand, trace shell fragments, moist, no odors.
5	⊠	GP	GP204-7.5* GP204-GW*		░ 7.5	▽ 5.5 feet: Becomes dark brown and wet.
				ML	‖ 9.0	7.5 to 9 feet: **SILT (ML):** dark brown, some organics, moist, no odors.
10				SP	░ 10.0	9 to 10 feet: **SAND (SP):** dark brown, fine to coarse, trace fines, wet, no odors.

Boring completed at 10 feet.

Temporary well was installed with screen at depths from approximately 5 to 10 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-205

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CLIENT JELD-WEN, inc	**PROJECT NAME** Former Nord Door
PROJECT NUMBER 008.0228.00013	**PROJECT LOCATION** Everett, WA
DATE STARTED 9/12/06 **COMPLETED** 9/12/06	**GROUND ELEVATION** **HOLE SIZE** 3.25
DRILLING CONTRACTOR Boart Longyear	**GROUND WATER LEVELS:**
DRILLING METHOD Direct Push	∇ **AT TIME OF DRILLING** 4.0 ft
LOGGED BY K Saganski **CHECKED BY**	**AT END OF DRILLING** ---
NOTES	**AFTER DRILLING** ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION
0		GP	GP205-3* GP205-GW*	AS		0.5	0 to 0.5 feet: **ASPHALT.**
				GP		1.5	0.5 to 1.5 feet: **GRAVEL and SAND (GP):** brown, fine to coarse gravel, fine to coarse sand, little silt, dry to moist, no odors.
				SP		6.0	1.5 to 5.5 feet: **SAND (SP):** dark brown, fine to coarse, few to some fines, trace fine to coarse gravel, moist to wet, no odors, few asphalt pieces. ∇
5		GP	NS	ML		9.0	6 to 9 feet: **SILT (ML):** brown, some organics, moist to wet, no odors.
10				SP		10.0	9 to 10 feet: **SAND (SP):** dark gray-brown, fine to coarse, some fines, wet, no odors.

Boring completed at 10 feet.

Temporary well was installed with screen at depths from approximately 9 to 14 feet below ground surface (bgs). The well screen was driven to 14 feet bgs and no soil samples were collected below 10 feet bgs.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-206

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CLIENT	JELD-WEN, inc	**PROJECT NAME**	Former Nord Door
PROJECT NUMBER	008.0228.00013	**PROJECT LOCATION**	Everett, WA
DATE STARTED	9/12/06 **COMPLETED** 9/12/06	**GROUND ELEVATION**	**HOLE SIZE** 3.25
DRILLING CONTRACTOR	Boart Longyear	**GROUND WATER LEVELS:**	
DRILLING METHOD	Direct Push	∇ **AT TIME OF DRILLING**	5.5 ft
LOGGED BY	K Saganski **CHECKED BY**	**AT END OF DRILLING**	---
NOTES		**AFTER DRILLING**	---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0	☒	GP	NS	AS	■	0 to 4.5 feet: **ASPHALT.**
5	☒	GP	GP206-4.5* GP206-8.5* GP206-P*	SP	▨ 4.5	4.5 to 8.5 feet: **Gravelly SAND (SP):** gray, fine to coarse sand, some fine to coarse gravel, little silt, ∇ moist, wet at 5.5 feet, no odors, few asphalt pieces.
					9.0	8.5 to 9 feet: **SAND (SP):** grey to dark brown, fine to medium, some fines, wet, strong hydrocarbon-like odors, visible product.
10				ML	‖‖ 10.0	9 to 10 feet: **SILT (ML):** brown, moist to wet, strong hydrocarbon-like odors, some organics.

Boring completed at 10 feet.

Temporary well was installed with screen at depths from approximately 8 to 10 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-207

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 9/12/06 **COMPLETED** 9/12/06
GROUND ELEVATION ______ **HOLE SIZE** 3.25
DRILLING CONTRACTOR Boart Longyear
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 7.0 ft
LOGGED BY K Saganski **CHECKED BY** ______
AT END OF DRILLING —
NOTES ______
AFTER DRILLING —

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0		GP	GP207-3*	AS	1.0	0 to 1 feet: **ASPHALT**.
				GP	3.5	1 to 3.5 feet: **SAND and GRAVEL (GP):** light grey, fine to coarse subrounded gravel, fine to coarse sand, little silt, moist, no odors.
				SP	9.0	3.5 to 9 feet: **SAND (SP):** dark brown, fine to medium sand, some fines, moist to wet, hydrocarbon-like odors at 8.8 feet, visible sheen on soil, trace shell fragments. ▽
5		GP	GP207-9*			
				ML	10.0	9 to 10 feet: **SILT (ML):** dark brown, moist to wet, hydrocarbon-like odors, few organics.
10		GP	GP207-GW* GP207-P*	SP	15.0	10 to 15 feet: **SAND (SP):** dark brown, fine to coarse, some fines, wet, strong hydrocarbon-like odors, visible product trace shell fragments.
15						

Boring completed at 15 feet.

Temporary well was installed with screen at depths from approximately 10 to 12 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

BORING NUMBER GP-208

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CLIENT JELD-WEN, inc	**PROJECT NAME** Former Nord Door
PROJECT NUMBER 008.0228.00013	**PROJECT LOCATION** Everett, WA
DATE STARTED 9/12/06 **COMPLETED** 9/12/06	**GROUND ELEVATION** **HOLE SIZE** 3.25
DRILLING CONTRACTOR Boart Longyear	**GROUND WATER LEVELS:**
DRILLING METHOD Direct Push	▽ **AT TIME OF DRILLING** 9.8 ft
LOGGED BY K Saganski **CHECKED BY**	**AT END OF DRILLING** —
NOTES	**AFTER DRILLING** —

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0	☒	GP	NS	AS	1.0	0 to 1 feet: **ASPHALT**.
				GP	4.5	1 to 4.5 feet: **SAND and GRAVEL (GP)**: grey, fine to coarse subrounded gravel, fine to coarse sand, little silt, moist, no odors.
5	☒	GP	NS	SP	6.0	4.5 to 6 feet: **SAND (SP)**: brown, fine to medium sand, some fines, moist, strong hydrocarbon-like odors, visible product.
				ML	9.8 ▽	6 to 9.8 feet: **SILT (ML)**: brown, moist to wet, no odors, some organics.
10				SP	10.0	9.8 to 10 feet: **SAND (SP)**: dark brown, fine to coarse, wet, hydrocarbon-like odors, visible sheen.

Boring completed at 10 feet.

Temporary well was installed with screen at depths from approximately 10 to 12 feet below ground surface.

REMARKS

* = Groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-209

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CLIENT JELD-WEN, inc	**PROJECT NAME** Former Nord Door
PROJECT NUMBER 008.0228.00013	**PROJECT LOCATION** Everett, WA
DATE STARTED 9/12/06 **COMPLETED** 9/12/06	**GROUND ELEVATION** **HOLE SIZE** 3.25
DRILLING CONTRACTOR Boart Longyear	**GROUND WATER LEVELS:**
DRILLING METHOD Direct Push	⊻ **AT TIME OF DRILLING** 5.5 ft
LOGGED BY K Saganski **CHECKED BY**	**AT END OF DRILLING** ---
NOTES	**AFTER DRILLING** ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0		GP	GP209-3*	AS	2.5	0 to 2.5 feet: **ASPHALT**.
				SP	7.5	2.5 to 7.5 feet: **SAND (SP)**: light brown, fine to medium, trace coarse sand, moist, wet at 5.5 feet, no odors.
5		GP	GP209-GW*			⊻
				ML	9.0	7.5 to 9 feet: **SILT (ML)**: dark brown, moist to wet, no odors, some organics.
10				SP	10.0	9 to 10 feet: **SAND (SP)**: dark brown, fine to medium, trace coarse sand, trace fines, wet, no odors.

Boring completed at 10 feet.

Temporary well was installed with screen at depths from approximately 5 to 10 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
⊻ Water level at time of drilling.

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BORING NUMBER GP-210

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CLIENT JELD-WEN, inc

PROJECT NAME Former Nord Door

PROJECT NUMBER 008.0228.00013

PROJECT LOCATION Everett, WA

DATE STARTED 9/12/06 **COMPLETED** 9/12/06

GROUND ELEVATION

HOLE SIZE 3.25

DRILLING CONTRACTOR Boart Longyear

GROUND WATER LEVELS:

DRILLING METHOD Direct Push

$\underline{\nabla}$ **AT TIME OF DRILLING** 6.0 ft

LOGGED BY K Saganski **CHECKED BY**

AT END OF DRILLING ---

NOTES

AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION
0				AS	■	0.3	0 to 0.25 feet: **ASPHALT**.
	╳	GP	GP210-4*	SP	▨		0.25 to 4.5 feet: **SAND (SP):** light brown, fine to medium, trace coarse sand, moist, no odors.
5						4.5	
	╳	GP	GP210-GW*	SM	▨		4.5 to 10 feet: **Silty SAND (SM):** brown to grey, fine to coarse, some fines, little fine to coarse subrounded gravel, moist to wet, no odors. $\underline{\nabla}$
10						10.0	

Boring completed at 10 feet.

Temporary well was installed with screen at depths from approximately 5 to 10 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
$\underline{\nabla}$ Water level at time of drilling.

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BORING NUMBER GP-211

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CLIENT JELD-WEN, inc		**PROJECT NAME** Former Nord Door	
PROJECT NUMBER 008.0228.00013		**PROJECT LOCATION** Everett, WA	
DATE STARTED 9/11/06	**COMPLETED** 9/11/06	**GROUND ELEVATION**	**HOLE SIZE** 3.25
DRILLING CONTRACTOR Boart Longyear		**GROUND WATER LEVELS:**	
DRILLING METHOD Direct Push		▽ **AT TIME OF DRILLING** 5.5 ft	
LOGGED BY K Saganski	**CHECKED BY**	**AT END OF DRILLING** ---	
NOTES		**AFTER DRILLING** ---	

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION
0				AS		0.3	0 to 0.25 feet: **ASPHALT.**
		GP	GP211-3.5*	GP			0.25 to 5.5 feet: **SAND and GRAVEL (GP):** grey, fine to coarse subrounded gravel, fine to coarse sand, moist to wet, no odors.
5						5.5 ▽	
		GP	GP211-GW*	SM		6.0	5.5 to 6 feet: **Silty SAND (SM):** dark brown, fine to medium, some fines, wet, no odors.
				SP			6 to 10 feet: **SAND (SP):** dark brown, fine to medium, trace coarse sand, wet, no odors.
10						10.0	

Boring completed at 10 feet.

Temporary well was installed with screen at depths from approximately 5 to 10 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

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BORING NUMBER GP-212

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 9/11/06 **COMPLETED** 9/11/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Boart Longyear
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 5.0 ft
LOGGED BY K Saganski **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION
0				AS	■	0.3	0 to 0.25 feet: **ASPHALT.**
	☒	GP	GP212-3*	GP	°	4.0	0.25 to 4 feet: **SAND and GRAVEL (GP):** brown, fine to coarse gravel, some fine to coarse sand, few fines, moist, no odors.
5					▩	5.0 ∇	4 to 5 feet: **WOOD.**
	☒	GP	GP212-GW*	SP	⁚	7.0	5 to 7 feet: **SAND (SP):** dark brown, fine to medium, trace coarse sand, few fines, wet, no odors.
				ML	‖	8.0	7 to 8 feet: **SILT (ML):** dark brown, moist, no odors.
10				SP	⁚	10.0	8 to 10 feet: **SAND (SP):** dark brown, fine to coarse, trace silt, wet, no odors.

Boring completed at 10 feet.

Temporary well was installed with screen at depths from approximately 5 to 10 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-213

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CLIENT JELD-WEN, inc		**PROJECT NAME** Former Nord Door	
PROJECT NUMBER 008.0228.00013		**PROJECT LOCATION** Everett, WA	
DATE STARTED 9/12/06	**COMPLETED** 9/12/06	**GROUND ELEVATION**	**HOLE SIZE** 3.25
DRILLING CONTRACTOR Boart Longyear		**GROUND WATER LEVELS:**	
DRILLING METHOD Direct Push		∇ **AT TIME OF DRILLING** 2.5 ft	
LOGGED BY K Saganski	**CHECKED BY**	**AT END OF DRILLING** —	
NOTES		**AFTER DRILLING** —	

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION
0	X	GP	GP213-3.5*	AS		0.3	0 to 0.25 feet: **ASPHALT**.
				GP		1.0	0.25 to 1 feet: **Sandy GRAVEL (GP):** brown, fine to coarse subrounded gravel, some fine to coarse sand, little silt, moist, no odors.
				SP			1 to 2.5 feet: **Gravelly SAND (SP):** dark brown, fine to coarse sand, some fine to coarse gravel, little silt, moist, no odors. ∇ 2.5 to 8 feet: **SAND (SP):** grey to dark grey, fine to medium, trace coarse sand, trace fines, wet, strong chemical odors.
5	X	GP	GP213-P*			8.0	
				ML		9.0	8 to 9 feet: **SILT (ML):** dark brown, trace fine sand, moist, chemical odors.
10				SP		10.0	9 to 10 feet: **SAND (SP):** dark grey, fine to medium, trace coarse sand, some fines, wet, strong chemical odors, visible sheen, trace wood pieces.

Boring completed at 10 feet.

Temporary well was installed with screen at depths from approximately 5 to 10 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-214

PAGE 1 OF 1

CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00013
PROJECT LOCATION Everett, WA
DATE STARTED 9/12/06 **COMPLETED** 9/12/06
GROUND ELEVATION **HOLE SIZE** 3.25
DRILLING CONTRACTOR Boart Longyear
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 4.0 ft
LOGGED BY K Saganski **CHECKED BY**
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0		GP	GP214-2.5*	AS	0.3	0 to 0.25 feet: **ASPHALT**.
				SP	3.0	0.25 to 0.6 feet: **SAND (SP):** brown, fine to coarse, some fine to coarse gravel, little silt, moist, no odors. 0.6 to 3 feet: **SAND (SP):** light brown, fine to medium, trace coarse sand, moist, no odors.
				ML	3.5	3 to 3.5 feet: **SILT (ML):** brown to dark brown, moist, no odors, few glass and brick pieces.
5				SP	6.0	∇ 3.5 to 6 feet: **SAND (SP):** brown, fine to coarse, trace fines, moist to wet, strong chemical odors at 5 feet.
		GP	GP214-6* GP214-GW*	ML	7.5	6 to 7.5 feet: **SILT (ML):** brown, moist to wet, strong chemical odors, some organics.
10				SP	10.0	7.5 to 10 feet: **SAND (SP):** dark grey, fine to coarse, few fines, wet, strong chemical odors, trace organics.

Boring completed at 10 feet.

Temporary well was installed with screen at depths from approximately 5 to 10 feet below ground surface.

REMARKS

* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
∇ Water level at time of drilling.

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BORING NUMBER GP-215

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CLIENT JELD-WEN, inc	**PROJECT NAME** Former Nord Door
PROJECT NUMBER 008.0228.00013	**PROJECT LOCATION** Everett, WA
DATE STARTED 9/11/06 **COMPLETED** 9/11/06	**GROUND ELEVATION** **HOLE SIZE** 3.25
DRILLING CONTRACTOR Boart Longyear	**GROUND WATER LEVELS:**
DRILLING METHOD Direct Push	▽ **AT TIME OF DRILLING** 7.0 ft
LOGGED BY K Saganski **CHECKED BY**	**AT END OF DRILLING** —
NOTES	**AFTER DRILLING** —

DEPTH (ft)	INTERVAL	TYPE	NAME	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION
0	☒	GP	NS	AS	■	0.5	0 to 0.5 feet: **ASPHALT.**
				GP	○	0.8	0.5 to 0.8 feet: **Sandy GRAVEL (GP):** brown, fine to coarse gravel, fine to medium sand, little silt, moist, no odors.
				SP	░	5.0	0.8 to 5 feet: **SAND (SP):** light brown, fine to medium, trace coarse sand, moist, no odors.
5	☒	GP	GP215-4.5*	ML	▥	7.0 ▽	5 to 7 feet: **SILT (ML):** grey, wet, no odors, trace organics.
				SP	░	15.0	7 to 15 feet: **SAND (SP):** dark grey, fine to coarse, wet, strong chemical odors, visible sheen on soil.
10	☒	GP	GP215-GW*				
15							

Boring completed at 15 feet.

Temporary well was installed with screen at depths from approximately 8 to 13 feet below ground surface.

REMARKS

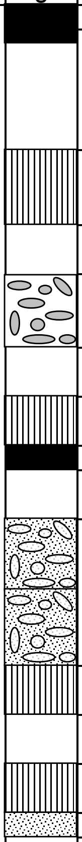
* = Soil and groundwater sample was submitted for laboratory analysis.
PID = photoionization detector readings in parts per million (ppm).
GP = Soil samples were collected with Geoprobe by using a 4-foot long, 1.5-inch diameter closed-piston sampling device with new acetate liners.
NS = No sample collected.
▽ Water level at time of drilling.

SLR Sampling Event – Oct 2006

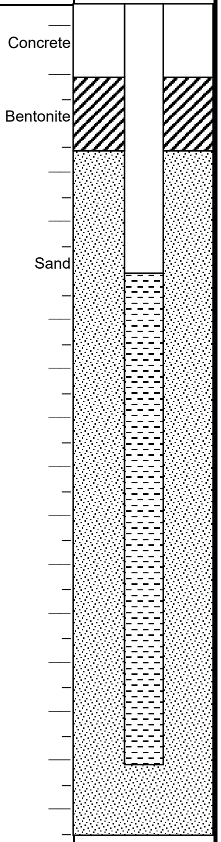
Project: Former Nord Door		**Boring/Well Name:** MW-1
Boring Location:	**Job #: 008.0228.00013**	
Drilling Company: Cascade Drilling	**Logged by: Beau Johnson**	
Equipment: HAS	**Start Date/Time: 10-2-06 @ 0810**	
Sampling Method: Split Spoon	**Finish Date/Time: 10-2-06**	
Hammer Weight: 300	**Monitoring Device: PID**	
Screened Interval (bgs): 5 - 15	**First Water (bgs): 7.5**	

Sample I.D.	Sample Interval	Recovery (%)	PID (ppm)	Blow Counts	Depth (feet bgs)	USCS Code		Lithologic Description
					0	AS	0-0.3	Asphalt
NS	▒	85	0.6	21 21 21		ML	2.5 - 4	Sandy SILT: Dark gray, fine to medium sand, trace fine to coarse gravel, moist, no odors.
					5			
MW1-6.5 @ 0840	▒	60	0.4	6 7 8		GP	5 - 6.5	GRAVEL: dark gray, fine to coarse gravel, some fine to coarse sand and some fines, moist, no odors
NS	▒	90	0.3	6 15 6		ML	7.5 - 8.5	Sandy SILT: dark gray, some fine to medium sand, trace fine to coarse gravel, wet, no odors
						AS	8.5 - 9	Asphalt pieces
					10			
NS	▒	90	0.4	12 11 10		GP	10 - 13	Sandy GRAVEL: dark gray, fine to coarse gravel, some fine to coarse sand, some fines, wet, no odors
NS	▒	90	0.3	6 15 7		ML	13 - 14	Sandy SILT: dark gray, some fine to coarse sand, trace fine gravel, wet, no odors
					15			
NS	▒	85	0.3	8 25 25		ML	15 - 16	Sandy SILT: dark gray, some fine to coarse sand, trace organics, wet, no odors
						SP	16- 16.5	SAND: Gray, fine to coarse sand, few fines, wet, no odors
					20			

Graphic Log



Well Construction Details



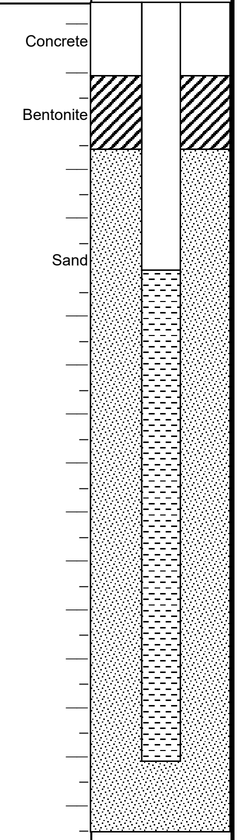
Well: 2" PVC
Screen: .010"

Depth of Boring (bgs): 16.5	**Filter Pack: 3.5 - 16.5**
Depth of Well (bgs): 15	**Annulus Seal: 2 - 3.5**
	Surface Seal: 0 - 2

Project: **Former Nord Door**		**Boring/Well Name:** MW-2
Boring Location:	**Job #: 008.0228.00013**	
Drilling Company: Cascade Drilling	**Logged by: Beau Johnson**	
Equipment: HAS	**Start Date/Time: 10-2-06 @ 1018**	
Sampling Method: Split Spoon	**Finish Date/Time: 10-2-06**	
Hammer Weight: 300	**Monitoring Device: PID**	
Screened Interval (bgs): 5 - 15	**First Water (bgs): 11**	

Sample I.D.	Sample Interval	Recovery (%)	PID (ppm)	Blow Counts	Depth (feet bgs)	USCS Code	Graphic Log	Lithologic Description	
					0	AS		0-0.3	Asphalt
						GP		0.3 - 2.5	GRAVEL: Brown, fine to coarse gravel, some fine to coarse sand, trace fines, moist, no odors
NS	▒	50	2.4	50 for 6"		SP		2.5 - 4	SAND: Light brown, fine to coarse sand, few fines, trace fine to coarse gravel, moist, no odors.
					5				
NS	▒	60	2.3	7 8 7		SP		5 - 6.5	SAND: Light gray, fine to coarse sand, trace fines, moist, no odors.
NS	▒	90	1.1	6 8 8		SP		7.5 - 9.5	SAND: Light gray, fine to coarse sand, trace fines, moist, no odors.
					10				
MW2-10.5 @1050	▒	100	1.0	8 17 21		SP		10 - 11.5	SAND: Light gray, fine to coarse sand, trace fines, moist, no odors, trace shell fragments, wet at 11'.
NS	▒	100	0.9	5 25 50		SP		12.5 - 14	SAND: Light gray, fine to coarse sand, trace fines, moist, no odors, trace shell fragments, wet.
					15				
NS	▒	100	0.9	4 5 10		SP		15 - 16.5	SAND: Light gray, fine to coarse sand, trace fines, moist, no odors, trace shell fragments, wet.
					20				Well: 2" PVC Screen: .010"

Well Construction Details

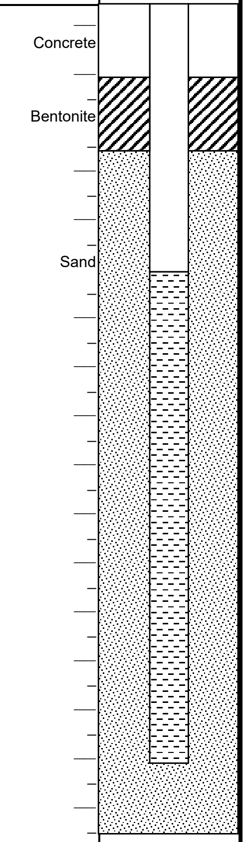


Depth of Boring (bgs): 16.5	**Filter Pack: 3.5 - 15**
Depth of Well (bgs): 15	**Annulus Seal: 2 - 3.5**
	Surface Seal: 0 - 2

Project: Former Nord Door		**Boring/Well Name:** MW-3
Boring Location:	**Job #:** 008.0228.00013	
Drilling Company: Cascade Drilling	**Logged by:** Beau Johnson	
Equipment: HAS	**Start Date/Time:** 10-2-06 @ 1600	
Sampling Method: Split Spoon	**Finish Date/Time:** 10-2-06	
Hammer Weight: 300	**Monitoring Device:** PID	
Screened Interval (bgs): 5 - 15	**First Water (bgs):** 7	

Sample I.D.	Sample Interval	Recovery (%)	PID (ppm)	Blow Counts	Depth (feet bgs)	USCS Code	Graphic Log	Lithologic Description	
					0	AS		0 - 0.25	Asphalt
						GP		0.25 - 2.5	Sandy GRAVEL: Light brown, fine to coarse gravel, fine to coarse sand, trace fines, moist, no odors
NS		100	2.9	5 5 1		SP		2.5 - 4	SAND: Gray to brown, fine to coarse sand, trace fines, moist, no odors.
					5				
MW3-6.5 @1620		100	3	5 5 4		SP		5 - 6.5	SAND: Gray to brown, fine to coarse sand, trace fines, moist, no odors.
NS		100	3.2	4 4 5		SP		7.5 - 9	SAND: Gray, fine to coarse sand, trace fines, wet, no odors
					10				
NS		100	2.8	3 7 11		SP		10 - 11.5	SAND: Gray, fine to coarse sand, trace fines, wet, no odors.
NS		100	2.5	3 4 4		SP		12.5 - 14	SAND: Gray, fine to coarse sand, trace fines, wet, no odors. Lense of SILT (ML) @ 13.25 to 13.5: gray, trace fine sand, wed, no odors
					15				
NS		85	2.6	4 4 4		SP		15 - 16.5	SAND: Gray, fine to coarse sand, trace fines, wet, no odors.
					20				

Well Construction Details



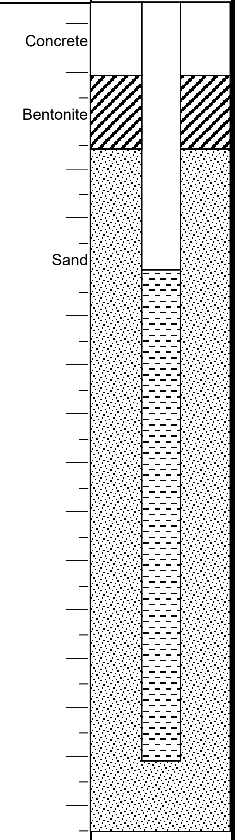
Well: 2" PVC
Screen: .010"

Depth of Boring (bgs): 16.5	**Filter Pack:** 3.5 - 16.5
Depth of Well (bgs): 15	**Annulus Seal:** 2 - 3.5
	Surface Seal: 0 - 2

Project: Former Nord Door		**Boring/Well Name:** MW-4
Boring Location:	**Job #: 008.0228.00013**	
Drilling Company: Cascade Drilling	**Logged by: Beau Johnson**	
Equipment: HAS	**Start Date/Time: 10-2-06 @ 1215**	
Sampling Method: Split Spoon	**Finish Date/Time: 10-2-06**	
Hammer Weight: 300	**Monitoring Device: PID**	
Screened Interval (bgs): 5 - 15	**First Water (bgs): 7**	

Sample I.D.	Sample Interval	Recovery (%)	PID (ppm)	Blow Counts	Depth (feet bgs)	USCS Code	Graphic Log	Lithologic Description
					0	AS		0 - 0.25 Asphalt
						SP		0.25 - 4 SAND: Gray, fine to coarse sand, trace fine to coarse gravel, trace fines, moist, no odors.
NS		85	2.2	14 11 11				
					5			
MW4-6.5 @1245		100	1.9	4 4 5		SP		5 - 6.5 SAND: Gray, fine to coarse sand, trace fine to coarse gravel, trace fines, moist, no odors.
NS		100	2	6 11 11		SP		7.5 - 9 SAND: Gray, fine to coarse sand, no gravel, wet, turns to brown @ 8.25 feet, no odors.
					10			
NS		100	2.2	15 18 10		SP		10 - 11.5 SAND: Dark Gray, fine to coarse sand, trace fines, wet, no odors.
NS		100	1.9	5 6 8		SP		12.5 - 14 SAND: Dark Gray, fine to coarse sand, trace fines, wet, no odors.
					15			
NS		100	1.8	7 4 16		SP		15 - 16.5 SAND: Dark Gray, fine to coarse sand, trace fines, wet, no odors.
					20			Well: 2" PVC Screen: .010"

Well Construction Details

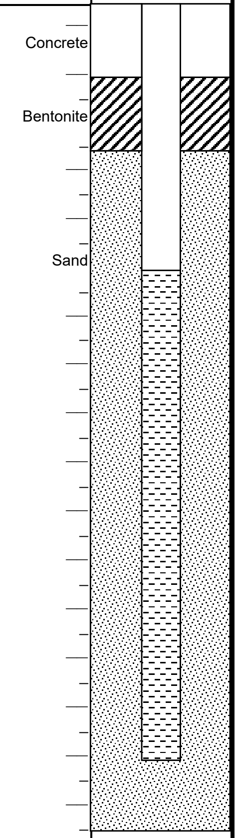


Depth of Boring (bgs): 16.5	**Filter Pack: 3.5 - 16.5**
Depth of Well (bgs): 15	**Annulus Seal: 2 - 3.5**
	Surface Seal: 0 - 2

Project: Former Nord Door		**Boring/Well Name:** MW-5
Boring Location:	**Job #: 008.0228.00013**	
Drilling Company: Cascade Drilling	**Logged by: Beau Johnson**	
Equipment: HAS	**Start Date/Time: 10-2-06 @ 1405**	
Sampling Method: Split Spoon	**Finish Date/Time: 10-2-06**	
Hammer Weight: 300	**Monitoring Device: PID**	
Screened Interval (bgs): 5 - 15	**First Water (bgs): 9.5**	

Sample I.D.	Sample Interval	Recovery (%)	PID (ppm)	Blow Counts	Depth (feet bgs)	USCS Code	Graphic Log	Lithologic Description	
					0	ML		0 - 0.25	SILT: Dark brown, trace fine sand, moist, no odors, lots of organics.
NS		80	3.2	4 5 4		GM		2.5 - 4	Silty GRAVEL: Dark brown to black, fine to coarse gravel, some fines, trace coarse sand, moist, no odors, burnt wood pieces
					5				
NS		50	2.4	5 3 3		GM		5 - 6	Silty GRAVEL: Dark brown to black, fine to coarse gravel, some fines, trace coarse sand, moist, no odors.
						ML		6 - 6.5	Sandy SILT: Dark brown, some fine to med sand, moist, slight hydrocarbon-like.
MW5-8.5 @1440		100	4.9	1 4 7		ML		7.5 - 8.5	SILT: Gray, trace fine sand, moist, hydrocarbon-like odors, trace organics
						SP		8.5 - 9	SAND: Gray, fine to coarse sand, moist, hydrocarbon-like odors.
					10				
NS		100	12.7	5 8 11		SP		10 - 11.5	SAND: Dark Gray, fine to coarse sand, trace fines, wet, strong hydrocarbon-like odors, visible sheen on soil, a large wood piece.
NS		100	5	17 25 40		SP		12.5 - 14	SAND: Dark Gray, fine to coarse sand, trace fines, wet, strong hydrocarbon-like odors.
					15				
NS		100	4.3	50 for 6"		SP		15 - 16.5	SAND: Dark Gray, fine to coarse sand, trace fines, wet, strong hydrocarbon-like odors.
					20				

Well Construction Details



Well: 2" PVC
Screen: .010"

Depth of Boring (bgs): 16.5	**Filter Pack: 3.5 - 16.5**
Depth of Well (bgs): 15	**Annulus Seal: 2 - 3.5**
	Surface Seal: 0 - 2

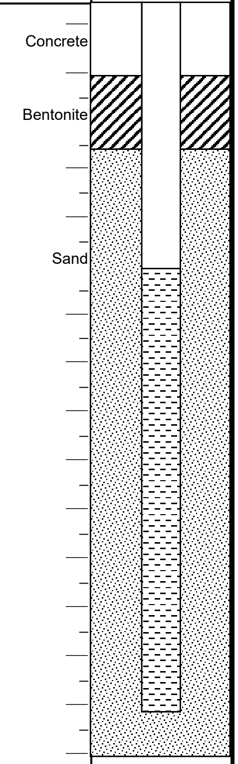
SLR Sampling Event – May 2007

Project: Former Nord Door		**Boring/Well Name:** MW-6
Boring Location:	**Job #: 008.0228.00026**	
Drilling Company: Cascade Drilling	**Logged by: Chris Kramer**	
Equipment: HAS	**Start Date/Time: 4-20-07 @ 1216**	
Sampling Method: Split Spoon	**Finish Date/Time: 4-20-07**	
Hammer Weight: 300	**Monitoring Device: PID**	
Screened Interval (bgs): 4 - 14	**First Water (bgs): 8**	

Sample I.D.	Sample Interval	Recovery (%)	PID (ppm)	Blow Counts	Depth (feet bgs)	USCS Code	Graphic Log	Lithologic Description
					0	AS	■	0 - 0.25 Asphalt
NS	▒	80	2	5 3 2		GP		3 - 5 Sandy GRAVEL: Dark brown fine to coarse sand with gravel and cobbles, moist, no odor.
					5			
MW6-407-10 @1240	▓	50	2.2	7 5 3	10	SP	░	8 - 10 SAND: Dark brown to gray fine to coarse sand, moist to wet, no odors.
MW6-407-14 @1247	▓	65	2	4 6 4		SP	░	12 - 14 Silty SAND: Gray fine to coarse sand, with gray silt, wet, no odors.
					15			
					20			

Well: 2" PVC
Screen: .010"

Well Construction Details



Depth of Boring (bgs): 14	**Filter Pack: 3.5 - 14**
Depth of Well (bgs): 14	**Annulus Seal: 2 - 3.5**
	Surface Seal: 0 - 2

SLR Sampling Event – May and June 2009

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BORING NUMBER GP-302

PAGE 1 OF 1

CLIENT JELD-WEN inc

PROJECT NAME Former Nord Door

PROJECT NUMBER 008.0228.00037

PROJECT LOCATION Everett, WA

DATE STARTED 5/21/09 **COMPLETED** 5/21/09

GROUND ELEVATION **HOLE SIZE** 2

DRILLING DRILLING CONTRACTOR Cascade Drilling

GROUND WATER LEVELS:

DRILLING DRILLING METHOD Direct Push

∇ **AT TIME OF DRILLING** 3.0 ft

LOGGED BY K Saganski **CHECKED BY** C. Kramer

AT END OF ---

NOTES

AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION	PID (ppm)
0	GP			1.0	Asphalt	0.0
		ML		3.0 ∇	Gravelly SILT: brown to black, fine to coarse gravel, few sand fine to medium-grained, moist	
		ML		4.0	SILT: brown to gray, few sand fine to medium-grained, moist	
5	GP	ML		5.5	Sandy SILT: gray, fine to medium-grained sand, trace fine gravel, wet	0.0
				5.8	Woody debris	
		ML		7.5	SILT: gray, plastic, moist. Roots in silt from 5.8' to 6'	
		SP		8.0	SAND: gray, fine to medium-grained, few fines, wet	

Bottom of hole at 8.0 feet.

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BORING NUMBER GP-303

PAGE 1 OF 1

CLIENT JELD-WEN inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00037
PROJECT LOCATION Everett, WA
DATE STARTED 6/1/09
COMPLETED 6/1/09
GROUND ELEVATION
HOLE SIZE 2
DRILLING DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 7.0 ft
LOGGED BY K Saganski
CHECKED BY C. Kramer
AT END OF ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION	PID (ppm)
0			■	1.0	Asphalt and Gravel roadbase	0.2
		SW	▨	7.0 ▽	SAND: gray, fine to coarse-grained with some fine to coarse gravel, little silt, few shells and glass, moist. Becomes fine-grained @ 5.5'. 3" lense of brick @ 6.3'. 2" lense of wood @ 6.5'	
5	☒ GP					0.1
		SW	▨	9.0	SAND: dark brown, fine to coarse-grained, with some fine to coarse gravel, little silt, wet	
10				12.0	Woody debris	0.0
					Bottom of hole at 12.0 feet.	

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BORING NUMBER GP-304

PAGE 1 OF 1

CLIENT JELD-WEN inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00037
PROJECT LOCATION Everett, WA
DATE STARTED 6/1/09 **COMPLETED** 6/1/09
GROUND ELEVATION **HOLE SIZE** 2
DRILLING DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING DRILLING METHOD Direct Push
▽ **AT TIME OF DRILLING** 7.0 ft
LOGGED BY K Saganski **CHECKED BY** C. Kramer
AT END OF ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION	PID (ppm)
0			■	0.5	Asphalt and Gravel roadbase	
		SP	⁙		SAND: gray, fine-grained, some silt, moist	0.0
5	GP			6.5		0.0
		ML	‖‖	7.0 ▽	SILT: dark gray, little organics, moist	
		SW	⁘		SAND: gray, fine to coarse-grained, little silt, little gravel, fine to medium, wet	
10				10.0		0.1
			▨	10.5	Concrete and Asphalt: brown SAND fine to coarse-grained matrix, moist to dry	
				12.0	Wood: with Sand and Silt, dark brown, moist	

Bottom of hole at 12.0 feet.

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BORING NUMBER GP-305

PAGE 1 OF 1

CLIENT JELD-WEN inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00037
PROJECT LOCATION Everett, WA
DATE STARTED 6/1/09 **COMPLETED** 6/1/09
GROUND ELEVATION ______ **HOLE SIZE** 2
DRILLING DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 7.5 ft
LOGGED BY K Saganski **CHECKED BY** C. Kramer
AT END OF ---
NOTES ______
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0			■ 1.5	Asphalt	0.1
		SM	3.0	Silty SAND: gray, fine-grained, with shells	
5	GP	SW	12.0	SAND: brown, fine to coarse-grained, trace silt, moist to wet. Becomes wet @ 7.5'. Wood in bottom of sampler ∇	0.1
10					0
				Bottom of hole at 12.0 feet.	

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BORING NUMBER GP-306

PAGE 1 OF 1

CLIENT JELD-WEN inc		**PROJECT NAME** Former Nord Door	
PROJECT NUMBER 008.0228.00037		**PROJECT LOCATION** Everett, WA	
DATE STARTED 6/1/09	**COMPLETED** 6/1/09	**GROUND ELEVATION**	**HOLE SIZE** 2
DRILLING DRILLING CONTRACTOR Cascade Drilling		**GROUND WATER LEVELS:**	
DRILLING DRILLING METHOD Direct Push		∇ **AT TIME OF DRILLING** 8.0 ft	
LOGGED BY K Saganski	**CHECKED BY** C. Kramer	**AT END OF** ---	
NOTES		**AFTER DRILLING** ---	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0			1.0	Asphalt and Gravel roadbase	
		SP	6.0	Gravelly SAND: brown, fine to medium-grained, fine to coarse gravel, little silt, moist	0.0
5	GP				0.0
		SW	12.0	SAND: brown, fine to coarse-grained, trace silt, moist to wet ∇	
10					0.0
				Bottom of hole at 12.0 feet.	

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BORING NUMBER GP-307

PAGE 1 OF 1

CLIENT JELD-WEN inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00037
PROJECT LOCATION Everett, WA
DATE STARTED 5/21/09 **COMPLETED** 5/21/09
GROUND ELEVATION ______ **HOLE SIZE** 2
DRILLING DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 4.0 ft
LOGGED BY K Saganski **CHECKED BY** C. Kramer
AT END OF ---
NOTES ______
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION	PID (ppm)
0	GP	GW		1.5	GRAVEL: with sand, brown to gray, fine to coarse, little fines, moist	0.0
		SP		4.0 ∇	SAND: gray, fine to medium-grained, trace silt, moist	
5				8.0	Wood: contains some plastic and plywood and a piece of screen	0.0
					Bottom of hole at 8.0 feet.	

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BORING NUMBER GP-308

PAGE 1 OF 1

CLIENT JELD-WEN inc

PROJECT NAME Former Nord Door

PROJECT NUMBER 008.0228.00037

PROJECT LOCATION Everett, WA

DATE STARTED 5/21/09 **COMPLETED** 5/21/09

GROUND ELEVATION **HOLE SIZE** 2

DRILLING DRILLING CONTRACTOR Cascade Drilling

GROUND WATER LEVELS:

DRILLING DRILLING METHOD Direct Push

∇ **AT TIME OF DRILLING** 4.0 ft

LOGGED BY C. Kramer **CHECKED BY** R. Frogner

AT END OF ---

NOTES

AFTER DRILLING ---

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0	☒	Soil	GP308-2	90		0.3	Asphalt	0.0
					GW	1.5	GRAVEL: dark brown to gray, fine to coarse, with Sand, moist	
					GW	2.0	GRAVEL and SAND: light brown to brown, fine to coarse gravel, fine to coarse-grained sand, trace silt, moist	
					GW	3.5	Sandy GRAVEL: gray, fine to coarse, trace silt, subangular to angular, fine to coarse-grained sand, moist	
5				90	GW	8.0	∇ SAND and GRAVEL: brown, organics, rounded gravel, some rust stains, fine-grained sand, little silt. Woody debris and plastic @ 7.5' to 8'	0.0

WELL COMPLETION DETAILS:

REMARKS

Boring abandoned with bentonite @ 8'

∇ Water level at time of drilling.

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BORING NUMBER GP-309

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CLIENT JELD-WEN inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00037
PROJECT LOCATION Everett, WA
DATE STARTED 5/21/09 **COMPLETED** 5/21/09
GROUND ELEVATION **HOLE SIZE** 2
DRILLING DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 6.0 ft
LOGGED BY C. Kramer **CHECKED BY** R. Frogner
AT END OF ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0			0.3	Asphalt	
		GW	2.5	Sandy GRAVEL: dark brown, fine to coarse, 1 large gravel piece at 2.5', with little silt	0.0
5	GP	SW	8.0	SAND: trace silt, few gravel, 3" silt lense @ 3.25'. Increasing coarseness and wet @ 6'. Becomes gray @ 6.5'. Clay in shoe ∇	0.0
				Bottom of hole at 8.0 feet.	

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BORING NUMBER GP-310

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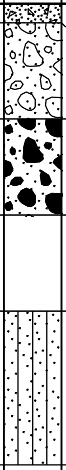
CLIENT JELD-WEN inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00037
PROJECT LOCATION Everett, WA
DATE STARTED 5/22/09 **COMPLETED** 5/22/09
GROUND ELEVATION **HOLE SIZE** 2
DRILLING DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 5.0 ft
LOGGED BY C. Lee **CHECKED BY** C. Kramer
AT END OF ---
NOTES
AFTER DRILLING ---



DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0			0.5	Concrete	
		GP	3.0	Sandy GRAVEL: gray, fine to medium, subangular to subrounded, some fine-grained sand, moist	0.0
5	GP	GW	5.5	Sandy GRAVEL: gray, fine to coarse, subangular to subrounded, few fractured cobbles, moist. Becomes wet @ 5' ∇	0.0
			8.0	Woody Debris, wet	
10		ML	12.0	Sandy SILT: gray, some fine-grained sand, wet. Poor recovery from 8' to 10'	0.0

Bottom of hole at 12.0 feet.

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BORING NUMBER GP-311

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CLIENT	JELD-WEN inc	**PROJECT NAME**	Former Nord Door
PROJECT NUMBER	008.0228.00037	**PROJECT LOCATION**	Everett, WA
DATE STARTED	5/22/09 **COMPLETED** 5/22/09	**GROUND ELEVATION**	**HOLE SIZE** 2
DRILLING DRILLING CONTRACTOR	Cascade Drilling	**GROUND WATER LEVELS:**	
DRILLING DRILLING METHOD	Direct Push	∇ **AT TIME OF DRILLING**	4.0 ft
LOGGED BY	C. Lee **CHECKED BY** C. Kramer	**AT END OF**	---
NOTES		**AFTER DRILLING**	---

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0			■	0.5 Asphalt and Concrete	
	GP	GP		Sandy GRAVEL: brown, fine to medium, some fine-grained sand, moist. Becomes wet @ 4' ∇	0.0
5				5.5	
				Woody Debris	0.0
				7.0	
		SP		SAND: dark brown, fine-grained, few wood fragments, wet. Becomes fine to medium-grained @ 8.5'	0.0
				9.0	
10		SP		Gravelly SAND: dark brown, fine-grained, little fine gravel, few wood waste, wet	0.0
				12.0	

Bottom of hole at 12.0 feet.

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BORING NUMBER GP-312

PAGE 1 OF 1

CLIENT JELD-WEN inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00037
PROJECT LOCATION Everett, WA
DATE STARTED 5/22/09 **COMPLETED** 5/22/09
GROUND ELEVATION **HOLE SIZE** 2
DRILLING DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 4.0 ft
LOGGED BY C. Lee **CHECKED BY** C. Kramer
AT END OF ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0	GP		0.5	Concrete
		SP		Gravelly SAND: gray, fine-grained, some fine to coarse gravel, moist. Becomes wet @ 4' ∇
5			5.0	Woody Debris
			8.5	
10		SP		SAND: gray, fine-grained, few fine gravel, trace wood, wet
			12.0	Bottom of hole at 12.0 feet.

BORING NUMBER GP-334

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CLIENT JELD-WEN inc

PROJECT NAME Former Nord Door

PROJECT NUMBER 008.0228.00037

PROJECT LOCATION Everett, WA

DATE STARTED 5/22/09 **COMPLETED** 5/22/09

GROUND ELEVATION **HOLE SIZE** 2

DRILLING DRILLING CONTRACTOR Cascade Drilling

GROUND WATER LEVELS:

DRILLING DRILLING METHOD Direct Push

∇ **AT TIME OF DRILLING** 10.0 ft

LOGGED BY C. Lee **CHECKED BY** C. Kramer

AT END OF ---

NOTES

AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0					
	GP	SP	3.0	SAND: brown, fine-grained, trace sea shells, trace grass, roots, moist. No grass roots @ 0.5'. Woody debris @ 2.5'	0.0
5			7.5	ASH: white to tan, few wood fragments, trace to fine gravel (pumice-like), moist	0.0
		SM	8.5	Silty SAND: brown, fine-grained, little silt, few fine gravel, few fine wood fragments, wood	
10	GP	SP	12.0	SAND: brownish-gray, fine-grained, moist. Becomes wet @ 10' ∇	0.0
				Bottom of hole at 12.0 feet.	

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BORING NUMBER GP-335

PAGE 1 OF 1

CLIENT JELD-WEN inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 008.0228.00037
PROJECT LOCATION Everett, WA
DATE STARTED 5/22/09 **COMPLETED** 5/22/09
GROUND ELEVATION **HOLE SIZE** 2
DRILLING DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING DRILLING METHOD Direct Push
∇ **AT TIME OF DRILLING** 10.0 ft
LOGGED BY C. Lee **CHECKED BY** C. Kramer
AT END OF ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		ML	0.5	SILT: brown, trace grass roots, moist	
		SP	5.0	SAND: brown, fine-grained, trace sea shell fragments, moist	0.0
5	GP	SM	6.5	Silty SAND: dark brown, fine to medium-grained, few fine gravels, trace wood waste, moist	0.0
			7.5	Woody Debris, moist	
		SP	8.5	SAND: dark brown, fine-grained, moist	
10	GP	SP	12.0	SAND: grayish-brown, fine to medium-grained. Becomes wet @ 10' ∇	0.0

Bottom of hole at 12.0 feet.

SLR Sampling Event – May 2012

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BORING NUMBER 401-P

PAGE 1 OF 1

CLIENT JELD-WEN, inc

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00037

PROJECT LOCATION Everett, WA

DATE STARTED 5/17/12

COMPLETED 5/17/12

DRILLING METHOD Direct Push

DRILLING CONTRACTOR ESN-NW

GROUNDWATER ENCOUNTERED AT (feet): 4.5

LOGGED BY C. Lee

CHECKED BY C. Kramer

NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0	GB	50		0.5	Asphalt	0.0
			MLG	3.0	Gravelly SILT: dark gray, some fine gravel, trace fine-grained sand, dry to damp, no odors or staining. At 2.0 feet: Hit a rock that obstructed recovery from 2 to 4 feet	
5			SP	5.0	SAND: dark gray, fine to medium-grained, trace fines, moist to wet, no odors or staining. At 4.5 feet: becomes ▽ wet	
		100		5.2	Wood debris: bark chips, wet, no odors	0.0
			ML	6.0	SILT: dark gray, trace wood debris, wet, no odors or staining	
			SP	8.0	SAND: dark gray, fine to medium-grained, trace fines, wet, no odors or staining	

Bottom of boring at 8.0 feet.

REMARKS

BORING NUMBER 402-P

PAGE 1 OF 1

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CLIENT	JELD-WEN, inc	**PROJECT NAME**	Former Nord Door
PROJECT NUMBER	108.00228.00037	**PROJECT LOCATION**	Everett, WA

DATE STARTED 5/17/12 **COMPLETED** 5/17/12

DRILLING METHOD Direct Push

DRILLING CONTRACTOR ESN-NW

GROUNDWATER ENCOUNTERED AT (feet): 3.5

LOGGED BY C. Lee **CHECKED BY** C. Kramer

NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION	PID (ppm)
0		75			0.4	Asphalt	0.0
			GP		1.0	Sandy GRAVEL: brown, fine to medium, little fine-grained sand, damp, no odors or staining	
	GB		SM			Silty SAND: dark gray to black, fine-grained, little fines, few fine to medium gravel, moist to wet, no odors or staining. At 3.5 feet: becomes wet. ▼	
5		80			6.0		0.0
					6.3	Wood debris: bark chips, no odor or staining	
			CL		8.0	CLAY: brown to gray, few wood chips from 6.3 to 7.0 feet, wet, no odors or staining	

Bottom of boring at 8.0 feet.

REMARKS

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BORING NUMBER 403-P

PAGE 1 OF 1

CLIENT JELD-WEN, inc

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00037

PROJECT LOCATION Everett, WA

DATE STARTED 5/17/12

COMPLETED 5/17/12

DRILLING METHOD Direct Push

DRILLING CONTRACTOR ESN-NW

GROUNDWATER ENCOUNTERED AT (feet): 4.0

LOGGED BY C. Lee

CHECKED BY C. Kramer

NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		90	MLG	0.5 3.0	Asphalt Gravelly SILT: dark gray, some fine gravel, trace fine-grained sand, damp, no odors or staining	0.0
	GB					
5		0	SP	3.2 ▼ 8.0	Asphalt SAND: brown, fine to medium-grained, moist to wet, no odors or staining. At 4.0 feet: becomes wet. Sample entirely sloughed out of liner upon withdrawal. Sample appeared to be sand similar to above	0.0

Bottom of boring at 8.0 feet.

REMARKS

SLR Sampling Event – March 2013

BORING NUMBER GP-501

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SLR
1800 Blankenship Road, Suite 440
West Linn, OR 97068
(503) 723-4423

CLIENT JELD-WEN, INC.

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Everett, Washington

DATE STARTED 3/14/13 **COMPLETED** 3/14/13

DRILLING METHOD Direct Push

DRILLING CONTRACTOR ESN-NW

GROUNDWATER ENCOUNTERED AT (feet): 3.5

LOGGED BY C. Lee **CHECKED BY** C. Kramer

NOTES Inside factory building, small room near loading dock

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0				1.0	CONCRETE	0
	GB	50	SP	2.5	Gravelly SAND, black, fine to medium-grained, few fines, gravel, damp, moderate chemical-like odor.	1.6
2.5		50	SP	3.0	SAND, tan, fine to medium-grained, dry, somewhat cemented, moderate chemical-like odor.	6.7
	GB	50	ML	4.5	SILT, brown, moist, moderate chemical-like odor ▽	2.1
		60	SP	5.0	SAND, gray, fine to medium-grained, wet, strong chemical-like odor.	1,620
5.0	GB	60		5.7	WOOD DEBRIS, bark chips, wood fibers, wet, strong chemical-like odor.	1,202
		60	OL	7.0	CLAY, brown, organic, few wood fibers, wet, strong chemical-like odor.	41.6
					Bottom of boring at 7.0 feet.	

Temporary Boring Abandoned with Bentonite

SLR

1800 Blankenship Road, Suite 440
West Linn, OR 97068
(503) 723-4423

BORING NUMBER GP-502

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CLIENT JELD-WEN, INC.

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Everett, Washington

DATE STARTED 3/14/13 **COMPLETED** 3/14/13

DRILLING METHOD Direct Push

DRILLING CONTRACTOR ESN-NW

GROUNDWATER ENCOUNTERED AT (feet): 3.5

LOGGED BY C. Lee **CHECKED BY** C. Kramer

NOTES Inside small room, west corner of factory building

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0					CONCRETE	
		80		0.5	SAND, brown, fine to medium-grained, moist, no odors or staining, at 1.5 feet becomes fine-grained	0
	GB	80	SP			0
2.5		80		2.5	SILT, brown, moist, no odors or staining	2.2
			ML			
	GB	80		3.5 ▼	WOOD DEBRIS, bark chips, wood fibers, wet, hydrogen sulfide odor	2.2
		80				2.5
5.0				5.0	SAND, gray, fine to medium-grained	
	GB	80				2.1
			SP			
		80		7.0		2.0
					Bottom of boring at 7.0 feet.	

Temporary Boring Abandoned with Bentonite

SLR

1800 Blankenship Road, Suite 440
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BORING NUMBER GP-503

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CLIENT JELD-WEN, INC.

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Everett, Washington

DATE STARTED 3/13/13 **COMPLETED** 3/13/13

DRILLING METHOD Direct Push

DRILLING CONTRACTOR ESN-NW

GROUNDWATER ENCOUNTERED AT (feet): 3.5

LOGGED BY C. Lee **CHECKED BY** C. Kramer

NOTES Adjacent to railroad tracks, driveway into plant

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0		100		0.5	ASPHALT	
	GB	100	GP	2.0	Silty GRAVEL, brown to gray, medium to coarse-grained, little fines, damp, no odors or staining	
2.5		100			Gravelly SAND, gray to dark gray, fine to medium-grained, some medium to coarse gravel, moist to wet, no odors or staining	
	GB	100		3.6 ▽	at 3.5 feet: becomes wet, thin layer of white, friable material	
		100	SP			
5.0				5.1	at 5 feet: thin layer of bark chips	
	GB	100		6.1	at 6.0 feet: thin layer of plywood	
		100		7.0		
					Bottom of boring at 7.0 feet.	

Temporary Boring Abandoned with Bentonite

SLR
1800 Blankenship Road, Suite 440
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BORING NUMBER GP-504

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CLIENT JELD-WEN, INC.
PROJECT NAME Former Nord Door
PROJECT NUMBER 108.00228.00048
PROJECT LOCATION Everett, Washington
DATE STARTED 3/13/13 **COMPLETED** 3/13/13
DRILLING METHOD Direct Push
DRILLING CONTRACTOR ESN-NW
GROUNDWATER ENCOUNTERED AT (feet): 4
LOGGED BY C. Lee **CHECKED BY** C. Kramer
NOTES Near fire hydrant

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0		100		0.5	ASPHALT	
			SP	1.5	GRAVELLY SAND, brown, fine to medium-grained, some fine to coarse gravel, damp, no odors or staining	
2.5	GB	100 100	GP	3.5	GRAVEL, gray, medium to coarse, few fine to medium-grained sand, damp to moist, no odors or staining	
	GB	100 100		5.0	WOOD WASTE, brown, bark and sawdust, moist to wet, water at 4 feet, no odors or staining ▽	
5.0	GB		SM	5.5	SAND, gray, fine to coarse-grained, wet, no odor or staining	
			CL	7.0	CLAY, gray, few wood waste. wet, no odor, no staining	
					Bottom of boring at 7.0 feet.	

Temporary Boring Abandoned with Bentonite

1800 Blankenship Road, Suite 440
West Linn, OR 97068
(503) 723-4423

BORING NUMBER GP-505

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CLIENT JELD-WEN, INC.

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Everett, Washington

DATE STARTED 3/13/13 **COMPLETED** 3/13/13

DRILLING METHOD Direct Push

DRILLING CONTRACTOR ESN-NW

GROUNDWATER ENCOUNTERED AT (feet): 3.5

LOGGED BY C. Lee **CHECKED BY** C. Kramer

NOTES North side of driveway

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0		100		0.5	ASPHALT	0
	GB	100	GM		Silty GRAVEL, brown, fine to medium. little fines, damp to moist, no odors or staining. At 1.5 feet: pieces of wood (railroad ties), strong creosote-like odor	0
2.5		100		3.0		0
	GB	100	SP		SAND, gray, fine to medium-grained, moist to wet, no odors or staining. At 5.5 feet: thin layer of wood waste ▽	0
		100				0
5.0	GB	100				0
		100		7.0		0
					Bottom of boring at 7.0 feet.	

Temporary Boring Abandoned with Bentonite

1800 Blankenship Road, Suite 440
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BORING NUMBER GP-506

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CLIENT JELD-WEN, INC.

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Everett, Washington

DATE STARTED 3/13/13 **COMPLETED** 3/13/13

DRILLING METHOD Direct Push

DRILLING CONTRACTOR ESN-NW

GROUNDWATER ENCOUNTERED AT (feet): 3.5

LOGGED BY C. Lee **CHECKED BY** C. Kramer

NOTES Entrance driveway, outside gate

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0		100		0.5	ASPHALT GRAVEL, gray, medium to coarse, few fines, damp, no odors or staining	0
	GB	100	GP			0
2.5		100		2.5	SAND, gray, fine to medium-grained, moist to wet, no odors or staining. From 4.5-5.5 feet: trace fine gravel	0
	GB	100			∇	0
		100	SP			0
5.0	GB	100				0
		100		7.0		0
					Bottom of boring at 7.0 feet.	

Temporary Boring Abandoned with Bentonite

BORING NUMBER GP-507

SLR
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(503) 723-4423

CLIENT JELD-WEN, INC.

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Everett, Washington

DATE STARTED 3/13/13 **COMPLETED** 3/13/13

DRILLING METHOD Direct Push

DRILLING CONTRACTOR ESN-NW

GROUNDWATER ENCOUNTERED AT (feet): 3.5

LOGGED BY C. Lee **CHECKED BY** C. Kramer

NOTES Loading dock area

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0		100		■ 0.5	ASPHALT	0
				1.0	WOOD DEBRIS, brown to black, moist, strong creosote-like odor	
	✋ GB	100	GP		Sandy GRAVEL, dark gray to black, medium to coarse, some fine to coarse-grained sand, moist, strong creosote-like odor	0
2.5		100		2.5		0
			SP		SAND, gray, fine- to medium-grained, moist to wet, weak creosote-like odors. At 3.5 feet becomes wet	
	✋ GB	100			▼	0
		100				0
5.0	✋ GB	100				0
		100		7.0		0
					Bottom of boring at 7.0 feet.	

Temporary Boring Abandoned with Bentonite

1800 Blankenship Road, Suite 440
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BORING NUMBER GP-508

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CLIENT	JELD-WEN, INC.	**PROJECT NAME**	Former Nord Door
PROJECT NUMBER	108.00228.00048	**PROJECT LOCATION**	Everett, Washington
DATE STARTED	3/13/13	**COMPLETED**	3/13/13
DRILLING METHOD	Direct Push		
DRILLING CONTRACTOR	ESN-NW	**GROUNDWATER ENCOUNTERED AT (feet):**	3.0
LOGGED BY	C. Lee	**CHECKED BY**	C. Kramer
NOTES	Inside building, outside first door on left near loading docks		

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0		90		0.3	CONCRETE	
			GP	1.0	Sandy GRAVEL, brown, fine to medium-grained, little fine-grained sand, dry, no odors or staining	0
	GB	90	SP		SAND, dark brown, fine-grained, moist, no odors or staining at 2.5 feet: becomes dark gray, wet	0
2.5		90			▽	0
	GB	90				0
		100				0
5.0		100		5.5		0
				6.0	ORAGNICS, black, wet, no odors or staining	
		100	CL	7.0	CLAY, dark brownish gray, wet, no odors or staining	0
					Bottom of boring at 7.0 feet.	

Temporary Boring Abandoned with Bentonite

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BORING NUMBER GP-509

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CLIENT JELD-WEN, INC.

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Everett, Washington

DATE STARTED 3/13/13 **COMPLETED** 3/13/13

DRILLING METHOD Direct Push

DRILLING CONTRACTOR ESN-NW

GROUNDWATER ENCOUNTERED AT (feet): 3.0

LOGGED BY C. Lee **CHECKED BY** C. Kramer

NOTES Inside building, outside second and third doors on left

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0		90			CONCRETE	0
			GP	0.3	GRAVEL, brown, fine, few fine-grained sand, damp, no odors or staining	
	✋ GB	90	SP	1.0	Gravelly SAND, brown, fine-grained, little fine gravel, damp, no odors or staining	0
2.5		90	SM	2.0	Silty SAND, black, fine-grained, some fines, moist, no odors or staining	0
	✋ GB	90	SP	3.0 ▽	SAND, grayish brown, fine-grained, moist to wet, no odors or staining at 4.5 feet: silt lense, 0.2 feet thick	0
		100				0
5.0	✋ GB	100				0
		100				0
				7.0	Bottom of boring at 7.0 feet.	

Temporary Boring Abandoned with Bentonite

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BORING NUMBER GP-510

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CLIENT JELD-WEN, INC.

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Everett, Washington

DATE STARTED 3/13/13 **COMPLETED** 3/13/13

DRILLING METHOD Direct Push

DRILLING CONTRACTOR ESN-NW

GROUNDWATER ENCOUNTERED AT (feet): 3.5

LOGGED BY C. Lee **CHECKED BY** C. Kramer

NOTES Center of driveway into plant

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0		90		■	ASPHALT	0
			SP	0.5	Gravelly SAND, light brown, fine-grained, some fine to coarse gravel, trace fines, damp to moist, slight oil-like odor, no staining	
	✋ GB	90				0
2.5		90				0
			SP	3.0	SAND, dark gray, fine to medium-grained, few fine gravel, moist to wet, slight oil-like odor, no staining ▽	
	✋ GB	90				0
		90				0
5.0	✋ GB	90				0
		90				0
				7.0	Bottom of boring at 7.0 feet.	

Temporary Boring Abandoned with Bentonite

BORING NUMBER GP-511

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SLR
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CLIENT JELD-WEN, INC.

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Everett, Washington

DATE STARTED 3/13/13 **COMPLETED** 3/13/13

DRILLING METHOD Direct Push

DRILLING CONTRACTOR ESN-NW

GROUNDWATER ENCOUNTERED AT (feet): 4

LOGGED BY C. Lee **CHECKED BY** C. Kramer

NOTES North side of driveway near fence

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0		75		■ 0.5	ASPHALT	0
			SP		gravelly SAND, brown, fine-grained, little medium gravel, moist to wet, no odors or staining at 4 feet: becomes wet	
	GB	75				0
2.5		75	SP			0
	GB	75				0
					▽	
		100		4.5	SAND, gray, fine to medium-grained, wet, no odors or staining	0
5.0	GB	100	SP			0
		100		7.0		0
					Bottom of boring at 7.0 feet.	

Temporary Boring Abandoned with Bentonite

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BORING NUMBER GP-512

CLIENT JELD-WEN, INC.

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Everett, Washington

DATE STARTED 3/14/13 **COMPLETED** 3/14/13

DRILLING METHOD Direct Push

DRILLING CONTRACTOR ESN-NW

GROUNDWATER ENCOUNTERED AT (feet): 3.5

LOGGED BY C. Lee **CHECKED BY** C. Kramer

NOTES In grass north of driveway, outside fence

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0					SOD	
		100			0.5 SILT, brown, few wood fibers and organics, moist, no odors or staining	0
			ML			
	✋ GB	100			1.5 GRAVEL, brown, coarse, few fine-grained sand, trace fines, moist, no odors or staining	0
2.5		100	GP			0
	✋ GB	100			3.5 ▽ SAND, brown, fine- to medium-grained, wet, no odors or staining	0
			SP			
		100				0
5.0					5.0 WOOD DEBRIS	
	✋ GB	100			5.5 SAND, gray, fine to medium-grained, wet, no odors or staining	0
			SP			
		100				0
					7.0 Bottom of boring at 7.0 feet.	

Temporary Boring Abandoned with Bentonite

SLR Sampling Event – Knoll Area – Nov 2013

TEST PIT NUMBER TP-10

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SLR International Corporation
1800 Blankenship Road, Suite 440
West Linn, OR 97068

CLIENT JELD-WEN, inc

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Everett, Washington

DATE STARTED 11/13/13 **COMPLETED** 11/13/13

EXCAVATION METHOD Excavator

EXCAVATION CONTRACTOR Wyser Construction

GROUNDWATER ENCOUNTERED AT (feet): NA

LOGGED BY C. Lee **CHECKED BY** C. Kramer

NOTES Test Pits

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		SP		SAND, light brown, fine-grained, trace shells, damp, no odors or staining	
5	✋ GB				0
				9.5	
10	✋ GB	SP		10.0 SAND, dark gray, very fine-grained, trace shells, moist, no odors or staining (laminated texture)	0
				Bottom of boring at 10.0 feet.	

REMARKS

TP sample at 10' taken from directly above the native material, which is harder than the fill and has laminations.

TEST PIT NUMBER TP-11

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SLR International Corporation
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CLIENT JELD-WEN, inc

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Everett, Washington

DATE STARTED 11/13/13 **COMPLETED** 11/13/13

EXCAVATION METHOD Excavator

EXCAVATION CONTRACTOR Wyser Construction

GROUNDWATER ENCOUNTERED AT (feet): 4

LOGGED BY C. Lee **CHECKED BY** C. Kramer

NOTES Test Pits

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0	✋ GB	OH	× × ×	Organic soil/roots 1.0	0.6
		SP		SAND, light brown, fine-grained, damp, no odors or staining -a tree branch was observed at 3 feet 2.0	
	✋ GB	SP		SAND, gray, fine to medium-grained, damp to wet, no odors or staining ▽ 5.0	0.6
5				Bottom of boring at 5.0 feet.	

REMARKS

TP located at the bottom of a gully. Sampled TP at 2' directly above interface between native material and fill. Collected samples from sidewall.

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West Linn, OR 97068

TEST PIT NUMBER TP-12

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 108.00228.00048
PROJECT LOCATION Everett, Washington
DATE STARTED 11/13/13 **COMPLETED** 11/13/13
EXCAVATION METHOD Excavator
EXCAVATION CONTRACTOR Wyser Construction
GROUNDWATER ENCOUNTERED AT (feet): NA
LOGGED BY C. Lee **CHECKED BY** C. Kramer
NOTES Test Pits

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				SAND, light brown to dark gray, fine-grained, trace shells, damp, no odors or staining	
5		SP			
	GB				0.2
10					
				12.5	
	GB	SP		@ 12.5 feet: asphalt chunks SAND, gray, very fine- grained, damp, no odors or staining	0.2
				14.0	
				Bottom of boring at 14.0 feet.	

REMARKS

No evidence of contamination.

SLR International Corporation
1800 Blankenship Road, Suite 440
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TEST PIT NUMBER TP-13

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CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 108.00228.00048
PROJECT LOCATION Everett, Washington
DATE STARTED 11/13/13
COMPLETED 11/13/13
EXCAVATION METHOD Excavator
EXCAVATION CONTRACTOR Wyser Construction
GROUNDWATER ENCOUNTERED AT (feet): NA
LOGGED BY C. Lee
CHECKED BY C. Kramer
NOTES Test Pits

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		SP		SAND, brown, very fine to fine-grained, trace shells, damp, no odors or staining	
5					
	✋ GB				0
10					
	✋ GB				0
		SP		13.5 SAND, gray, very fine-grained, trace shells, damp, no odors or staining	
				14.0	
				Bottom of boring at 14.0 feet.	

REMARKS

No evidence of contamination.

SLR International Corporation
1800 Blankenship Road, Suite 440
West Linn, OR 97068

TEST PIT NUMBER TP-14

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CLIENT JELD-WEN, inc

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Everett, Washington

DATE STARTED 11/14/13 **COMPLETED** 11/14/13

EXCAVATION METHOD Excavator

EXCAVATION CONTRACTOR Wyser Construction

GROUNDWATER ENCOUNTERED AT (feet): NA

LOGGED BY C. Lee **CHECKED BY** C. Kramer

NOTES Test Pits

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG		MATERIAL DESCRIPTION	PID (ppm)
0		OH		1.0	Organic soils and roots	
		SP			SAND, light brown, very fine to fine-grained, trace shells, damp, no odors or staining	
5						
	GB					0
10						
	GB			12.5		0
		SP			SAND, gray, very fine- grained, trace shells, laminated, damp, no odors or staining	
15				15.0		

Bottom of boring at 15.0 feet.

REMARKS

Sampled from directly above contact with native material and fill and halfway between contact and surface.

SLR International Corporation
1800 Blankenship Road, Suite 440
West Linn, OR 97068

TEST PIT NUMBER TP-15

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CLIENT JELD-WEN, inc

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Everett, Washington

DATE STARTED 11/14/13

COMPLETED 11/14/13

EXCAVATION METHOD Excavator

EXCAVATION CONTRACTOR Wyser Construction

GROUNDWATER ENCOUNTERED AT (feet): NA

LOGGED BY C. Lee

CHECKED BY C. Kramer

NOTES Test Pits

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				SAND, light brown to brown, very fine to fine-grained, trace shells, damp, no odors or staining	
5	GB	SP			0.2
9.0	GB			SAND, gray, very fine to fine-grained, damp, trace shells and wood flakes, no odors or staining, contains balls of silt with laminated textures.	0.2
10		SP			
12.0				Bottom of boring at 12.0 feet.	

REMARKS

Sampled directly above contact with native material.

SLR International Corporation
1800 Blankenship Road, Suite 440
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TEST PIT NUMBER TP-16

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CLIENT JELD-WEN, inc

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Everett, Washington

DATE STARTED 11/14/13 **COMPLETED** 11/14/13

EXCAVATION METHOD Excavator

EXCAVATION CONTRACTOR Wyser Construction

GROUNDWATER ENCOUNTERED AT (feet): 8

LOGGED BY C. Lee **CHECKED BY** C. Kramer

NOTES Test Pits

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		SP	░	SAND, light brown, fine-grained, trace shells, damp, no odors or staining @ 5.5 feet wood chips	
5			░		
		SP	░	6.0 SAND, gray, fine-grained, trace shells, no odors or staining	
			■	8.0 ▼ CONCRETE/ASPHALT @8 feet there was a flat layer of sandy material that was very hard, may have been concrete. It was very hard to dig through and perfectly flat. On top of this pavement was a thin layer of wood chips with a strong sulfur odor.	
	GB	SP	░	9.0 Beneath the pavement was a thick layer of wood waste including chips, dimensional lumber, and pieces of logs and bark. The wood debris also contained a small amount of brick and concrete, metal and glass, with some of it appearing to have been burned. Some of the wood had a creosote-like odor.	0.4
10			░	@ 12.0 feet: Becomes wet. The groundwater had a creosote-like odor and sheen. Collected sample of the soil at 11.5', right above the water.	
	GB		░		0.4
15			░	15.0	

Bottom of boring at 15.0 feet.

REMARKS

TEST PIT NUMBER TP-17

PAGE 1 OF 1

SLR International Corporation
1800 Blankenship Road, Suite 440
West Linn, OR 97068

CLIENT JELD-WEN, inc

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Everett, Washington

DATE STARTED 11/14/13 **COMPLETED** 11/14/13

EXCAVATION METHOD Excavator

EXCAVATION CONTRACTOR Wyser Construction

GROUNDWATER ENCOUNTERED AT (feet): 14

LOGGED BY C. Lee **CHECKED BY** C. Kramer

NOTES Test Pits

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		SP		SAND, brown, very fine to fine-grained, trace shells, damp, no odors or staining	
5					
7.0		SP		SAND, gray, fine-grained, trace shells, damp, no odors or staining	
9.0	GB	SP		@ 9 feet: thin, hard layer of cemented soil SAND, dark brown to light brown, fine to medium-grained, some debris including wood, brick, and concrete; few metal scraps, damp, no odors or staininng. Collected two samples from the zone of buried debris. No evidence of creosote or petroleum products in the TP. @14 feet: Becomes wet. Water at bottom does not exhibit a sheen or foam, as in TP-16.	0
10					
	GB				0
14.0 ▽				Bottom of boring at 14.0 feet.	

REMARKS

No evidence of buerned material in this TP.

SLR International Corporation
1800 Blankenship Road, Suite 440
West Linn, OR 97068

TEST PIT NUMBER TP-18

CLIENT JELD-WEN, inc
PROJECT NAME Former Nord Door
PROJECT NUMBER 108.00228.00048
PROJECT LOCATION Everett, Washington
DATE STARTED 11/14/13 **COMPLETED** 11/14/13
EXCAVATION METHOD Excavator
EXCAVATION CONTRACTOR Wyser Construction
GROUNDWATER ENCOUNTERED AT (feet):
LOGGED BY C. Lee **CHECKED BY** C. Kramer
NOTES Test Pits

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0 5		SP	░ 8.0	SAND, light brown, fine-grained, trace shells, damp, no odors or staining	
			■ 9.0	CONCRETE/ASPHALT	
10		SP	░ 14.0	Wood debris, some fine-grained sand, few metal, brick and glass debris. Moist to wet. No odor or staining. The same material present in TP-16 is present except there was no evidence of creosote contamination. The wood appears to be remains of dimensional lumber and timbers and not sawdust or chips.	
				Bottom of boring at 14.0 feet.	

REMARKS

TP was excavated 30' West of TP-16 to delineate the horizontal extent of teh concrete pad and buried material. No samples were collected.

SLR Sampling Event – December 2013

SLR International Corporation
405 East 12450 South, Suite K
Draper, Utah 84020

BORING NUMBER GP-605

PAGE 1 OF 1

CLIENT JELD-WEN, inc.

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Former Nord Door Facility

DATE STARTED 12/18/13 **COMPLETED** 12/18/13

DRILLING METHOD Direct Push

DRILLING CONTRACTOR ESN-NW

GROUNDWATER ENCOUNTERED AT (feet): 2.5

LOGGED BY C. Lee **CHECKED BY** M. Coracci

NOTES North of office building on front of plant, screened interval 30-35 feet

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.5		50			SOD	0
1.5			SP		SAND, dark brown, fine-grained, damp, no odors or staining	
2.5			CL		▼ CLAY, red, damp, no odors or staining	
6.0		50	SP		SAND, brown, fine to medium-grained, few fines, wet, no odors or staining @ 4.5 feet: moderate creosote odor	2.1
11.0		90 90 95	GP		GRAVEL, gray, fine to medium, few fine to medium- grained sand, damp to wet, moderate to strong creosote-like odor @ 9.0 feet: becomes wet @9.5 feet: creosote-like odor becomes strong, creosote coating on the soil	6.3 9.1
13.0			ML		SILT, brown, trace organics, wet, moderate creosote-like odor	2.1
34.5	GB		SP		SAND, gray, fine to medium-grained, fines, wet, moderate creosote like odor, crosote coating on the soil @15-20 feet: sample liner was stuck in sampler; hammer used to loosen sample liner from sampling rod @20-25 feet: sample liner was stuck again @30-35 feet: sample liner was stuck again	2.0 2.4 3.1 1.1 2.1 2.5
35.0	GB		ML		@ 35 feet: SILT, clean grey, no odor or staining	11.0

Bottom of boring at 35.0 feet.

Notes

BORING NUMBER GP-606

PAGE 1 OF 1

SLR International Corporation
405 East 12450 South, Suite K
Draper, Utah 84020

CLIENT JELD-WEN, inc.

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Former Nord Door Facility

DATE STARTED 12/18/13 **COMPLETED** 12/18/13

DRILLING METHOD Direct Push

DRILLING CONTRACTOR ESN-NW

GROUNDWATER ENCOUNTERED AT (feet): 4

LOGGED BY C. Lee **CHECKED BY** M. Coracci

NOTES Near loading dock, screened interval 10-15 feet

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		80		0.5	SOD	0
			SM	1.5	silty SAND, brown, fine-grained, little fines, damp, no odors or staining	
			SP	2.5	gravelly SAND, dark brown, fine-grained, little fine gravel, trace fines, no odors or staining	
			ML	3.0	SILT, beige, damp, no odors or staining	
			MLS	4.0 ▽	sandy SILT, gray, little fine-grained sand, damp mottling, no odors or staining	
5		100	SP	7.5	SAND, dark gray to gray, fine-grained, wet, no odors or staining	0
10			SM	15.0	silty SAND, dark gray, fine- grained, little fines, wet, no odors or staining @10-15 feet: sample liner was stuck in sampler; hammer used to loosen sample liner from sampling rod	0
15	GB					

Bottom of boring at 15.0 feet.

Notes

SLR International Corporation
405 East 12450 South, Suite K
Draper, Utah 84020

BORING NUMBER GP-607

PAGE 1 OF 1

CLIENT JELD-WEN, inc.

PROJECT NAME Former Nord Door

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION Former Nord Door Facility

DATE STARTED 12/18/13

COMPLETED 12/18/13

DRILLING METHOD Direct Push

DRILLING CONTRACTOR ESN-NW

GROUNDWATER ENCOUNTERED AT (feet): 4.5

LOGGED BY C. Lee

CHECKED BY M. Coracci

NOTES South of office building on front of plant, screened interval 20-25 feet

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0					0.4 ASPHALT	
					1.0 GRAVEL (pea gravel)	
					1.5 CONCRETE	
		50	SP		3.5 gravelly SAND, dark brown to brown, fine-grained, little fine gravel, damp to moist, no odors or staining	0
5					▼ silty SAND, brown, fine-grained, little fines, moist to wet, no odors or staining	
		90			@8.5 feet: strong creosote-like odor, sheen on soil, free product evident on soil and sample tube	0.3
		90			@13 feet: creosote-like odors became wek	3.5
10					@15-20 feet: sample liner was stuck in sampler and sample was beaten out with a hammer	
		90				1.1
						0.9
15			SM			
						0.1
						0
20						
25	GB				25.0	

Bottom of boring at 25.0 feet.

Notes

SLR Geoprobe Soil and Groundwater Investigation – July 2015

SLR International Corporation
1800 Blankenship Rd; Suite 440
West Linn, OR 97068

WELL NUMBER GP-701

PAGE 1 OF 1

CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.

PROJECT NAME Former E.A. Nord

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION 300 West Marine View Dr, Everett, WA

DATE STARTED 7/9/15 **COMPLETED** 7/9/15

DRILLING METHOD Direct Push

DRILLING CONTRACTOR Cascade Drilling

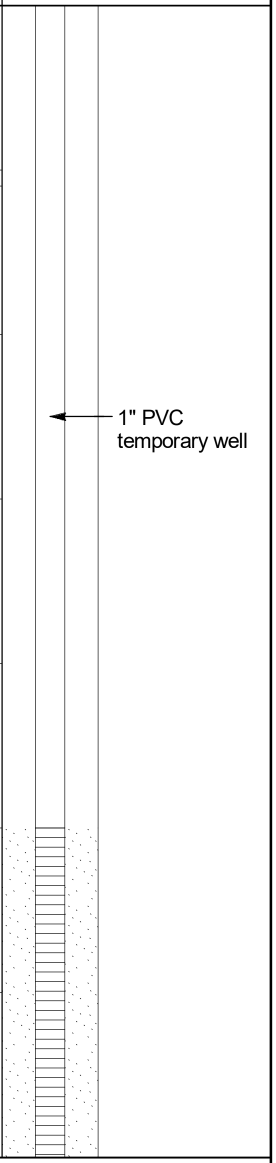
GROUNDWATER ENCOUNTERED AT (feet): 5.5

LOGGED BY P. LeDoux **CHECKED BY** C. Kramer

NOTES Temporary boring abandoned with bentonite

DEPTH (ft)	SAMPLE NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		60		1.5	ASPHALT	2.0
			SP-SM	4.5	SAND with gravel and silty fines, brown to gray, moist, fine sand, fine subangular gravel, no odor, no staining	
5		89	SP	11.5	SAND, little to no fines, well graded, grayish brown, moist to wet, no odor, no staining. Wood chips @ 9.5 ft	0.5
10		95	PT	12.5	PEAT, brown, wet, largely humus, some larger roots and wood	3.0
			SP	18.0	SAND, little to no fines, dark gray, wet, fine sand, no odor, no staining	
15		85	ML	18.5	SILT, trace organics, gray, no odor, no staining, wet	0.6
20		80	SP	35.0	SAND, little to no fines, dark gray, wet, fine sand, no odor, no staining	1.5
25		90				1.0
30		65				1.0
35						

WELL DIAGRAM



Bottom of boring at 35.0 feet.

REMARKS

WELL NUMBER GP-702

PAGE 1 OF 1

SLR International Corporation
1800 Blankenship Rd; Suite 440
West Linn, OR 97068

CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.

PROJECT NAME Former E.A. Nord

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION 300 West Marine View Dr, Everett, WA

DATE STARTED 7/9/15 **COMPLETED** 7/9/15

DRILLING METHOD Direct Push

DRILLING CONTRACTOR Cascade Drilling

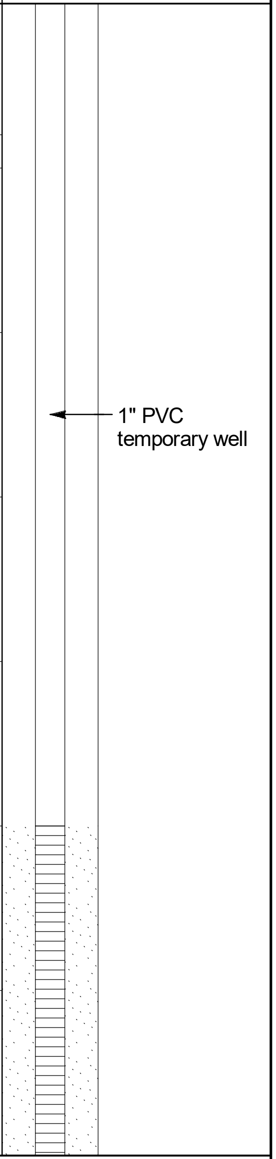
GROUNDWATER ENCOUNTERED AT (feet): 5.0

LOGGED BY P. LeDoux **CHECKED BY** C. Kramer

NOTES Temporary boring abandoned with bentonite

DEPTH (ft)	SAMPLE NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0					ASPHALT	
	GP-702-4	90	SP-SM	1.5	Gravelly SAND with silty fines, gray, moist to wet, fine sand, fine to coarse subangular gravel, no odor, no staining, small shell fragments @ 8 ft. Wet @ 5 ft.	2.7
5		70			▽	2.7
10			PT	9.5	PEAT, brown, moist, largely humus, some small roots, no odor, no staining	
		100	SP	10.5	SAND, little to no fines, dark gray, wet, fine sand, weak creosote odor, no staining	4.8
15			SP	14.5	SAND, visible product & strong creosote odor	
		70	SP	15.0	SAND, no odor or visible product	1.6
20		85				1.6
25		70				1.1
30		60				0.8
35				35.0		

WELL DIAGRAM



Bottom of boring at 35.0 feet.

REMARKS

WELL NUMBER GP-703

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SLR International Corporation
1800 Blankenship Rd; Suite 440
West Linn, OR 97068

CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.

PROJECT NAME Former E.A. Nord

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION 300 West Marine View Dr, Everett, WA

DATE STARTED 7/21/15 **COMPLETED** 7/21/15

DRILLING METHOD Direct Push

DRILLING CONTRACTOR ESN-NW

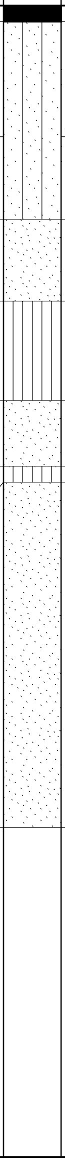
GROUNDWATER ENCOUNTERED AT (feet): 7.5

LOGGED BY C. Lee **CHECKED BY** D. Bobosh

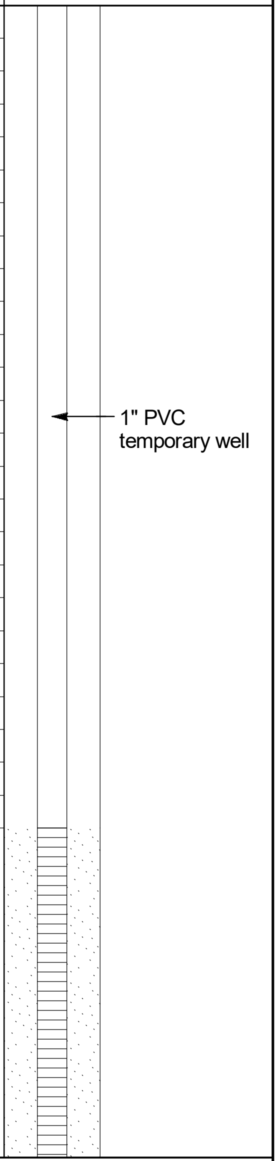
NOTES Temporary boring abandoned with bentonite

DEPTH (ft) 0	SAMPLE NAME	RECOVERY %	U.S.C.S.	MATERIAL DESCRIPTION	PID (ppm)
		60		0.5 ASPHALT Silty SAND, gray, fine-grained, some fines, moist, no odors or staining	1.0
		60	SM		0.9
		60			0.0
		60		4.0	9.3
5		60	SM	Weak creosote-like odor	11.0
		90		6.5	13.1
	GP-703-8.5	90	SP	▽ SAND, gray, fine- to medium-grained, moist to wet, strong creosote-like odor, sheen on soil, free product. @ 7.5 ft becomes wet.	224.1
		90			300.2
		90		9.0	334.8
10		90	ML	SILT, brown, few wood debris, wet, strong creosote-like odor, free product. @ 10.5 ft: creosote-like odors become moderate, no free product @ 12.0 ft: creosote-like odors become weak	117.1
		100			98.1
		100		12.0	1.5
		100	SP	SAND, brownish gray, fine- to medium-grained, wet, moderate to weak creosote-like odors, slight sheen on soil	2.8
		100		14.0	1.6
15		100	ML SP	14.5 SILT, brown, wet, weak creosote-like odor. SAND, gray, very fine-grained, few fines, wet, weak creosote-like odor @ 16.5 ft: becomes fine- to medium- grained.	1.9
		60			0.8
		60			0.0
		60			0.1
		60			0.0
20		60			0.0
		60			0.0
		60			0.2
		60			0.0
		60			0.0
25		60		25.0	0.0
				NO RECOVERY, ESN damaged the last of their four samplers. Unable to continue sampling soil. Drilled down to 35.0 ft to set a temporary well and sample groundwater.	
30					
35				35.0	

GRAPHIC LOG



WELL DIAGRAM



Bottom of boring at 35.0 feet.

REMARKS

WELL NUMBER GP-704

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SLR International Corporation
1800 Blankenship Rd; Suite 440
West Linn, OR 97068

CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.

PROJECT NAME Former E.A. Nord

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION 300 West Marine View Dr, Everett, WA

DATE STARTED 7/21/15 **COMPLETED** 7/21/15

DRILLING METHOD Direct Push

DRILLING CONTRACTOR ESN-NW

GROUNDWATER ENCOUNTERED AT (feet): 9.5

LOGGED BY C. Lee **CHECKED BY** D. Bobosh

NOTES Temporary boring abandoned with bentonite

DEPTH (ft) 0	SAMPLE NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	WELL DIAGRAM
		80			0.5 ASPHALT	0.0	
		80	SP		2.0 Gravelly SAND, light brown, fine- to medium-grained, some fine gravel, moist, no odors or staining	0.0	
		80			SAND, fine- to medium-grained, few fine gravel, moist, no odors or staining.	0.0	
		80			@ 3.5 ft: few fines, becomes brownish gray.	0.0	
5		80	SP			0.0	
		90			@ 4.5 ft: no fines, trace shells, weak creosote-like odor.	0.0	
		90			@ 7.0 ft: creosote-like odor becomes moderate	58.4	
		90			8.0	150.5	
		90			SILT, brown, few wood debris, moist to wet, strong creosote-like odor.	392.0	
10		90			▼ @ 9.5 ft: becomes wet.	379.5	
		90	ML			497.6	
		90			12.0	342.1	
		90	SP		SAND, dark gray, fine- to medium-grained, wet, strong creosote-like odor, sheen on soil.	353.2	
	GP-704-13.5	90	ML		13.5 14.0	460.1	
15		90			SILT, brown, wet, strong creosote-like odor, free product.	121.1	
		90			SAND, dark gray, fine- to medium-grained, wet, weak creosote-like odor.	20.4	
		90			@ 26.0 ft: No creosote-like odor.	7.1	
		90				5.0	
		90				6.3	
20		90				4.0	
		90				4.6	
		90				12.2	
		90				5.0	
		90				2.4	
25		90	SP			3.0	
		100				0.0	1" PVC temporary well
		100				0.31	
		100				0.0	
		100				0.0	
30		100				0.2	
		100				0.0	
		100				0.0	
		100				0.0	
		100				0.1	
35		100			35.0	0.1	

REMARKS

(Continued Next Page)

SLR International Corporation
1800 Blankenship Rd; Suite 440
West Linn, OR 97068

WELL NUMBER GP-704

CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.
PROJECT NAME Former E.A. Nord
PROJECT NUMBER 108.00228.00048
PROJECT LOCATION 300 West Marine View Dr, Everett, WA

DEPTH (ft)	SAMPLE NAME	RECOVERY %	U.S.C.S.	PID (ppm)
35		100	SP	9.1
		100		10.2
		100		8.8
		100		12.5
40		100		0.0
		100		3.0
		100		1.2
		100		1.5
		100		27
45		100		1.1
		80		2.4
		80		3.0
		80		1.9
		80		0.0
50		80		0.0
		100		0.0
		100		4.0
		100		3.9
		100		10.1
55		100		6.0

MATERIAL DESCRIPTION

SAND, dark gray, fine- to medium-grained, wet

@ 35.5 ft: Creosote-like odor becomes weak.

@ 37.0 ft: Creosote-like odor becomes moderate.

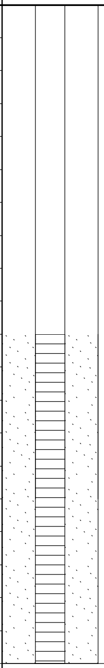
@ 38.5 ft: Becomes fine-grained, trace fines.

@ 42.0 ft: Few fines.

55.0

Bottom of boring at 55.0 feet.

WELL DIAGRAM



REMARKS

SLR International Corporation
1800 Blankenship Rd; Suite 440
West Linn, OR 97068

WELL NUMBER GP-705

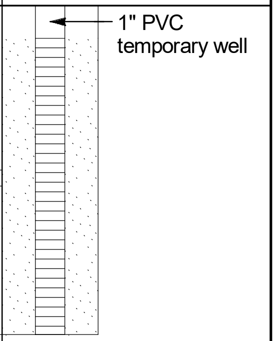
PAGE 1 OF 1

CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.
PROJECT NAME Former E.A. Nord
PROJECT NUMBER 108.00228.00048
PROJECT LOCATION 300 West Marine View Dr, Everett, WA
DATE STARTED 7/9/15 **COMPLETED** 7/9/15
DRILLING METHOD Direct Push
DRILLING CONTRACTOR Cascade Drilling
GROUNDWATER ENCOUNTERED AT (feet): 5.5
LOGGED BY P. LeDoux **CHECKED BY** C. Kramer
NOTES Temporary boring abandoned with bentonite

DEPTH (ft)	SAMPLE NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				1.0	ASPHALT	
	GP-705-5	80	SP	5.0	SAND, little to no fines, gray, dry to moist, fine sand, cross-bedded, no odor, no staining, small shells and shell fragments throughout	1.3
5			SP	6.5	▽ SAND, little to no fines, moist to wet, gray, fine sand, no odor, no staining	
		90	PT	8.0	PEAT, brown, wet, largely humus, few small roots and wood chips	0.6
			SP	10.0	SAND, little to no fines, gray, wet, fine sand, no odor, no staining	
10		100	ML	10.5	SILT, light brown, wet, no odor, no staining	2.4
			SP	11.0	SAND, little to no fines, dark gray, wet, fine sand, no odor, no staining	

Bottom of boring at 11.0 feet.

WELL DIAGRAM



REMARKS

SLR International Corporation
1800 Blankenship Rd; Suite 440
West Linn, OR 97068

WELL NUMBER GP-706

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CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.

PROJECT NAME Former E.A. Nord

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION 300 West Marine View Dr, Everett, WA

DATE STARTED 7/8/15

COMPLETED 7/8/15

DRILLING METHOD Direct Push

DRILLING CONTRACTOR Cascade Drilling

GROUNDWATER ENCOUNTERED AT (feet): 5.0

LOGGED BY P. LeDoux

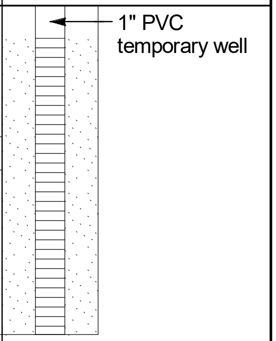
CHECKED BY C. Kramer

NOTES Temporary boring abandoned with bentonite

DEPTH (ft)	SAMPLE NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				0.5	ASPHALT	
		70	SP-SM	3.0	FILL sand with gravel and silty fines, dark brown, moist, fine sand, fine subangular gravel, no odor, no staining	3.0
5			SP	7.0	SAND, little to no fines, dark gray, moist to wet, fine sand, no odor, no staining, some wood chips and roots @ 6 ft ▽	1.3
		85	ML	8.5	SILT, gray, wet, trace organics (small roots) throughout, no staining, weak organic odor	4.1
10		100	SP	11.0	SAND, little to no fines, dark gray, wet, fine sand, no odor, no staining	3.5

Bottom of boring at 11.0 feet.

WELL DIAGRAM



REMARKS

SLR International Corporation
1800 Blankenship Rd; Suite 440
West Linn, OR 97068

WELL NUMBER GP-707

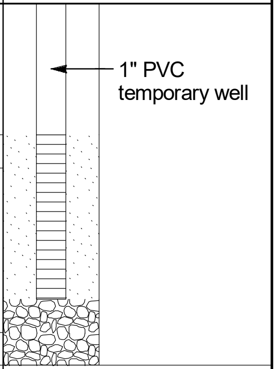
PAGE 1 OF 1

CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.
PROJECT NAME Former E.A. Nord
PROJECT NUMBER 108.00228.00048
PROJECT LOCATION 300 West Marine View Dr, Everett, WA
DATE STARTED 7/6/15 **COMPLETED** 7/6/15
DRILLING METHOD Direct Push
DRILLING CONTRACTOR Cascade Drilling
GROUNDWATER ENCOUNTERED AT (feet): 5.0
LOGGED BY P. LeDoux **CHECKED BY** C. Kramer
NOTES Temporary boring abandoned with bentonite

DEPTH (ft)	SAMPLE NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				0.5	ASPHALT	
	GP-707-4	85	SP-SM	3.5	Gravelly SAND with silty fines, brownish-gray, dry to moist, fine sand, fine subangular gravel, no odor, no staining	0.8
5			SP-SM	5.0 ▽	SAND with silty fines, gray, moist, gap-graded sand, no odor, no staining	1.0
		90	SP	6.5	SAND, little to no fines, fine sand, wet, dark gray, weak organic odor, no staining	
			ML	7.5	SILT, brownish-gray, moist, weak organic odor, no staining, trace organics (small roots)	1.2
			SP	9.5	SAND, little to no fines, dark gray, wet, fine to medium sand, weak organic odor, no staining	
10		100	SP	11.0	SAND, little to no fines, dark gray, wet, fine sand, weak organic odor, no staining	0.9

Bottom of boring at 11.0 feet.

WELL DIAGRAM



REMARKS

SLR International Corporation
1800 Blankenship Rd; Suite 440
West Linn, OR 97068

WELL NUMBER GP-708

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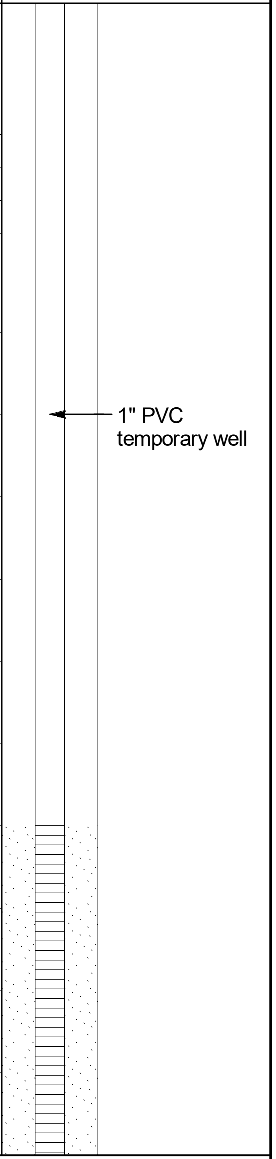
CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.
PROJECT NAME Former E.A. Nord
PROJECT NUMBER 108.00228.00048
PROJECT LOCATION 300 West Marine View Dr, Everett, WA
DATE STARTED 7/8/15
COMPLETED 7/8/15
DRILLING METHOD Direct Push
DRILLING CONTRACTOR Cascade Drilling
GROUNDWATER ENCOUNTERED AT (feet): 5.0
LOGGED BY P. LeDoux
CHECKED BY C. Kramer
NOTES Temporary boring abandoned with bentonite

DEPTH (ft)	SAMPLE NAME	RECOVERY %	PID (ppm)
0–4		65	
4–5	GP-708-4		1.5
5–6		95	
6–7	GP-708-6	95	139.2
7–10		95	30.5
10–12.5		100	45.3
12.5–15		100	93.6
15–17.5		62	6.4
17.5–20		62	5.7
20–22.5		80	11.9
22.5–25		80	7.7
25–27.5		60	9.7
27.5–30		60	13.5
30–32.5		70	10.4
32.5–35		70	7.7

DEPTH (ft)	U.S.C.S.	MATERIAL DESCRIPTION
0–0.5		ASPHALT
0.5–3.5	SP-SM	SAND with gravel and silty fines, brown, moist, fine sand, fine subangular gravel, weak creosote odor, no staining
3.5–5.0	SP-SM	SAND with silty fines, dark gray, moist, fine sand, weak creosote and organic odor, no staining
5.0–7.0	SP	SAND, little to no fines, dark gray, wet, fine sand, strong creosote odor, visable product on grains
7.0–7.5	ML	SILT, gray, wet, trace organics (small roots), strong creosote odor, visable product
7.5–14.0	SP	SAND, little to no fines, dark gray, wet, fine sand, moderate creosote odor, visable staining
14.0–14.5	SP	SAND, staining (product) no longer present
14.5–16.5	SP	SAND
16.5–17.0	SP	SAND, weak creosote odor
17.0–35.0	SP	SAND

Groundwater ▼ 5.0



Bottom of boring at 35.0 feet.

REMARKS

WELL NUMBER GP-709

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SLR International Corporation
1800 Blankenship Rd; Suite 440
West Linn, OR 97068

CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.

PROJECT NAME Former E.A. Nord

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION 300 West Marine View Dr, Everett, WA

DATE STARTED 7/7/15 **COMPLETED** 7/7/15

DRILLING METHOD Direct Push

DRILLING CONTRACTOR Cascade Drilling

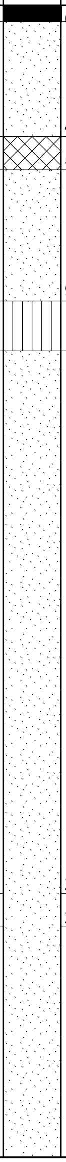
GROUNDWATER ENCOUNTERED AT (feet): 5.5

LOGGED BY P. LeDoux **CHECKED BY** C. Kramer

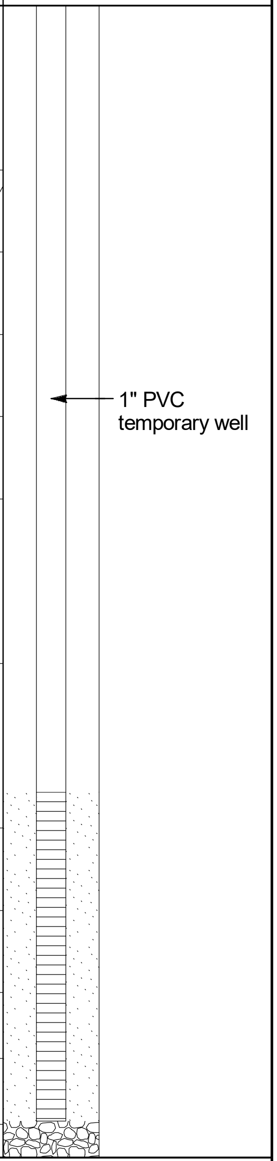
NOTES Temporary boring abandoned with bentonite

DEPTH (ft)	SAMPLE NAME	RECOVERY %	U.S.C.S.	MATERIAL DESCRIPTION	PID (ppm)
0				0.5 ASPHALT	
	GP-709-5	50	SP	SAND with gravel, little to no fines, moist, fine sand, fine subangular gravel, dark gray, weak creosote odor, no staining 4.0	0.4
5				CONCRETE (crushed), dry, moderate hydrocarbon odor, no staining 5.0	
				▽	28.5
		100	SP	SAND, little to no fines, black, wet, fine sand, moderate to strong creosote odor, black staining, trace organics (roots) throughout	37.8
		100		9.0	46.6
10			ML	Organic SILT, dark gray, wet, moderate creosote odor, light staining 10.5	
		100	SP	SAND, little to no fines, wet, black, fine sand, strong creosote odor, black staining	33.6
15		100			47.7
20		90			58.8
25		90			67.3
		90		27.0	64.0
			SP	SAND, product observed in water in core 28.0	
30		90	SP	SAND	109
		90			84.9
		90			126.1
35		90			81.2

GRAPHIC LOG



WELL DIAGRAM



REMARKS

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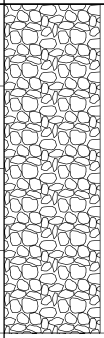
WELL NUMBER GP-709

CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.
PROJECT NAME Former E.A. Nord
PROJECT NUMBER 108.00228.00048
PROJECT LOCATION 300 West Marine View Dr, Everett, WA

DEPTH (ft)	SAMPLE NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
35		60	SP		SAND *(continued)*	94.1
		60				124.4
40	GP-709-42	90				210.8
		90			43.5	
			SM		Silty SAND, dark gray, very fine sand, wet, strong creosote odor, no staining	57.9
45					45.0	
					Bottom of boring at 45.0 feet.	

WELL DIAGRAM



REMARKS

SLR International Corporation
1800 Blankenship Rd; Suite 440
West Linn, OR 97068

WELL NUMBER GP-710

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CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.

PROJECT NAME Former E.A. Nord

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION 300 West Marine View Dr, Everett, WA

DATE STARTED 7/8/15 **COMPLETED** 7/8/15

DRILLING METHOD Direct Push

DRILLING CONTRACTOR Cascade Drilling

GROUNDWATER ENCOUNTERED AT (feet): 4.5

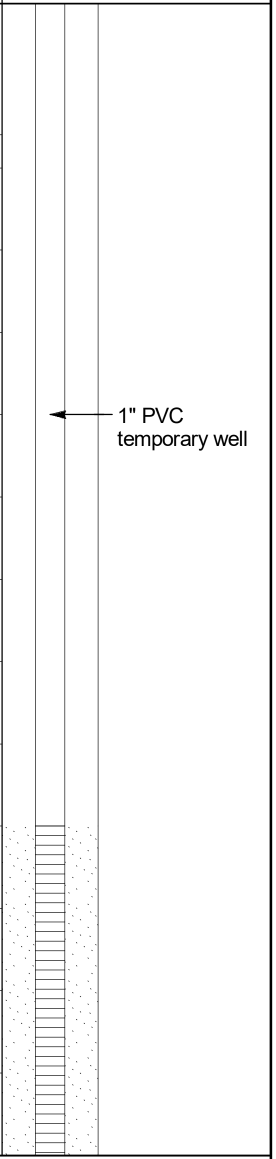
LOGGED BY P. LeDoux **CHECKED BY** C. Kramer

NOTES Temporary boring abandoned with bentonite

DEPTH (ft)	U.S.C.S.	MATERIAL DESCRIPTION
0.5		ASPHALT
1.5	SP-SM	SAND with silty fines, dark brown, moist, fine sand, no odor, no staining
2.5	ML	Sandy SILT, gray, moist, no odor, no staining
4.5 ▽	SP-SM	SAND with silty fines, brown, moist, fine sand, no odor, no staining
5.5	SP	SAND, little to no fines, dark gray, wet, trace organics (small roots) throughout, weak organic odor, no staining
7.5	ML	SILT, gray, wet, trace organics (small roots) throughout, weak organic odor, no staining
12.5	SP	SAND with gravel, little to no fines, gap-graded sand, fine subangular gravel, dark gray, wet, weak creosote odor, no staining
23.0	SP	SAND, little to no fines, dark gray, wet, weak creosote odor, no staining
24.0	SP	SAND, creosote odor becomes moderate
	SP	SAND

DEPTH (ft)	SAMPLE NAME	RECOVERY %	PID (ppm)
0–4	GP-710-4	70	9.7
4–5			4.9
5–7.5		95	12.1
7.5–10		95	7.0
10–12.5		80	10.7
12.5–15		80	8.2
15–17.5		95	12.9
17.5–20		95	6.4
20–22.5		85	8.1
22.5–25		85	9.5
25–27.5		90	13.8
27.5–30		90	18.9
30–32.5		90	10.5
32.5–35		90	41.9

WELL DIAGRAM



REMARKS

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SLR International Corporation
1800 Blankenship Rd; Suite 440
West Linn, OR 97068

WELL NUMBER GP-710

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CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.

PROJECT NAME Former E.A. Nord

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION 300 West Marine View Dr, Everett, WA

DEPTH (ft)	SAMPLE NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	WELL DIAGRAM
35	GP-710-35	60	SP		SAND *(continued)*	18.7	
		48				20.4	
40					40.0		
					Bottom of boring at 40.0 feet.		

REMARKS

SLR International Corporation
1800 Blankenship Rd; Suite 440
West Linn, OR 97068

WELL NUMBER GP-711

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CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.

PROJECT NAME Former E.A. Nord

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION 300 West Marine View Dr, Everett, WA

DATE STARTED 7/8/15 **COMPLETED** 7/8/15

DRILLING METHOD Direct Push

DRILLING CONTRACTOR Cascade Drilling

GROUNDWATER ENCOUNTERED AT (feet): 4

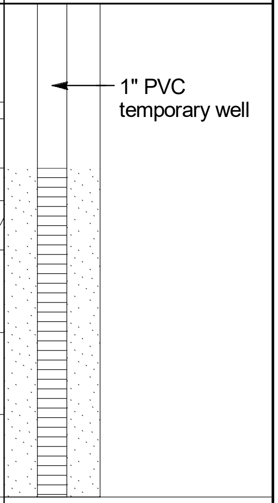
LOGGED BY P. LeDoux **CHECKED BY** C. Kramer

NOTES Temporary boring abandoned with bentonite

DEPTH (ft)	SAMPLE NAME	RECOVERY %	U.S.C.S.	MATERIAL DESCRIPTION	PID (ppm)
0.5				ASPHALT	
4.5	GP-711-3	70 70		FILL, sand with gravel and silty fines, dark brown, fine sand, fine subangular gravel, moist to wet, weak creosote odor, no staining	12.9 7.5
6.0	GP-711-6	90	SP-SM	SAND, little to no fines, dark gray, wet, fine sand, weak to moderate creosote odor, no staining	
8.5		90	ML	SILT, gray, wet, trace organics (small roots) throughout, weak creosote odor, no staining	49.2
15.0		90 70 70	SP	SAND, little to no fines, dark gray, wet, fine sand, weak creosote odor, no staining	20.2 9.8 10.5

Bottom of boring at 15.0 feet.

WELL DIAGRAM



REMARKS

WELL NUMBER GP-712

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CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.

PROJECT NAME Former E.A. Nord

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION 300 West Marine View Dr, Everett, WA

DATE STARTED 7/7/15 **COMPLETED** 7/7/15

DRILLING METHOD Direct Push

DRILLING CONTRACTOR Cascade Drilling

GROUNDWATER ENCOUNTERED AT (feet): 5.5

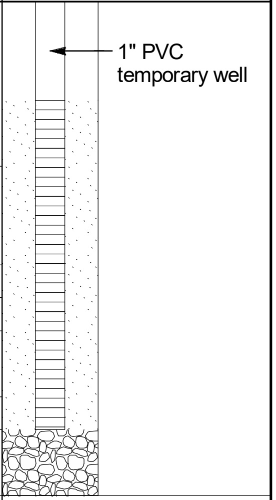
LOGGED BY P. LeDoux **CHECKED BY** C. Kramer

NOTES Temporary boring abandoned with bentonite

DEPTH (ft)	SAMPLE NAME	RECOVERY %	U.S.C.S.	MATERIAL DESCRIPTION	PID (ppm)
0		80		0.5 ASPHALT	4.3
			SP-SM	2.0 SAND with silty fines, brown, moist, fine sand, no odor, no staining	
			ML	3.0 SILT, trace organics (small roots), gray, moist, no odor, no staining	
	GP-712-5		SP	4.5 SAND, little to no fines, brown, moist, fine sand, no odor, no staining	
5		90	SP	7.0 ▽ SAND, little to no fines, fine to medium sand, dark dray, moderate to strong creosote odor, moist to wet, small roots and wood chips throughout	
	GP-712-8		SP	12.0 SAND, free product visible	607.7
10		90			
		100			45.2
		100	ML	13.0 SILT, gray, trace organics (small roots), wet, weak creosote odor, no staining	9.2
15		100	SP	15.0 SAND, little to no fines, dark gray, fine to medium grained, wet, weak creosote odor, no staining	4.0

Bottom of boring at 15.0 feet.

WELL DIAGRAM



REMARKS

WELL NUMBER MW-7

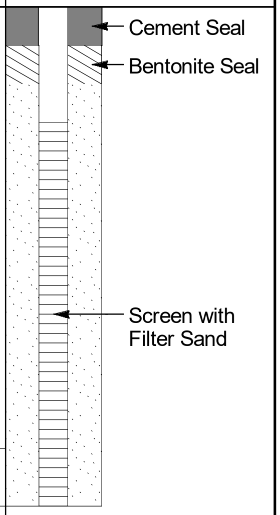
SLR International Corporation
1800 Blankenship Rd; Suite 440
West Linn, OR 97068

CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.
PROJECT NAME Former E.A. Nord
PROJECT NUMBER 108.00228.00048
PROJECT LOCATION 300 West Marine View Dr, Everett, WA
DATE STARTED 8/14/15
COMPLETED 8/14/15
DRILLING METHOD Hollow Stem Auger
DRILLING CONTRACTOR Cascade Drilling
GROUNDWATER ENCOUNTERED AT (feet):
LOGGED BY H. Gosack
CHECKED BY C. Kramer
NOTES Logged from HSA cuttings

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0 – 0.3						ASPHALT and gravel base	
0.3 – 3.0				SP		Brown medium subrounded SAND, some fine to coarse gravel, trace silt, clay and coarse sand, no odor, no staining, moist	
3.0 – 11.5				SP		Dark gray fine to medium subrounded sand, trace fine to medium subrounded gravel, trace silt, trace clay, trace coarse sand, moist to wet	
11.5 – 12.8	SS	67	13	SP		Dark gray fine to medium SAND, rounded to subrounded, trace silt, clay, fine to medium gravel, coarse sand, moist to wet, slight petroleum odor	0.0
12.8 – 13.0				SWG		Dark gray fine to medium gravelly SAND, trace silt, clay, coarse sand, wet	

Bottom of hole at 13.0 feet.

WELL DIAGRAM



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1800 Blankenship Rd; Suite 440
West Linn, OR 97068

WELL NUMBER MW-8A

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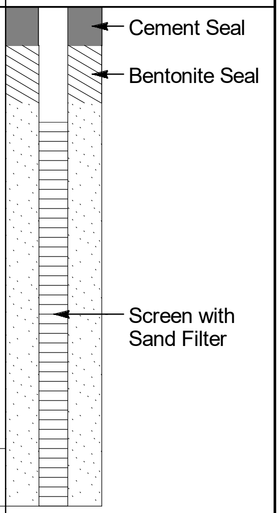
CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.
PROJECT NAME Former E.A. Nord
PROJECT NUMBER 108.00228.00048
PROJECT LOCATION 300 West Marine View Dr, Everett, WA
DATE STARTED 8/12/15
COMPLETED 8/12/15
DRILLING METHOD Hollow Stem Auger
DRILLING CONTRACTOR Cascade Drilling
GROUNDWATER ENCOUNTERED AT (feet):
LOGGED BY P. LeDoux
CHECKED BY C. Kramer
NOTES Logged from HSA cuttings

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0						ASPHALT	
0.5				SP		SANDS, moderate to strong creosote odor	
11.5	SS	80	13	SP		SAND, dark gray no fines, moderate creosote odor, no staining	9.6
13.0						Bottom of hole at 13.0 feet.	

WELL DIAGRAM



SLR International Corporation
1800 Blankenship Rd; Suite 440
West Linn, OR 97068

WELL NUMBER MW-8B

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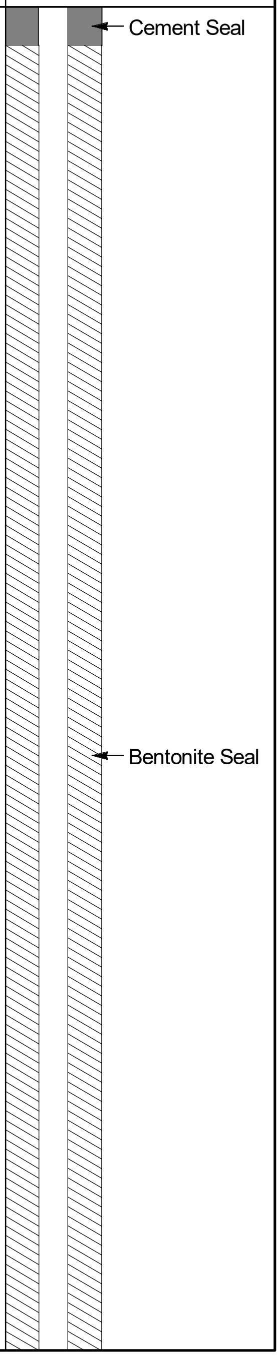
CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.
PROJECT NAME Former E.A. Nord
PROJECT NUMBER 108.00228.00048
PROJECT LOCATION 300 West Marine View Dr, Everett, WA
DATE STARTED 8/12/15
COMPLETED 8/12/15
DRILLING METHOD Hollow Stem Auger
DRILLING CONTRACTOR Cascade Drilling
GROUNDWATER ENCOUNTERED AT (feet):
LOGGED BY P. LeDoux
CHECKED BY C. Kramer
NOTES Logged from HSA cuttings

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	WELL DIAGRAM
0						Strong creosote odor, abundant treated wood		Cement Seal
8.0				SP		Strong creosote odor, SAND, visible free product		
20								Bentonite Seal
22.0				SP		Moderate to strong odor, soupy, SAND		
29.0				SP		Weak odors, SAND		
35								



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WELL NUMBER MW-8B

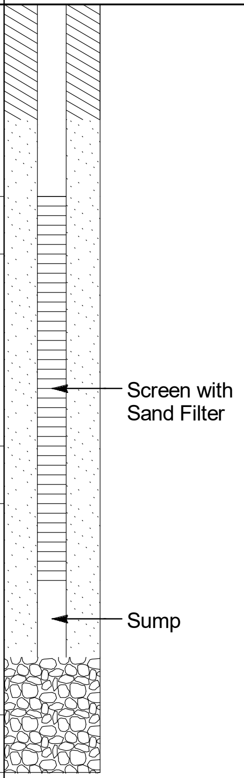
SLR International Corporation
1800 Blankenship Rd; Suite 440
West Linn, OR 97068

CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.
PROJECT NAME Former E.A. Nord
PROJECT NUMBER 108.00228.00048
PROJECT LOCATION 300 West Marine View Dr, Everett, WA

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
35				SP	40.0	Weak odors, SAND *(continued)*	
40	SS	80	11	SP	41.5	SAND, gray, no fines, fine grained, wet, weak to strong creosote odor, visible product @ 41' to 41.5'	21.9
45				SP	46.5	SAND	
	SS	70	30	SP	48.0	SAND, gray, no fines, fine grained, weak creosote odor, no staining	48.7
50				SP	53.5	SAND	
55	SS	90	18	SP	55.0	SAND, gray, no fines, fine grained, wet, very weak odor, no staining	0.1

Bottom of hole at 55.0 feet.

WELL DIAGRAM



SLR International Corporation
1800 Blankenship Rd; Suite 440
West Linn, OR 97068

WELL NUMBER MW-9A

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CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.

PROJECT NAME Former E.A. Nord

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION 300 West Marine View Dr, Everett, WA

DATE STARTED 8/27/15 **COMPLETED** 8/27/15

DRILLING METHOD Hollow Stem Auger

DRILLING CONTRACTOR Cascade Drilling

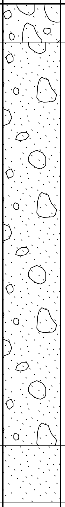
GROUNDWATER ENCOUNTERED AT (feet):

LOGGED BY P. LeDoux **CHECKED BY** C. Kramer

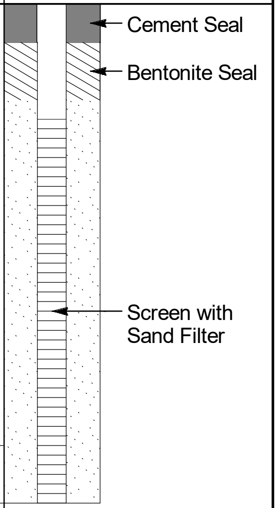
NOTES Logged from HSA cuttings

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0				GPS	1.0	Sandy GRAVEL, fine to coarse grained and angular, some fine grained sand, dry, no odor, no staining	
5 10				SPG	11.5	Gravelly SAND, fine sand, fine subrounded to rounded gravel, no odor, no staining, wood @ 5'	
	SS	75	16	SP	13.0	SAND, dark gray, fine to medium grained, few organics, wet, no odor, no staining	0.0

Bottom of hole at 13.0 feet.



WELL DIAGRAM



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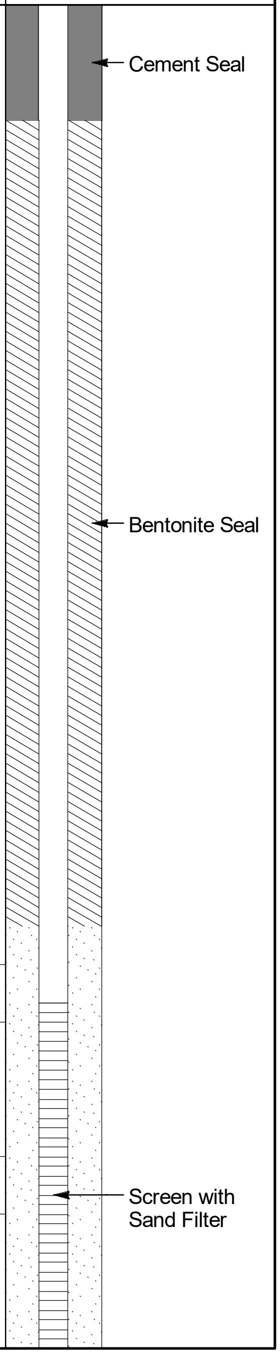
West Linn, OR 97068

WELL NUMBER MW-9B

CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.
PROJECT NAME Former E.A. Nord
PROJECT NUMBER 108.00228.00048
PROJECT LOCATION 300 West Marine View Dr, Everett, WA
DATE STARTED 8/14/15 **COMPLETED** 8/14/15
DRILLING METHOD Hollow Stem Auger
DRILLING CONTRACTOR Cascade Drilling
GROUNDWATER ENCOUNTERED AT (feet):
LOGGED BY H. Gosack **CHECKED BY** C. Kramer
NOTES Logged from HSA cuttings

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0						0.5 Coarse GRAVEL, angular, moist (surface fill)	
0.5				SP		Dark gray fine to medium SAND, rounded to subrounded, some silt, trace clay, sticky with slight petroleum odor, moist	
10.0				SP		Dark gray fine to medium SAND, rounded to subrounded, some silt, trace clay, sticky with slight petroleum odor, moist to wet	
15.0				SP		Dark gray fine to medium SAND, rounded to subrounded, some silt, trace clay, sticky with slight petroleum odor, wet	
25.0	SS	67	19	SP		Dark gray fine to medium subrounded SAND, trace silt, clay, wet, no odor, heaving sands	0.0
30	SS	83	20				0.0
35							

WELL DIAGRAM



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WELL NUMBER MW-9B

CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.
PROJECT NAME Former E.A. Nord
PROJECT NUMBER 108.00228.00048
PROJECT LOCATION 300 West Marine View Dr, Everett, WA

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	WELL DIAGRAM
35	☒ SS	100	19	SP		36.0	0.0	
						Bottom of hole at 36.0 feet.		

SLR International Corporation
1800 Blankenship Rd; Suite 440
West Linn, OR 97068

WELL NUMBER MW-10A

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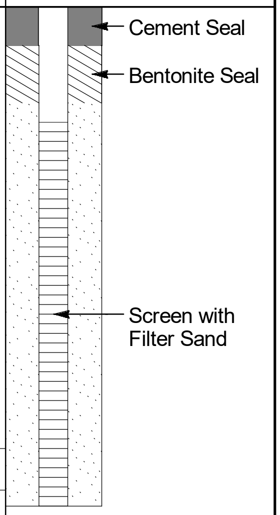
CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.
PROJECT NAME Former E.A. Nord
PROJECT NUMBER 108.00228.00048
PROJECT LOCATION 300 West Marine View Dr, Everett, WA
DATE STARTED 8/13/15
COMPLETED 8/13/15
DRILLING METHOD Hollow Stem Auger
DRILLING CONTRACTOR Cascade Drilling
GROUNDWATER ENCOUNTERED AT (feet):
LOGGED BY P. LeDoux
CHECKED BY C. Kramer
NOTES Logged from HSA cuttings

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0					▩	Sandy GRAVEL, little silt, dry, light gray, fill	
1.5				SP	░	SAND, visible product pulled from auger @ 8' with moderate creosote odor	
11.5	☒ SS	138	7	SP	░	SAND, dark gray, fine to medium grained, little organics, wet, strong creosote odor, visible product	47.3
13.0						Bottom of hole at 13.0 feet.	

WELL DIAGRAM



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West Linn, OR 97068

WELL NUMBER MW-10B

CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.

PROJECT NAME Former E.A. Nord

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION 300 West Marine View Dr, Everett, WA

DATE STARTED 8/13/15 **COMPLETED** 8/13/15

DRILLING METHOD Hollow Stem Auger

DRILLING CONTRACTOR Cascade Drilling

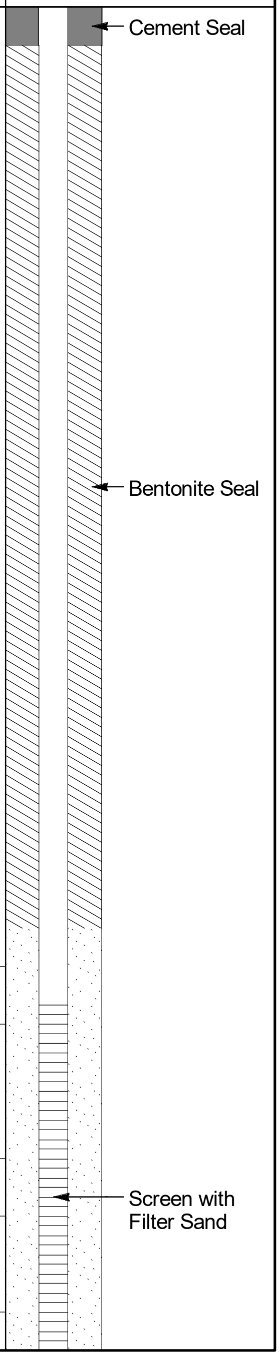
GROUNDWATER ENCOUNTERED AT (feet):

LOGGED BY P. LeDoux **CHECKED BY** C. Kramer

NOTES Logged from HSA cuttings

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0					1.5	Sandy GRAVEL, little silt, dry, fill	
1.5				SM	12.0	Weak to moderate creosote odor in silty SAND, black, abundant organics	
12.0				SP	19.0	SANDS, moderate to strong creosote odor	
19.0				SP	25.0	Product being pulled to surface by auger @ 20', strong odor	
25.0	SS	60	50	SP	26.5	SAND, dark gray, fine medium grained, little organics, weak creosote odor, no staining, wet	3.6
26.5				SP	30.0	SAND	
30.0	SS	55	23	SP	31.5	SAND, dark gray, fine to medium grained, no fines, wet, very weak creosote odor, no staining	0.3
31.5				SP	34.5	SAND	
34.5	SS	75	18	SP			0.0

WELL DIAGRAM



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WELL NUMBER MW-10B

PAGE 2 OF 2

CLIENT E.A. Nord, Inc, as and through its successor, JELD-WEN, inc.

PROJECT NAME Former E.A. Nord

PROJECT NUMBER 108.00228.00048

PROJECT LOCATION 300 West Marine View Dr, Everett, WA

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	WELL DIAGRAM
35	☒			SP		36.0 SAND, dark gray, fine to medium grained, no fines, wet, no dor, no staining *(continued)*		
						Bottom of hole at 36.0 feet.		

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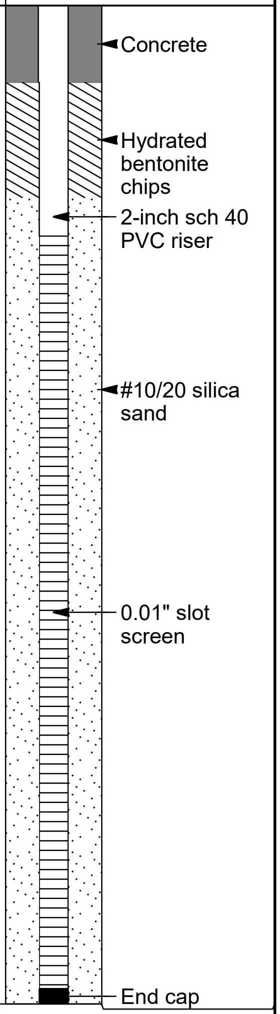
WELL NUMBER MW-11A

PAGE 1 OF 2

CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 4/25/19
COMPLETED 4/29/19
GROUND ELEVATION 12.39 ft
HOLE SIZE 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▼ **AT TIME OF DRILLING** 5.5 ft
LOGGED BY S. Losleben
CHECKED BY C. Kramer
AFTER DRILLING N/A
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	MATERIAL DESCRIPTION	PID (ppm)
0		Direct Push		80		0.3 **ASPHALT PAVEMENT** 12.1	
					SW	**SAND**, gray, fine to coarse grained, moist, no odor	0.1 0.0
5		Direct Push	GP-MW-11-SS*	100	SP	5.5 ▼ 6.9 **SAND**, gray, fine to medium grained, wet, no odor	0.0
					ML	7.0 5.4 **SILT**, brown-gray with some mottling, trace organic debris, moist, no odor	
						8.0 4.4 **SAND**, gray, fine to medium grained, trace fine gravel, wet, no odor	0.0
10		Direct Push		100	SP	13.0 -0.6	0.6

WELL DIAGRAM



WELL COMPLETION DETAILS:

0.0 to 1.0 feet: Concrete.
1.0 to 2.5 feet: Hydrated bentonite chips.
2.5 to 13.0 feet: 10x20 silica sand pack.

REMARKS

Boring continued to 40.0 feet bgs. (description included in boring log for MW-11B)
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on Geoprobe borings.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate liner.
* = Soil sample consisted of composite sample fronm 0-12 feet bgs.

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WELL NUMBER MW-11A

CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 4/25/19 **COMPLETED** 4/29/19
GROUND ELEVATION 12.39 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▼ **AT TIME OF DRILLING** 5.5 ft
LOGGED BY S. Losleben **CHECKED BY** C. Kramer
AFTER DRILLING N/A
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	WELL DIAGRAM

0.0 to 3.0 feet: 2"-diameter, flush-threaded Sch. 40 PVC riser.
3.0 to 12.8 feet: 2"-diameter, flush-threaded Sch. 40 PVC 0.010-slotted well screen.
12.8 to 13.0 feet: 2"-diameter, flush-threaded Sch. 40 PVC cap.

REMARKS

Boring continued to 40.0 feet bgs. (description included in boring log for MW-11B)
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on Geoprobe borings.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate liner.
* = Soil sample consisted of composite sample fronm 0-12 feet bgs.

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WELL NUMBER MW-11B

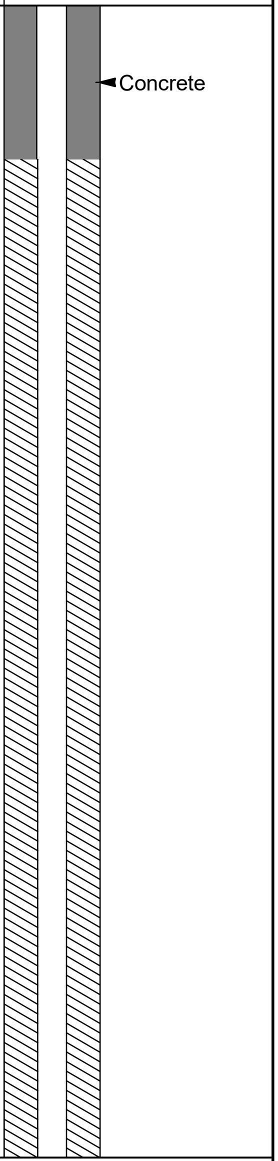
CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 4/25/19 **COMPLETED** 4/29/19
GROUND ELEVATION 12.39 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▼ **AT TIME OF DRILLING** 5.5 ft
LOGGED BY S. Losleben **CHECKED BY** C. Kramer
AFTER DRILLING N/A
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %
0–5	⊠	Direct Push		80
5–10	⊠	Direct Push		100
10–15	⊠	Direct Push		100

U.S.C.S.	Depth (ft)	MATERIAL DESCRIPTION	Elevation
	0.3	**ASPHALT PAVEMENT**	12.1
SW	5.5 ▼	**SAND**, gray, fine to coarse grained, moist, no odor	6.9
SP	7.0	**SAND**, gray, fine to medium grained, wet, no odor	5.4
ML	8.0	**SILT**, brown-gray with some mottling, trace organic debris, moist, no odor	4.4
SP	13.0	**SAND**, gray, fine to medium grained, trace fine gravel, wet, no odor	-0.6
ML	14.0	**SILT**, gray, wet, no odor	-1.6
SP		**SAND**, gray, fine to medium grained, trace fine gravel, wet, no odor	

PID (ppm)
0.1
0.0
0.0
0.0
0.6
0.3

WELL DIAGRAM



REMARKS

Boring completed at 40.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on Geoprobe borings.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate liner.

(Continued Next Page)

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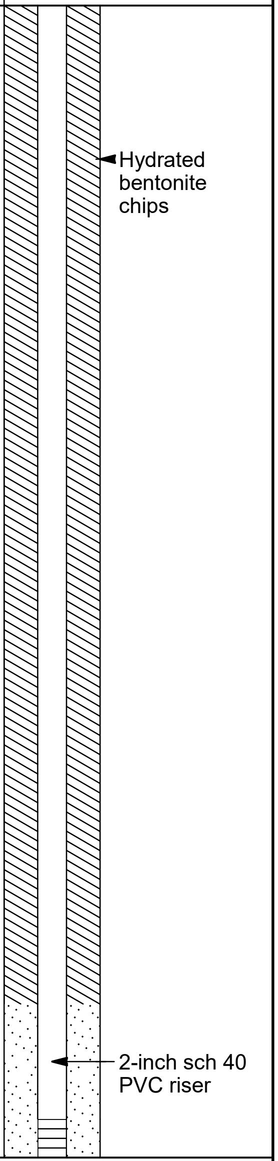
WELL NUMBER MW-11B

CLIENT JELD-WEN, Inc.	**PROJECT NAME** Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059	**PROJECT LOCATION** 300 West Marine View Drive, Everett, WA
DATE STARTED 4/25/19 **COMPLETED** 4/29/19	**GROUND ELEVATION** 12.39 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling	**GROUND WATER LEVELS:**
DRILLING METHOD Direct Push	▼ **AT TIME OF DRILLING** 5.5 ft
LOGGED BY S. Losleben **CHECKED BY** C. Kramer	**AFTER DRILLING** N/A
NOTES	

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
15		Direct Push		100	SP		**SAND**, gray, fine to medium grained, trace fine gravel, wet, no odor *(continued)*	0.2 0.0
20		Direct Push		90				0.0 0.2
25		Direct Push		100				0.1 0.0
30								



REMARKS

Boring completed at 40.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on Geoprobe borings.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate liner.

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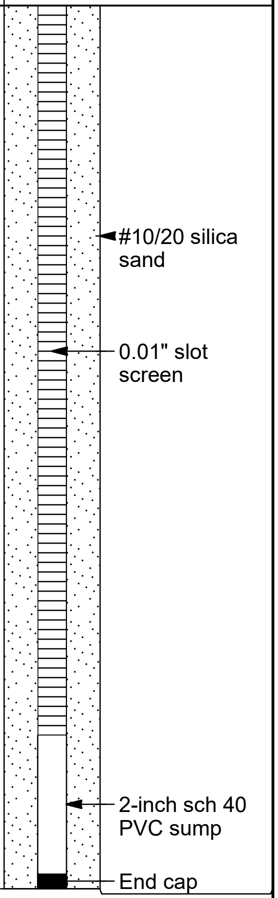
WELL NUMBER MW-11B

CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 4/25/19 **COMPLETED** 4/29/19
GROUND ELEVATION 12.39 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▼ **AT TIME OF DRILLING** 5.5 ft
LOGGED BY S. Losleben **CHECKED BY** C. Kramer
AFTER DRILLING N/A
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
30		Direct Push		100	SP		**SAND**, gray, fine to medium grained, trace fine gravel, wet, no odor *(continued)*	0.2 0.1
35		Direct Push		100				0.1
					SM		38.5 -26.1 **SILTY SAND with GRAVEL**, gray, fine grained, little silt, few fine gravel, wet, no odor	0.0
40							40.0 -27.6	

WELL DIAGRAM



WELL COMPLETION DETAILS:

0.0 to 2.0 feet: Concrete.
2.0 to 28.0 feet: Hydrated bentonite chips.
28.0 to 41.5 feet: 10x20 silica sand pack.

0.0 to 29.5 feet: 2"-diameter, flush-threaded Sch. 40 PVC riser.
29.5 to 39.5 feet: 2"-diameter, flush-threaded Sch. 40 PVC 0.010-slotted well screen.
39.5 to 41.3 feet: 2"-diameter, flush-threaded Sch. 40 PVC sump.
41.3 to 41.5 feet: 2"-diameter, flush-threaded Sch. 40 PVC cap.

REMARKS

Boring completed at 40.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on Geoprobe borings.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate liner.

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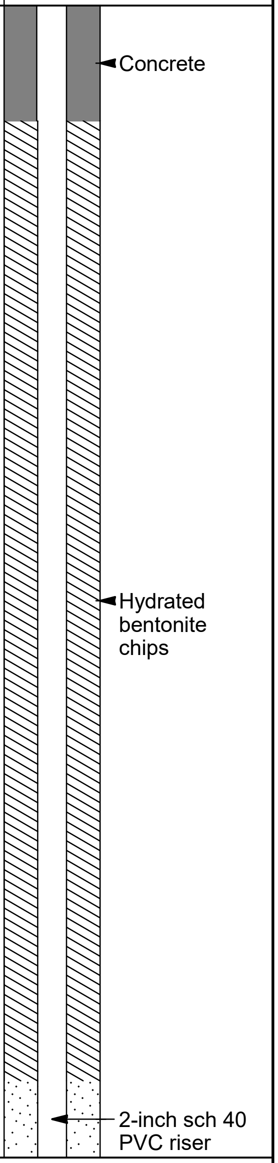
WELL NUMBER MW-12

CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 4/25/19 **COMPLETED** 4/30/19
GROUND ELEVATION 29.66 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▼ **AT TIME OF DRILLING** 19.0 ft
LOGGED BY S. Losleben **CHECKED BY** C. Kramer
AFTER DRILLING N/A
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	MATERIAL DESCRIPTION	PID (ppm)
0					SM	0.5 **ORGANIC SILTY SAND** dark brown, fine grained, some silty fines, trace fine gravel, trace root debris, moist, no odor	29.2
		Direct Push		40	SP	**SAND**, brown-gray, fine grained, abundant shell fragments, moist, no odor	NT 0.1
5		Direct Push	GP-MW-12-SS*	50			NT 0.0
10		Direct Push		100		@ 12.5 feet bgs: Becomes dark gray	0.4 0.7
15							



REMARKS

Boring completed at 25.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on Geoprobe borings.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate liner.
* = Soil sample consisted of composite sample fronm 0-12 feet bgs.

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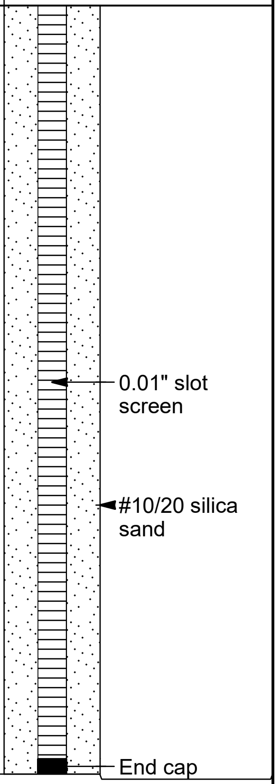
WELL NUMBER MW-12

CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 4/25/19 **COMPLETED** 4/30/19
GROUND ELEVATION 29.66 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▼ **AT TIME OF DRILLING** 19.0 ft
LOGGED BY S. Losleben **CHECKED BY** C. Kramer
AFTER DRILLING N/A
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
15		Direct Push		100	SP		**SAND**, brown-gray, fine grained, abundant shell fragments, moist, no odor *(continued)*	1.5
					SP		17.0 12.7 **SAND**, black-gray, fine to coarse grained, trace fine to coarse gravel, moist, no odor	
							18.5 11.2 ▼ **ROCK FRAGMENTS**, gray and dark gray, pulverized rock debris	2.9
20		Direct Push		100	ML		19.5 10.2 **SANDY SILT**, gray, some fine sand, trace native wood debris	0.4
					SP		23.0 6.7 **SAND**, black-gray, fine to coarse grained, few silty fines, abundant decomposing native wood and organic debris, wet, organic-like odor	18.9
25							25.0 4.7	

WELL DIAGRAM



WELL COMPLETION DETAILS:

0.0 to 1.5 feet: Concrete.
1.5 to 14.0 feet: Hydrated bentonite chips.
14.0 to 25.0 feet: 10x20 silica sand pack.

0.0 to 15.0 feet: 2"-diameter, flush-threaded Sch. 40 PVC riser.
15.0 to 24.8 feet: 2"-diameter, flush-threaded Sch. 40 PVC 0.010-slotted well screen.
24.8 to 25.0 feet: 2"-diameter, flush-threaded Sch. 40 PVC cap.

REMARKS

Boring completed at 25.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on Geoprobe borings.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate liner.
* = Soil sample consisted of composite sample fronm 0-12 feet bgs.

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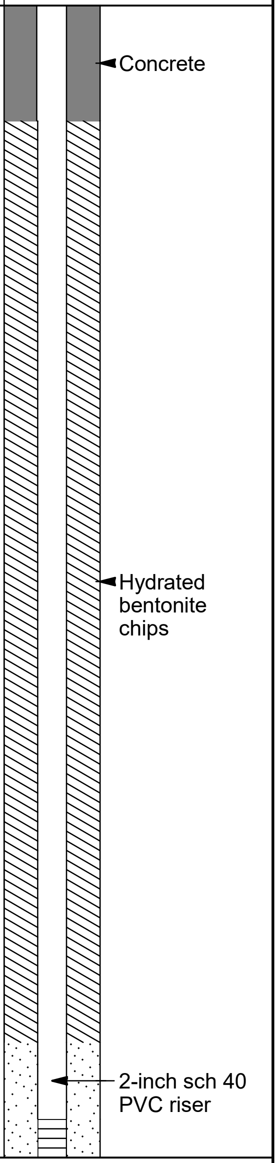
WELL NUMBER MW-13

CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 4/25/19 **COMPLETED** 4/30/19
GROUND ELEVATION 28.68 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▼ **AT TIME OF DRILLING** 18.0 ft
LOGGED BY S. Losleben **CHECKED BY** C. Kramer
AFTER DRILLING N/A
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	MATERIAL DESCRIPTION	PID (ppm)
0		Direct Push		40	SM	0.3 **ORGANIC SILTY SAND**, dark brown, fine grained, some silty fines, some organics, moist, no odor 28.4	
					SP	**SAND**, brown-gray, fine grained, abundant shell fragments, trace native wood debris, moist, no odor	NT 0.0
5		Direct Push	GP-MW-13-SS*	80			0.0 0.0
10		Direct Push		80		@ 10.0 feet bgs: Becomes dark gray	0.5 3.8
15							



REMARKS

Boring completed at 25.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on Geoprobe borings.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate liner.
* = Soil sample consisted of composite sample fronm 0-12 feet bgs.

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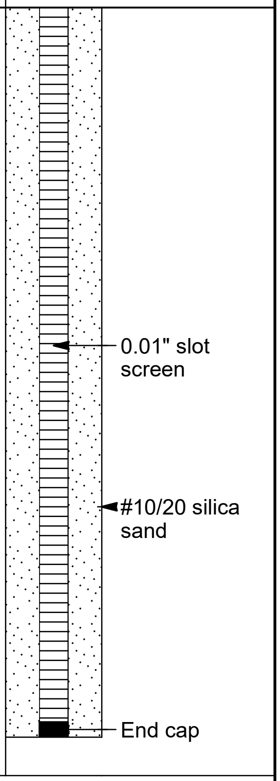
WELL NUMBER MW-13

CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 4/25/19 **COMPLETED** 4/30/19
GROUND ELEVATION 28.68 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▼ **AT TIME OF DRILLING** 18.0 ft
LOGGED BY S. Losleben **CHECKED BY** C. Kramer
AFTER DRILLING N/A
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	WELL DIAGRAM
15		Direct Push		50	SP		**SAND**, brown-gray, fine grained, abundant shell fragments, trace native wood debris, moist, no odor *(continued)*	NT	
							▼ @ 18.0 feet bgs: Becomes wet	1.5	
							19.8 — 8.9		
20		Direct Push		10	SP		**SAND**, black-gray, fine to coarse grained, trace silt, abundant decomposing native wood debris, wet, no odor	NT	
25							25.0 — 3.7	1.0	



WELL COMPLETION DETAILS:

0.0 to 1.5 feet: Concrete.
1.5 to 13.5 feet: Hydrated bentonite chips.
13.5 to 24.5 feet: 10x20 silica sand pack.

0.0 to 14.5 feet: 2"-diameter, flush-threaded Sch. 40 PVC riser.
14.5 to 24.3 feet: 2"-diameter, flush-threaded Sch. 40 PVC 0.010-slotted well screen.
24.3 to 24.5 feet: 2"-diameter, flush-threaded Sch. 40 PVC cap.

REMARKS

Boring completed at 25.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on Geoprobe borings.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate liner.
* = Soil sample consisted of composite sample fronm 0-12 feet bgs.

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WELL NUMBER MW-14

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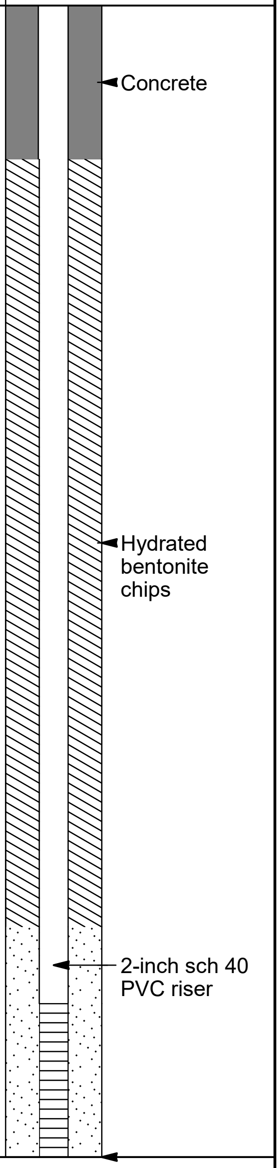
CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 4/25/19 **COMPLETED** 5/1/19
GROUND ELEVATION 26.68 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▼ **AT TIME OF DRILLING** 14.0 ft
LOGGED BY S. Losleben **CHECKED BY** C. Kramer
AFTER DRILLING N/A
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0		Direct Push		75	SM	0.5	**ORGANIC SILTY SAND**, dark brown, fine grained, some silty fines, some organics, moist, no odor	26.2
					SP		**SAND**, brown-gray, fine grained, abundant shell fragments, moist, no odor	0.0
								0.5
5		Direct Push	GP-MW-14-SS*	75				0.3
								0.2
10		Direct Push		95				0.5
								0.3
							▼ @ 14.0 feet bgs: becomes wet	
15								

WELL DIAGRAM



REMARKS

Boring completed at 25.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on Geoprobe borings.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate liner.
* = Soil sample consisted of composite sample fronm 0-12 feet bgs.

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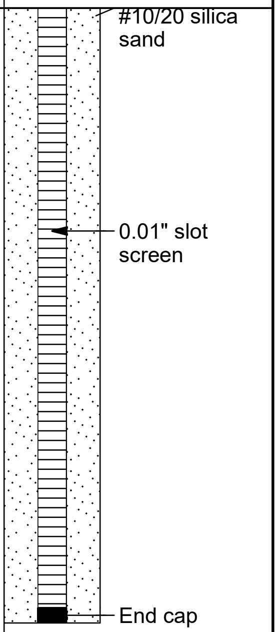
WELL NUMBER MW-14

CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 4/25/19 **COMPLETED** 5/1/19
GROUND ELEVATION 26.68 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▼ **AT TIME OF DRILLING** 14.0 ft
LOGGED BY S. Losleben **CHECKED BY** C. Kramer
AFTER DRILLING N/A
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	MATERIAL DESCRIPTION	PID (ppm)
15		Direct Push		90	SP	**SAND**, brown-gray, fine grained, abundant shell fragments, moist, no odor *(continued)*	3.0
17.0 (9.7)					SP	**SAND with GRAVEL**, dark gray, coarse grained, few fine to coarse gravel, wet, no odor	
18.5 (8.2)					GP	**GRAVEL**, black, orange, tan, fine to coarse grained, vesicular, wet, no odor, slag-like fill material	0.9
20		Direct Push		95			
21.5 (5.2)						**WOOD**, dark brown-black, solid and fragmented native wood debris	0.8
23.5 (3.2)					SP	**SAND interbedded with SILT**, gray, fine grained, few 4-inch silt lenses, moist, no odor	0.8
25.0 (1.7)							

WELL DIAGRAM



WELL COMPLETION DETAILS:

0.0 to 2.0 feet: Concrete.
2.0 to 12.0 feet: Hydrated bentonite chips.
12.0 to 23.0 feet: 10x20 silica sand pack.

0.0 to 13.0 feet: 2"-diameter, flush-threaded Sch. 40 PVC riser.
13.0 to 22.8 feet: 2"-diameter, flush-threaded Sch. 40 PVC 0.010-slotted well screen.
22.8 to 23.0 feet: 2"-diameter, flush-threaded Sch. 40 PVC cap.

REMARKS

Boring completed at 25.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on Geoprobe borings.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate liner.
* = Soil sample consisted of composite sample fronm 0-12 feet bgs.

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WELL NUMBER MW-15

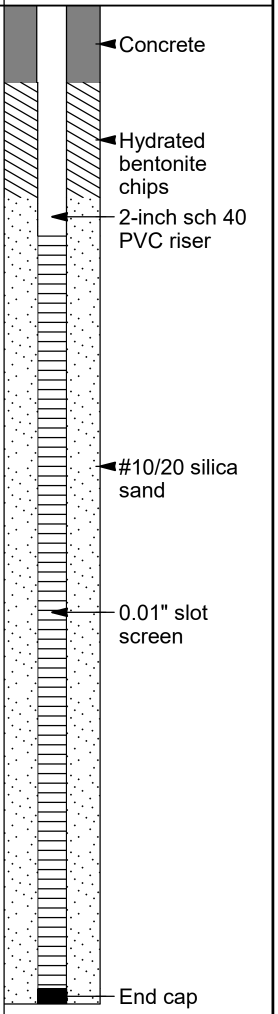
CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 4/26/19 **COMPLETED** 4/29/19
GROUND ELEVATION 12.24 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▼ **AT TIME OF DRILLING** 6.0 ft
LOGGED BY C. Lee **CHECKED BY** C. Kramer
AFTER DRILLING N/A
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %
0–5		Direct Push		70
5–10		Direct Push	SB-MW-15-SS*	80
10–15		Direct Push		100

DEPTH (ft)	U.S.C.S.	MATERIAL DESCRIPTION	Elevation
0.3		**ASPHALT PAVEMENT**	11.9
3.0	SP	**GRAVELLY SAND**, brown, fine grained, some fine to medium gravel, moist, no odor, no staining	9.2
10.5	SP	**SAND**, dark gray, fine grained, few wood fragments, moist, no odor, no staining ▼ @ 6.0 feet: Becomes wet	1.7
11.3	ML	**SILT**, dark gray, trace wood debris, wet, no odor, no staining	1.0
15.0	SP	**SAND**, dark gray, fine grained, wet, no odor, no staining	-2.8

DEPTH (ft)	PID (ppm)
1	0.0
2	0.1
3	0.4
4	0.3
6	0.0
7	0.0
8	0.0
9	0.0
11	0.0
12	0.0
13	0.0
14	0.0
15	0.0

WELL DIAGRAM



REMARKS

Boring completed at 15.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on Geoprobe borings.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate liner.
* = Soil sample consisted of composite sample fronm 0-12 feet bgs.

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WELL NUMBER MW-15

CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 4/26/19 **COMPLETED** 4/29/19
GROUND ELEVATION 12.24 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▼ **AT TIME OF DRILLING** 6.0 ft
LOGGED BY C. Lee **CHECKED BY** C. Kramer
AFTER DRILLING N/A
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	WELL DIAGRAM

WELL COMPLETION DETAILS:

0.0 to 1.0 feet: Concrete.
1.0 to 2.5 feet: Hydrated bentonite chips.
2.5 to 13.0 feet: 10x20 silica sand pack.

0.0 to 3.0 feet: 2"-diameter, flush-threaded Sch. 40 PVC riser.
3.0 to 12.8 feet: 2"-diameter, flush-threaded Sch. 40 PVC 0.010-slotted well screen.
12.8 to 13.0 feet: 2"-diameter, flush-threaded Sch. 40 PVC cap.

REMARKS

Boring completed at 15.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on Geoprobe borings.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate liner.
* = Soil sample consisted of composite sample fronm 0-12 feet bgs.

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WELL NUMBER MW-16

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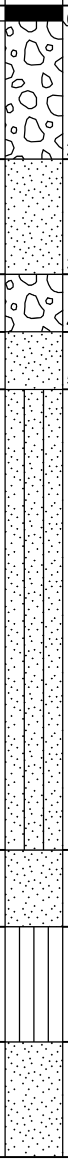
CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 4/26/19 **COMPLETED** 4/29/19
GROUND ELEVATION 12.89 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▼ **AT TIME OF DRILLING** 5.5 ft
LOGGED BY C. Lee **CHECKED BY** C. Kramer
AFTER DRILLING N/A
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %
0–5	☒	Direct Push		80
5–10	☒	Direct Push	GP-MW-16-SS*	20
10–15	☒	Direct Push		90

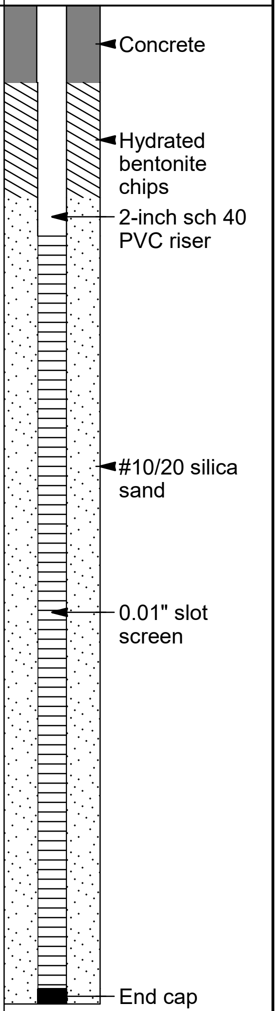
U.S.C.S.	MATERIAL DESCRIPTION	Depth (ft)	Elevation (ft)
	ASPHALT PAVEMENT	0.2	12.7
GP	**GRAVEL**, gray, fine to coarse grained, few fine grained sand, moist, no odor, no staining	2.0	10.9
SP	**SAND with GRAVEL**, gray-brown, fine grained, few fine gravel, moist, no odor, no staining	3.5	9.4
GP	**GRAVEL**, gray, fine to coarse grained, few fine grained sand, few silty fines, moist, no odor, no staining	4.3	8.6
SP	**SAND with GRAVEL**, black, coarse grained, few fine gravel, moist, no odor, no staining	5.0	7.9
SM	▼ **SILTY SAND with GRAVEL**, gray, fine grained, some silty fines, few coarse gravel, moist, no odor @ 5.5 feet bgs: Becomes wet	11.0	1.9
SP	**SAND**, gray, fine grained, few silty fines, few wood debris, wet, no odor, no staining	12.0	0.9
ML	**SILT**, red-brown, few wood fragments, moist, no odor, no staining	13.5	-0.6
SP	**SAND**, gray, fine grained, wet, no odor, no staing	15.0	-2.1

DEPTH (ft)	PID (ppm)
1	0.5
2	1.5
3	0.7
4	0.4
5	0.3
6	0.0
12	0.0
13	0.0
14	0.0

GRAPHIC LOG



WELL DIAGRAM



REMARKS

Boring completed at 15.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on Geoprobe borings.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate liner.
* = Soil sample consisted of composite sample fronm 0-12 feet bgs.

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WELL NUMBER MW-16

CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 4/26/19 **COMPLETED** 4/29/19
GROUND ELEVATION 12.89 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▼ **AT TIME OF DRILLING** 5.5 ft
LOGGED BY C. Lee **CHECKED BY** C. Kramer
AFTER DRILLING N/A
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	WELL DIAGRAM

WELL COMPLETION DETAILS:

0.0 to 1.0 feet: Concrete.
1.0 to 2.5 feet: Hydrated bentonite chips.
2.5 to 13.0 feet: 10x20 silica sand pack.

0.0 to 3.0 feet: 2"-diameter, flush-threaded Sch. 40 PVC riser.
3.0 to 12.8 feet: 2"-diameter, flush-threaded Sch. 40 PVC 0.010-slotted well screen.
12.8 to 13.0 feet: 2"-diameter, flush-threaded Sch. 40 PVC cap.

REMARKS

Boring completed at 15.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on Geoprobe borings.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate liner.
* = Soil sample consisted of composite sample fronm 0-12 feet bgs.

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WELL NUMBER MW-17

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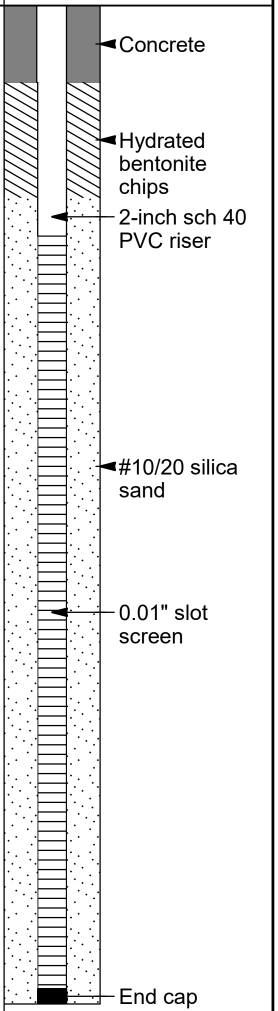
CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 4/26/19 **COMPLETED** 4/30/19
GROUND ELEVATION 12.61 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▼ **AT TIME OF DRILLING** 7.5 ft
LOGGED BY C. Lee **CHECKED BY** C. Kramer
AFTER DRILLING N/A
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %
0		Direct Push		75
5		Direct Push	GP-MW-17-SS*	100
10		Direct Push		100
15				

	U.S.C.S.	MATERIAL DESCRIPTION	
0.3		**ASPHALT PAVEMENT**	12.3
1.5	GP	**SANDY GRAVEL**, brown, medium to coarse grained, little fine sand, moist, no odor, no staining	11.1
8.0	SP	**SAND**, brown, fine grained, moist, no odor, no staining ▼ @ 7.5 feet bgs: Becomes wet	4.6
8.5	ML	**SILT**, dark gray, wet, no odor, no staining	4.1
9.0	SM	**SILTY SAND**, dark gray, fine grained, some silty fines, few wood debris, wet, no odor, no staining	3.6
15.0	SP	**SAND**, dark gray, fine grained, wet, no odor, no staining	-2.4

PID (ppm)
0.2
0.1
0.0
0.0
0.0
0.0

WELL DIAGRAM



REMARKS

Boring completed at 15.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on Geoprobe borings.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate liner.
* = Soil sample consisted of composite sample fronm 0-12 feet bgs.

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WELL NUMBER MW-17

CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 4/26/19 **COMPLETED** 4/30/19
GROUND ELEVATION 12.61 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▼ **AT TIME OF DRILLING** 7.5 ft
LOGGED BY C. Lee **CHECKED BY** C. Kramer
AFTER DRILLING N/A
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	WELL DIAGRAM

WELL COMPLETION DETAILS:

0.0 to 1.0 feet: Concrete.
1.0 to 2.5 feet: Hydrated bentonite chips.
2.5 to 13.0 feet: 10x20 silica sand pack.

0.0 to 3.0 feet: 2"-diameter, flush-threaded Sch. 40 PVC riser.
3.0 to 12.8 feet: 2"-diameter, flush-threaded Sch. 40 PVC 0.010-slotted well screen.
12.8 to 13.0 feet: 2"-diameter, flush-threaded Sch. 40 PVC cap.

REMARKS

Boring completed at 15.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on Geoprobe borings.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate liner.
* = Soil sample consisted of composite sample fronm 0-12 feet bgs.

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BORING NUMBER GP-801

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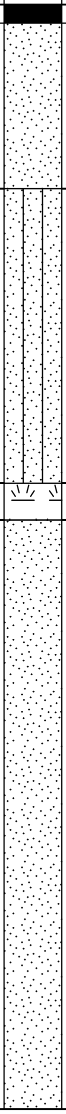
CLIENT	JELD-WEN, Inc.	**PROJECT NAME**	Former E.A. Nord Door, Inc.
PROJECT NUMBER	108.00228.00059	**PROJECT LOCATION**	300 West Marine View Drive, Everett, WA
DATE STARTED	4/26/19	**COMPLETED**	4/26/19
GROUND ELEVATION		**HOLE SIZE**	4" - diameter
DRILLING CONTRACTOR	Cascade Drilling	**GROUND WATER LEVELS:**	
DRILLING METHOD	Direct Push	▼ **AT TIME OF DRILLING**	5.0 ft
LOGGED BY	S. Losleben	**CHECKED BY**	C. Kramer
		AFTER DRILLING	N/A
NOTES			



DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	MATERIAL DESCRIPTION	PID (ppm)
0–0.3	0–5	Direct Push		40		**ASPHALT PAVEMENT**	
0.3–2.5					SP	**SAND**, gray-brown, fine to coarse grained, trace fine gravel, moist, no odor	NT
2.5–6.5					SM	**SILTY SAND**, gray, fine to medium grained, little silty fines, trace fine gravel, moist, no odor ▽ @ 5.0 feet bgs: Becomes wet	2.4
5	5–10	Direct Push	GP-801-SS*	50			
6.5–7.0						**WOOD**, dark brown-black, solid and fragmented native wood debris	NT
7.0–15.0					SP	**SAND**, dark gray, fine to medium grained, wet, no odor	0.2
10	10–15	Direct Push		100			0.0 0.0
15.0							

REMARKS

Boring completed at 15.0 feet bgs.
Temporary monitoring well installed and sampled.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate liner.
* = Soil sample consisted of composite sample fronm 0-12 feet bgs.
▽ Water level at time of drilling.

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BORING NUMBER GP-802

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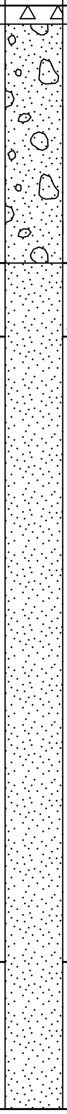
CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 4/26/19 **COMPLETED** 4/26/19
GROUND ELEVATION **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
▼ **AT TIME OF DRILLING** 6.0 ft
LOGGED BY S. Losleben **CHECKED BY** C. Kramer
AFTER DRILLING N/A
NOTES



DEPTH (ft)	TYPE	NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0	Hand Auger		100		0.3	**CRUSHED ROCK**, gray, crushed 1-inch minus, trace aspahlt fragments	
				SP	3.5	**GRAVELLY SAND**, light orange-brown, medium to coarse grained, some fine gravel, trace silt, moist, no odor	0.2
				SP	4.5	**SAND**, light brown, fine grained, trace silt, moist, no odor	0.1
5 10	Direct Push Direct Push	GP-802-SS*	100 80	SP	13.0	**SAND**, gray, fine to medium grained, moist, no odor ▽ @ 6.0 feet bgs: Becomes wet	0.0 0.1 0.0
15				SP	15.0	**SAND**, dark gray, fine grained, wet, no odor	0.0

REMARKS

Boring completed at 15.0 feet bgs.
Temporary monitoring well installed and sampled.
NT = Not tested
PID = Photoionization detector readings in parts per million (ppm).
Geoprobe = Soil samples collected as a continuous core within a 5-foot acetate line

▽ Water level at time of drilling.

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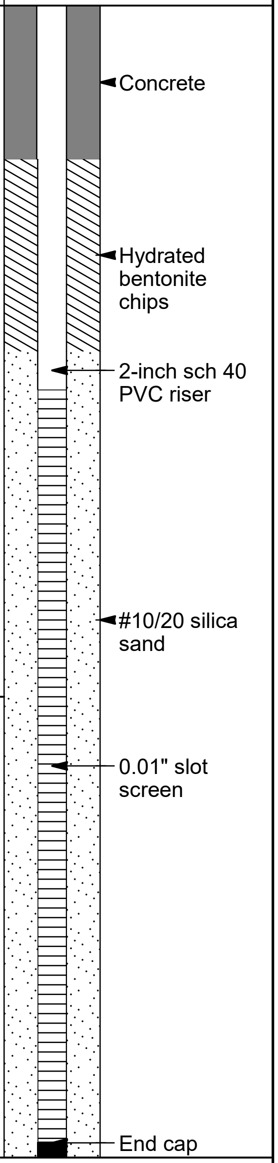
WELL NUMBER MW-18

CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 9/27/19 **COMPLETED** 9/27/19
GROUND ELEVATION 16.35 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
GROUNDWATER DEPTH AT TIME OF DRILLING: 8.5 ft / Elev 7.9 ft
LOGGED BY S. Losleben **CHECKED BY** C. Kramer
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	
0				0	SP		**SAND**, light brown to brown, fine grained, trace shell fragments, moist, no odors, no staining @ 8.5 feet: Becomes wet	
9.0					SP		**SAND**, gray, fine grained, trace shell fragments and wood debris, trace silt laminations, moist, no odors, no staining	7.4
15.0								1.4

WELL DIAGRAM



REMARKS

Boring completed at 15.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on nearby TP-15 and GP-601.
PID = Photoionization detector readings in parts per million (ppm).

∇ Water level at time of drilling.

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CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM

WELL COMPLETION DETAILS:
0.0 to 2.0 feet: Concrete.
2.0 to 4.5 feet: Hydrated bentonite chips.
4.5 to 15.0 feet: 10x20 silica sand pack.

0.0 to 5.0 feet: 2"-diameter, flush-threaded Sch. 40 PVC riser.
5.0 to 14.8 feet: 2"-diameter, flush-threaded Sch. 40 PVC 0.010-slotted well screen.
14.8 to 15.0 feet: 2"-diameter, flush-threaded Sch. 40 PVC cap.

REMARKS
Boring completed at 15.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on nearby TP-15 and GP-601.
PID = Photoionization detector readings in parts per million (ppm).

⊻ Water level at time of drilling.

WELL NUMBER MW-19

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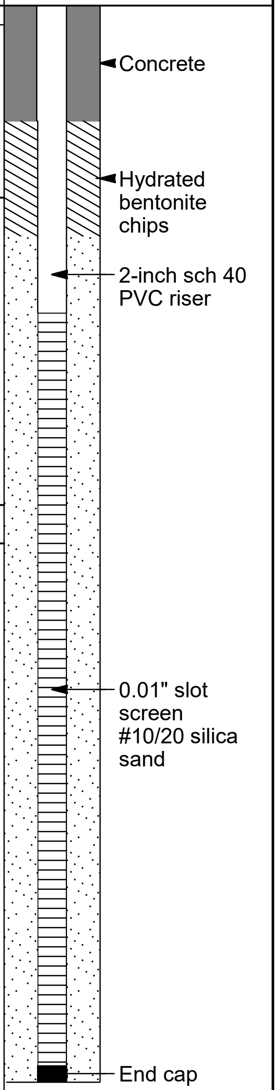
CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 9/27/19 **COMPLETED** 9/27/19
GROUND ELEVATION 11.87 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
GROUNDWATER DEPTH AT TIME OF DRILLING: 5.0 ft / Elev 6.9 ft
LOGGED BY S. Losleben **CHECKED BY** C. Kramer
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	
0.3				0			**ASPHALT PAVEMENT**	11.6
2.5					SP		**SAND**, gray-brown, fine to coarse grained, trace fine gravel, moist, no odor	9.4
6.5					SM		**SILTY SAND**, gray, fine to medium grained, little silty fines, trace fine gravel, moist, no odor ∇ @ 5.0 feet bgs: Becomes wet	5.4
7.0							**WOOD**, dark brown-black, solid and fragmented native wood debris	4.9
15.0					SP		**SAND**, dark gray, fine to medium grained, wet, no odor	-3.1

WELL DIAGRAM



REMARKS

Boring completed at 15.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on nearby GP-801.
PID = Photoionization detector readings in parts per million (ppm).

∇ Water level at time of drilling.

(Continued Next Page)

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WELL NUMBER MW-19

CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM

WELL COMPLETION DETAILS:

0.0 to 1.5 feet: Concrete.
1.5 to 3.0 feet: Hydrated bentonite chips.
3.0 to 15.0 feet: 10x20 silica sand pack.

0.0 to 4.0 feet: 2"-diameter, flush-threaded Sch. 40 PVC riser.
4.0 to 13.8 feet: 2"-diameter, flush-threaded Sch. 40 PVC 0.010-slotted well screen.
13.8 to 14.0 feet: 2"-diameter, flush-threaded Sch. 40 PVC cap.

REMARKS

Boring completed at 15.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on nearby GP-801.
PID = Photoionization detector readings in parts per million (ppm).

▽ Water level at time of drilling.

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WELL NUMBER MW-20

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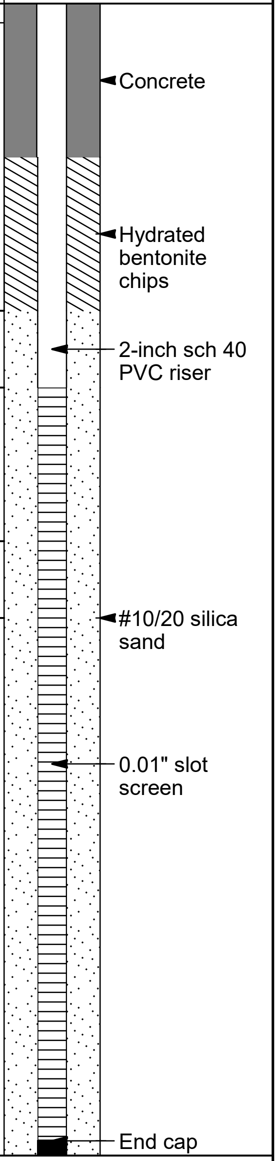
CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA
DATE STARTED 9/27/19 **COMPLETED** 9/27/19
GROUND ELEVATION 12.23 ft **HOLE SIZE** 4" - diameter
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
GROUNDWATER DEPTH AT TIME OF DRILLING: 6.5 ft / Elev 5.7 ft
LOGGED BY S. Losleben **CHECKED BY** C. Kramer
NOTES

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0							0.3 **ASPHALT** 12.0
					GP		**SANDY GRAVEL with SILT**, brown, fine to coarse grained, some fine to coarse sand, few silt, moist, no odor 4.0 8.2
							WOOD DEBRIS 5.0 7.2
5					SP		**SAND**, dark brown, fine to medium grained, few silt, moist, no odor ∇ @ 6.5 feet: Becomes wet 7.0 5.2
				0	ML		**SILT**, dark brown, fine grained, moist, no odor 8.0 4.2
10					SP		**SAND**, dark brown, fine to coarse grained, trace silt, wet, no odor
15							15.0 -2.8



REMARKS

Boring completed at 15.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on nearby GP-212.
PID = Photoionization detector readings in parts per million (ppm).

∇ Water level at time of drilling.

(Continued Next Page)

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Bothell, Washington 98021
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CLIENT JELD-WEN, Inc.
PROJECT NAME Former E.A. Nord Door, Inc.
PROJECT NUMBER 108.00228.00059
PROJECT LOCATION 300 West Marine View Drive, Everett, WA

DEPTH (ft)	INTERVAL	TYPE	NAME	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM

WELL COMPLETION DETAILS:

0.0 to 1.5 feet: Concrete.
1.5 to 4.0 feet: Hydrated bentonite chips.
4.0 to 15.0 feet: 10x20 silica sand pack.

0.0 to 5.0 feet: 2"-diameter, flush-threaded Sch. 40 PVC riser.
5.0 to 14.8 feet: 2"-diameter, flush-threaded Sch. 40 PVC 0.010-slotted well screen.
14.8 to 15.0 feet: 2"-diameter, flush-threaded Sch. 40 PVC cap.

REMARKS

Boring completed at 15.0 feet bgs.
Monitoring well installed adjacent to Geoprobe boring with a hollow stem auger. Lithology descriptions based on nearby GP-212.
PID = Photoionization detector readings in parts per million (ppm).

⊻ Water level at time of drilling.

APPENDIX G

QUARTERLY GROUNDWATER MONITORING SUMMARY

Description: Provides analytical summary tables for quarterly groundwater monitoring events conducted between 2015 to 2020 including groundwater elevation measurements, example groundwater flow contours, and laboratory results.

Table AG-1: Groundwater Elevations
Quarterly Groundwater Monitoring Summary Tables

Monitoring Well (TOC Elevation)	Date	Depth to Water (Feet Below TOC)	Groundwater Elevation (Feet Above MSL)
MW-1 (12.55^{A})	9/9/2015	6.11	6.33
	12/11/2015	2.14	10.30
	10/6/2016	6.38	6.06
	1/30/2017	4.35	8.09
	4/25/2017	4.07	8.37
	6/28/2017	5.11	7.33
	10/23/2017	5.72	6.72
	1/15/2018	3.15	9.29
	4/10/2018	3.21	9.34
	7/9/2018	5.61	6.94
	10/24/2018	5.84	6.71
	1/17/2019	3.73	8.82
	4/15/2019	4.30	8.25
	7/30/2019	6.03	6.52
MW-2 (12.64)	9/10/2015	8.91	3.73
	12/11/2015	5.07	7.57
	3/29/2016	5.61	7.03
	10/6/2016	7.00	5.64
	1/30/2017	6.59	6.05
	4/25/2017	7.55	5.09
	6/28/2017	6.41	6.23
	10/23/2017	7.09	5.55
	1/15/2018	6.40	6.24
	4/10/2018	7.17	5.47
	7/9/2018	9.12	3.52
	10/24/2018	6.82	5.82
	1/17/2019	6.25	6.39
	4/15/2019	7.46	5.18
	7/30/2019	9.20	3.44
MW-3 (11.45)	12/11/2015	3.21	8.24
	3/29/2016	3.32	8.13
	10/6/2016	5.57	5.88
	1/30/2017	5.04	6.41
	4/25/2017	5.87	5.58
	6/28/2017	5.00	6.45
	10/23/2017	4.50	6.95
	1/15/2018	5.02	6.43
	4/10/2018	5.79	5.66
	7/9/2018	6.79	4.66
	10/24/2018	7.70	3.75
	1/17/2019	4.98	6.47
	4/15/2019	6.00	5.45
	7/30/2019	6.75	4.70

Table AG-1: Groundwater Elevations
Quarterly Groundwater Monitoring Summary Tables

Monitoring Well (TOC Elevation)	Date	Depth to Water (Feet Below TOC)	Groundwater Elevation (Feet Above MSL)
MW-4 (12.26)	9/9/2015	5.41	6.85
	12/11/2015	3.61	8.65
	3/28/2016	3.98	8.28
	10/6/2016	5.61	6.65
	1/30/2017	4.53	7.73
	4/25/2017	4.28	7.98
	6/28/2017	5.07	7.19
	10/23/2017	5.24	7.02
	1/15/2018	4.00	8.26
	4/10/2018	4.06	8.20
	7/9/2018	5.31	6.95
	10/24/2018	5.73	6.53
	1/17/2019	4.56	7.70
	4/15/2019	4.71	7.55
	7/30/2019	5.71	6.55
MW-5 (11.87)	9/9/2015	4.24	7.63
	12/11/2015	2.31	9.56
	3/29/2016	2.27	9.60
	10/6/2016	4.33	7.54
	1/30/2017	3.32	8.55
	4/25/2017	3.12	8.75
	6/28/2017	3.87	8.00
	10/23/2017	4.04	7.83
	1/15/2018	2.75	9.12
	4/10/2018	2.79	9.08
	7/9/2018	4.07	7.80
	10/24/2018	4.42	7.45
	1/17/2019	3.45	8.42
	4/15/2019	3.55	8.32
	7/30/2019	5.55	6.32
MW-6 (12.31)	9/9/2015	4.78	7.53
	12/11/2015	3.03	9.28
	3/29/2016	3.38	8.93
	10/6/2016	5.22	7.09
	1/30/2017	4.23	8.08
	4/25/2017	4.11	8.20
	6/28/2017	4.49	7.82
	10/23/2017	4.53	7.78
	1/15/2018	3.82	8.49
	4/10/2018	3.63	8.68
	7/9/2018	5.08	7.23
	10/24/2018	5.43	6.88
	1/17/2019	4.46	7.85
	4/15/2019	4.82	7.49
	7/30/2019	5.61	6.70

Table AG-1: Groundwater Elevations
Quarterly Groundwater Monitoring Summary Tables

Monitoring Well (TOC Elevation)	Date	Depth to Water (Feet Below TOC)	Groundwater Elevation (Feet Above MSL)
MW-7 (12.53)	9/9/2015	5.26	7.27
	12/11/2015	1.63	10.90
	3/28/2016	1.72	10.81
	10/6/2016	4.70	7.83
	1/30/2017	3.77	8.76
	4/25/2017	3.20	9.33
	6/28/2017	4.63	7.90
	10/23/2017	3.76	8.77
	1/15/2018	2.55	9.98
	4/10/2018	1.96	10.57
	7/9/2018	5.11	7.42
	10/24/2018	5.68	6.85
	1/17/2019	4.04	8.49
	4/15/2019	4.54	7.99
	7/30/2019	5.55	6.98
MW-8A (11.45)	9/9/2015	3.76	7.69
	12/11/2015	2.00	9.45
	3/28/2016	1.82	9.63
	10/6/2016	4.05	7.40
	1/30/2017	3.05	8.40
	4/25/2017	2.84	8.61
	6/28/2017	3.45	8.00
	10/23/2017	3.93	7.52
	1/15/2018	2.46	8.99
	4/10/2018	2.56	8.89
	7/9/2018	3.69	7.76
	10/24/2018	4.18	7.27
	1/17/2019	3.06	8.39
	4/15/2019	3.34	8.11
	7/30/2019	4.13	7.32
MW-8B (11.48)	9/9/2015	3.98	7.50
	12/11/2015	2.29	9.19
	3/28/2016	1.82	9.66
	10/6/2016	4.12	7.36
	1/30/2017	3.21	8.27
	4/25/2017	2.96	8.52
	6/28/2017	3.51	7.97
	10/23/2017	3.92	7.56
	1/15/2018	2.63	8.85
	4/10/2018	2.38	9.10
	7/9/2018	3.80	7.68
	10/24/2018	4.15	7.33
	1/17/2019	3.10	8.38
	4/15/2019	3.38	8.10
	7/30/2019	4.12	7.36

Table AG-1: Groundwater Elevations
Quarterly Groundwater Monitoring Summary Tables

Monitoring Well (TOC Elevation)	Date	Depth to Water (Feet Below TOC)	Groundwater Elevation (Feet Above MSL)
MW-9A (11.57)	9/10/2015	3.94	7.63
	12/11/2015	1.80	9.77
	3/29/2016	2.04	9.53
	10/6/2016	3.85	7.72
	1/30/2017	2.99	8.58
	4/25/2017	2.80	8.77
	6/28/2017	3.37	8.20
	10/23/2017	3.75	7.82
	1/15/2018	2.20	9.37
	4/10/2018	2.25	9.32
	7/9/2018	3.65	7.92
	10/24/2018	4.03	7.54
	1/17/2019	2.94	8.63
	4/15/2019	3.11	8.46
	7/30/2019	4.01	7.56
MW-9B (11.52)	9/10/2015	3.11	8.41
	12/11/2015	2.09	9.43
	3/29/2016	2.17	9.35
	10/6/2016	3.87	7.65
	1/30/2017	2.95	8.57
	4/25/2017	2.86	8.66
	6/28/2017	3.32	8.20
	10/23/2017	3.71	7.81
	1/15/2018	2.49	9.03
	4/10/2018	2.41	9.11
	7/9/2018	3.62	7.90
	10/24/2018	3.97	7.55
	1/17/2019	2.93	8.59
	4/15/2019	3.24	8.28
	7/30/2019	3.92	7.60
MW-10A (10.71)	9/10/2015	3.24	7.47
	12/11/2015	1.31	9.40
	3/29/2016	1.96	8.75
	10/6/2016	3.13	7.58
	1/30/2017	2.21	8.50
	4/25/2017	2.02	8.69
	6/28/2017	2.57	8.14
	10/23/2017	2.97	7.74
	1/15/2018	1.57	9.14
	4/10/2018	1.51	9.20
	7/9/2018	2.53	8.18
	10/24/2018	3.16	7.55
	1/17/2019	2.11	8.60
	4/15/2019	2.03	8.68
	7/30/2019	3.15	7.56

Table AG-1: Groundwater Elevations
Quarterly Groundwater Monitoring Summary Tables

Monitoring Well (TOC Elevation)	Date	Depth to Water (Feet Below TOC)	Groundwater Elevation (Feet Above MSL)
MW-10B (10.72)	9/10/2015	3.56	7.16
	12/11/2015	1.43	9.29
	3/29/2016	1.98	8.74
	10/6/2016	3.05	7.67
	1/30/2017	2.19	8.53
	4/25/2017	2.04	8.68
	6/28/2017	2.51	8.21
	10/23/2017	2.90	7.82
	1/15/2018	1.74	8.98
	4/10/2018	1.83	8.89
	7/9/2018	2.76	7.96
	10/24/2018	3.10	7.62
	1/17/2019	2.12	8.60
	4/15/2019	2.39	8.33
	7/30/2019	2.09	8.63
MW-11A (11.91)	7/30/2019	4.99	6.92
	7/30/2019	4.48	7.49
MW-12 (29.34)	7/30/2019	21.90	7.44
	2/18/2020	20.73	8.61
MW-13 (28.27)	7/30/2019	20.95	7.32
	2/18/2020	20.03	8.24
MW-14 (26.37)	7/30/2019	18.92	7.45
	2/18/2020	18.20	8.17
MW-15 (11.85)	7/30/2019	5.74	6.11
	7/30/2019	6.85	5.65
MW-17 (12.20)	7/30/2019	6.36	5.84
	2/18/2020	7.35	8.52

Notes

Top of Casing (TOC) elevations surveyed by W&H Pacific in November 2006 and Signature Surveying & Mapping in October 2015 and July 2019

A - MW-1 casing re-surveyed by Signature Surveying & Mapping in April 2018 and May 2019. Revised elevation is presented in column 1 and used to calculate groundwater elevation beginning with April 2018 event.

Table AG-2: Water Quality Parameters
Quarterly Groundwater Monitoring Summary Tables

Sample ID	Sample Date	Temperature (°C)	Conductivity (mS/cm)	TDS (g/L)	TDS (mg/L)	DO (mg/L)	pH	ORP (mV)	Salinity
MW-1	9/9/2015	22.00	0.909	0.591	591	0.18	7.56	-101.2	--
	12/10/2015	13.24	0.721	0.469	469	0.18	11.38	-210.1	--
	6/23/2016	16.66	0.849	0.551	551	0.64	6.99	-163.2	--
	1/30/2017	10.11	0.635	0.412	412	0.2	7.63	-138.7	--
	6/28/2017	17.14	0.932	0.605	605	0.17	6.88	-82.1	--
	1/15/2018	11.83	0.773	0.509	509	0.31	7.51	-182	--
	7/10/2018	17.88	0.138	0.09	90	0.19	7.09	-137.2	--
	1/17/2019	11.71	0.802	0.522	522	0.41	7.53	-184.1	--
	7/31/2019	18.64	0.648	--	--	0.86	7.11	-98.3	0.35
	2/18/2020	11.02	0.763	0.492	492	0.18	7.68	27.6	--
MW-2	9/10/2015	16.59	11.87	7.716	7,716	3.19	7.47	-6.2	--
	12/11/2015	9.08	7.058	4.588	4,588	9.84	11.58	-41.3	--
	3/29/2016	10.15	8.185	5.325	5,325	5.3	6.34	-66	--
	7/30/2019	15.73	8.301	--	--	3.61	7.4	10.3	5.64
MW-3	12/11/2015	12.83	4.444	2.889	2,889	0.24	12.13	-100.7	--
	3/29/2016	11.13	2.256	1.467	1,467	0.46	6.57	-130.9	--
	1/30/2017	10.33	4.567	2.97	2,970	0.22	7.08	-113.5	--
	6/28/2017	16.04	1.448	0.941	941	0.21	6.82	-106	--
	1/15/2018	11.24	1.773	0.152	152	0.64	7.15	-158.2	--
	7/9/2018	16.54	0.358	0.232	232	0.42	7.09	-131.8	--
	1/17/2019	10.20	4.356	2.829	2,829	2.16	7.23	-73	--
	7/31/2019	18.32	1.321	--	--	1.41	6.94	-207.7	0.8
	2/18/2020	10.97	1.139	0.725	725	0.63	7.35	80.2	--
MW-4	9/9/2015	17.69	0.129	0.084	84	0.86	6.94	-60.2	--
	12/10/2015	11.39	0.097	0.064	64	5.51	9.4	-109	--
	3/28/2016	10.03	0.124	0.081	81	7.44	5.52	-26.2	--
	6/23/2016	14.82	0.143	0.093	93	4.33	6.39	-44.4	--
	1/31/2017	8.58	0.101	0.066	66	9.26	6.93	91.6	--
	6/28/2017	15.8	0.137	0.089	89	4.5	6.48	-47.5	--
	1/15/2018	9.40	0.098	0.64	640	11.22	6.76	181.2	--
	7/9/2018	16.07	0.026	0.017	17	4.25	6.65	35	--
	1/17/2019	10.67	0.096	0.062	62	7.37	7.38	31.1	--
	7/30/2019	16.89	0.067	--	--	2.06	6.47	60.5	0.04
MW-5	9/9/2015	20.72	0.848	0.551	551	0.18	6.79	-34.4	--
	12/11/2015	11.28	0.507	0.33	330	0.3	10.75	-30.1	--
	3/29/2016	12.20	1.114	0.724	724	0.44	5.64	-1.3	--
	6/23/2016	14.21	0.947	0.615	615	0.59	7.54	-201.6	--
	10/6/2016	15.24	1.129	0.732	732	0.49	6.99	-1.2	--
	1/31/2017	9.97	0.978	0.635	635	0.27	6.79	-16.6	--
	4/25/2017	11.28	1.087	0.707	707	0.32	6.41	48.2	--
	6/29/2017	13.67	0.899	0.584	584	0.32	9.26	-46.5	--
	10/23/2017	16.23	0.677	0.438	438	1.07	--	29.6	--
	1/15/2018	10.06	1.101	0.715	715	0.61	6.62	41.9	--
	4/10/2018	11.07	0.781	0.509	509	0.47	6.65	38.9	--
	7/9/2018	14.64	0.205	0.133	133	0.58	6.8	-87.9	--
	10/24/2018	14.58	1.178	0.764	764	2.69	6.6	-17.5	--
	1/17/2019	12.70	0.583	0.379	379	0.51	6.63	-102.2	--
	4/15/2019	10.04	0.694	0.451	451	1.18	6.67	-53.9	--
	7/30/2019	15.07	0.633	--	--	0.82	6.73	-139.1	0.37

Table AG-2: Water Quality Parameters
Quarterly Groundwater Monitoring Summary Tables

Sample ID	Sample Date	Temperature (°C)	Conductivity (mS/cm)	TDS (g/L)	TDS (mg/L)	DO (mg/L)	pH	ORP (mV)	Salinity
MW-6	9/9/2015	19.06	33.86	22.01	22,010	0.71	5.71	10.5	--
	12/10/2015	11.31	9.373	6.091	6,091	0.2	9.48	-122.8	--
	3/29/2016	10.30	1.382	0.898	898	0.83	6.31	-40.1	--
	6/23/2016	16.33	8.51	5.531	5,531	0.76	6.09	-44.9	--
	1/31/2017	7.88	4.274	2.774	2,774	0.43	6.53	69.2	--
	6/29/2017	16.76	3.19	2.075	2,075	0.31	5.65	20.5	--
	1/15/2018	9.47	3.814	2.53	2,530	0.54	7.38	-50.2	--
	7/10/2018	16.84	0.551	0.358	358	0.32	5.99	-22.5	--
	1/17/2019	9.42	23.91	15.49	15,490	0.52	6.4	37	--
	7/31/2019	17.29	12.23	--	--	1.6	6.18	77.7	8.56-8.27
	2/19/2020	8.81	14.76	9.529	9,529	0.55	7.05	95.4	--
MW-7	9/9/2015	18.54	0.592	0.385	385	0.29	6.86	-111.3	--
	12/10/2015	8.31	0.183	0.118	118	3.46	8.8	-109.7	--
	3/26/2016	10.27	0.218	0.141	141	0.87	6.14	-62.1	--
	6/24/2016	17.32	0.333	0.217	217	0.48	6.53	-79.2	--
	1/31/2017	5.84	0.301	0.196	196	0.87	6.23	138.2	--
	6/29/2017	17.70	0.242	0.157	157	0.17	6.46	-28.3	--
	1/15/2018	7.81	0.102	0.066	66	9.9	6.42	101.4	--
	7/10/2018	16.76	0.069	0.045	45	0.26	6.33	-74.6	--
	1/17/2019	10.52	0.296	0.193	193	0.4	6.41	-24.6	--
	7/30/2019	19.03	0.271	--	--	1	6.26	38.7	0.15
	2/19/2020	9.01	0.153	0.1	100	7.94	6.83	23.5	--
MW-8A	9/9/2015	17.43	1.697	1.103	1,103	0.26	6.83	-134.2	--
	12/11/2015	12.44	0.968	0.629	629	0.44	12.01	-87.4	--
	3/28/2016	10.87	1.198	0.779	779	1.63	6.38	-95.4	--
	6/24/2016	14.62	1.539	1	1,000	0.54	7.24	-149.9	--
	10/6/2016	15.53	1.535	0.998	998	0.33	9.31	-43.9	--
	1/31/2017	10.99	1.344	0.874	874	0.29	6.64	-92.4	--
	4/25/2017	11.92	1.369	0.89	890	0.26	6.65	-89.3	--
	6/28/2017	13.49	1.509	0.981	981	0.2	5.93	-72.4	--
	10/23/2017	14.91	1.391	0.905	905	0.69	--	-72.1	--
	1/16/2018	11.97	1.189	0.773	773	0.43	6.55	-94.2	--
	4/10/2018	11.45	1.1	0.715	715	0.25	6.66	-117.3	--
	7/9/2018	14.95	0.311	0.202	202	0.44	6.55	-137.4	--
	10/24/2018	15.11	1.359	0.886	886	3.31	6.65	-104.1	--
	1/17/2019	12.95	1.297	0.843	843	0.39	6.71	-111.9	--
	4/15/2019	10.55	1.37	0.891	891	0.89	6.5	-41	--
	7/30/2019	14.87	1.045	--	--	1.65	6.45	-102.3	0.65
	2/19/2020	11.49	0.21	0.787	787	0.39	6.91	19.9	--

Table AG-2: Water Quality Parameters
Quarterly Groundwater Monitoring Summary Tables

Sample ID	Sample Date	Temperature (°C)	Conductivity (mS/cm)	TDS (g/L)	TDS (mg/L)	DO (mg/L)	pH	ORP (mV)	Salinity
MW-8B	9/9/2015	14.97	1.635	1.063	1,063	0.23	8.41	-118.5	--
	12/11/2015	13.15	0.974	0.633	633	0.5	12.01	-61.3	--
	3/26/2016	11.96	1.588	1.032	1,032	0.5	6.64	-113	--
	6/24/2016	14.33	1.011	0.656	656	0.56	7.66	-187.2	--
	10/6/2016	14.67	0.689	0.448	448	0.19	9.89	-43.4	--
	1/31/2017	12.29	0.716	0.465	465	0.35	7.39	-97.8	--
	4/25/2017	13.18	0.988	0.643	643	0.27	7.42	-112.5	--
	6/28/2017	13.78	0.869	0.565	565	0.22	7.24	-90.8	--
	10/23/2017	13.98	0.628	0.401	401	0.48	--	-84.9	--
	1/16/2018	12.65	0.954	0.62	620	0.49	7.79	-175.7	--
	4/10/2018	13.09	1.03	0.67	670	0.25	7.38	-143.8	--
	7/9/2018	14.18	0.185	0.12	120	0.22	7.47	-135.5	--
	10/24/2018	13.92	0.632	0.41	410	0.69	7.54	-74	--
	1/17/2019	13.22	0.833	0.542	542	0.16	8.76	-204.1	--
	4/15/2019	11.60	0.881	0.567	567	0.77	9.25	-125.5	--
MW-9A	9/10/2015	19.61	19.68	12.79	12,790	0.3	6.72	-69.9	--
	12/10/2015	10.66	2.811	1.83	1,830	1.31	9.28	-144.1	--
	3/29/2016	11.44	0.842	0.547	547	0.41	5.8	-36.1	--
	6/24/2016	15.15	10.39	6.743	6,743	0.39	7	-132.9	--
	1/30/2017	8.84	1.152	0.749	749	0.25	6.55	-67.4	--
	6/29/2017	15.81	6.55	4.259	4,259	0.2	5.72	-33.8	--
	1/15/2018	10.69	0.814	0.551	551	0.51	6.43	-55.1	--
	7/10/2018	14.85	0.816	0.532	532	0.3	6.32	-74.6	--
	1/17/2019	10.62	3.46	2.249	2,249	0.41	6.55	-73.2	--
	7/31/2019	15.74	1.674	--	--	1.43	6.58	-141.2	0.37
MW-9B	9/10/2015	15.11	0.515	0.335	335	0.18	7.75	-6.4	--
	12/10/2015	12.07	3.131	2.036	2,036	0.19	10.36	-159.4	--
	3/29/2016	12.64	2.183	1.421	1,421	0.4	6.48	-58.7	--
	6/24/2016	14.05	0.451	0.293	293	0.56	7.61	-143.4	--
	1/30/2017	12.36	0.385	0.25	250	0.22	8.28	-61.2	--
	6/29/2017	14.11	0.408	0.265	265	0.15	10.14	-63.1	--
	1/15/2018	13.17	0.399	0.259	259	0.18	7.96	-124.1	--
	7/10/2018	14.16	0.089	0.058	58	0.13	7.8	-148.8	--
	1/17/2019	12.65	0.371	0.242	242	0.61	7.79	-67.4	--
	7/31/2019	15.33	0.26	--	--	1.81	7.74	-128.4	0.17
	2/18/2020	12.46	0.366	0.238	238	0.28	8.1	64.1	--

Table AG-2: Water Quality Parameters
Quarterly Groundwater Monitoring Summary Tables

Sample ID	Sample Date	Temperature (°C)	Conductivity (mS/cm)	TDS (g/L)	TDS (mg/L)	DO (mg/L)	pH	ORP (mV)	Salinity
MW-10A	9/10/2015	17.83	0.808	0.525	525	0.22	6.72	-75	--
	12/11/2015	10.53	0.291	0.189	189	0.28	11.2	-41.8	--
	3/29/2016	12.40	1.164	0.757	757	0.37	5.88	-47	--
	6/24/2016	14.16	0.7	0.455	455	0.56	7.06	-173	--
	10/6/2016	16.54	0.976	0.634	634	0.3	9.55	-47.4	--
	1/30/2017	10.94	0.96	0.624	624	0.24	6.42	-70.9	--
	4/25/2017	12.33	0.586	0.381	381	0.21	6.43	-68.4	--
	6/28/2017	14.04	1.001	0.651	651	0.26	5.48	-19.9	--
	10/23/2017	16.41	0.866	0.563	563	0.47	--	-40.3	--
	1/15/2018	10.97	0.363	0.236	236	0.35	6.36	-112.1	--
	4/10/2018	12.29	0.112	0.074	74	0.94	6.41	27.6	--
	7/10/2018	14.22	0.178	0.115	115	0.3	6.2	-64.9	--
	10/24/2018	15.42	1.0	0.647	647	2.59	6.19	-59.8	--
	1/17/2019	11.75	0.936	0.609	609	0.51	6.29	-97.5	--
	4/15/2019	10.09	0.732	0.481	481	1.1	6.36	-15.4	--
	7/31/2019	16.28	0.928	--	--	2.57	6.15	-132.1	0.54
	2/18/2020	9.42	0.459	0.297	297	0.68	6.45	49.2	--
MW-10B	9/10/2015	15.31	0.355	0.231	231	0.26	8.02	-28.2	--
	12/11/2015	12.41	0.249	0.163	163	0.11	12.04	-67.1	--
	3/29/2016	13.28	0.316	0.205	205	0.26	5.98	-23.8	--
	6/24/2016	13.69	0.31	0.201	201	0.35	7.3	-131.6	--
	10/6/2016	15.25	0.298	0.193	193	0.38	9.06	16.4	--
	1/30/2017	11.93	0.281	0.183	183	0.24	8.37	-21.2	--
	4/25/2017	12.87	0.307	0.2	200	0.24	7.9	-62.4	--
	6/28/2017	13.75	0.289	0.188	188	0.2	7.32	51	--
	10/23/2017	13.98	0.305	0.198	198	0.27	--	19.8	--
	1/15/2018	12.75	0.304	0.198	198	0.25	8.14	-147.1	--
	4/10/2018	12.96	0.306	0.198	198	0.12	8.11	-96.1	--
	7/10/2018	14.03	0.066	0.043	43	0.44	7.61	-15.1	--
	10/24/2018	14.13	0.306	0.194	194	1.09	7.8	14.4	--
	1/17/2019	12.37	0.295	0.192	192	0.23	8.01	-130.4	--
	4/15/2019	11.31	0.302	0.197	197	0.78	7.95	-102	--

Table AG-2: Water Quality Parameters
Quarterly Groundwater Monitoring Summary Tables

Sample ID	Sample Date	Temperature (°C)	Conductivity (mS/cm)	TDS (g/L)	TDS (mg/L)	DO (mg/L)	pH	ORP (mV)	Salinity
MW-11A	7/30/2019	17.93	0.537	--	--	0.75	6.89	-138.2	0.3
	2/19/2020	10.28	0.64	0.416	416	0.49	7	19.4	--
MW-12	8/1/2019	12.46	1.716	--	--	0.61	11.76	-457.9	1.26
	2/19/2020	10.77	1.848	1.201	1,201	0.53	7.59	28.9	--
MW-13	8/1/2019	12.34	2.64	--	--	0.79	7.86	-267.1	1.84
	2/19/2020	11.16	4.889	3.188	3,188	0.28	8.66	43	--
MW-14	8/1/2019	12.63	4.704	--	--	1.51	7.52	-126	3.32
	2/19/2020	11.64	8.592	5.58	5,580	0.14	7.61	34.1	--
MW-15	7/31/2019	19.26	11.45	--	--	0.96	6.5	-368.1	7.43
MW-16	7/31/2019	18.29	0.599	--	--	1.46	6.98	-191.3	0.38
MW-17	7/30/2019	16.43	0.464	--	--	0.8	6.6	-70	0.28
	2/19/2020	14.16	0.591	0.385	385	0.4	7.08	10.6	--
MW-18	2/18/2020	12.34	1.377	0.895	895	0.24	7.89	70	--
MW-19	2/18/2020	9.43	0.786	0.51	510	0.54	6.19	30.9	--

Notes

MW indicates Monitoring Well

TDS indicates Total Dissolved Solids

mS/cm indicates millisiemens per centimeter

-- indicates no collected measurement

Table AG-3: Total Petroleum Hydrocarbons (TPH)
Quarterly Groundwater Monitoring Summary Tables

Sample Location	Sample Label	Sample Date	Total Petroleum Hydrocarbons [A] (µg/L)					
			TPH-Gx Gasoline Range		TPH-Dx Diesel Range		TPH-Dx Heavy Oil Range	
			Value	Qual	Value	Qual	Value	Qual
SLR Groundwater Monitoring Well Sampling								
MW-1	MW-1-GW	9/9/2015	**45**	J	**301**		**218**	J
	MW-1-1215	12/10/2015	**40**	J	**333**		**386**	
	-- [C]	--	**-**		--		--	
	MW1-062316	6/23/2016	**-**		**267**		**341**	
	MW1-0117	1/30/2017	**-**		**255**		**342**	J
	MW-1-0617	6/28/2017	**-**		**356**		**412**	
	MW-1-0118	1/15/2018	**-**		**153**	J	**146**	J
	MW-1-0718	7/10/2018	**-**		**265**		**369**	
	MW-1-0119	1/17/2019	**-**		**222**		**234**	J
MW-2	MW-2-GW	9/10/2015	**58**	J	<100		<250	
	MW-2-121115	12/11/2015	<100		<100		<250	
	MW2-032916	3/29/2016	-		<100		<250	
	MW-2-0719	7/31/2019	-		<200		**243**	J
MW-3	-- [B]	--	**-**		--		--	
	MW-3-121115	12/11/2015	<100		**87**	J	**85**	J
	MW3-032916	3/29/2016	-		**37**	J	<250	
	-- [D]	--	-		**--**		--	
	MW-3-0117	1/30/2017	-		<250		<500	
	MW-3-0617	6/28/2017	-		**125**	J	**164**	J
	MW-3-0118	1/15/2018	-		**163**	J	**451**	
	MW-3-0718	7/9/2018	-		**132**	J	**123**	J
	MW-3-0119	1/17/2019	-		<200		<250	
MW-4	MW-4-GW	9/9/2015	**44**	J	<100		<250	
	MW-4-1215	12/10/2015	<100		**37**	J	<250	
	MW4-032816	3/28/2016	-		<100		<250	
	MW-4-0617	6/28/2017	-		<200		<250	
	MW-4-0118	1/15/2018	-		**68**	J	**262**	
	MW-4-0718	7/9/2018	-		<200		<250	
	MW-4-0119	1/17/2019	-		**259**		<250	

Table AG-3: Total Petroleum Hydrocarbons (TPH)
Quarterly Groundwater Monitoring Summary Tables

Sample Location	**Sample Label**	**Sample Date**	**Total Petroleum Hydrocarbons [A] (µg/L)**					
			TPH-Gx Gasoline Range		**TPH-Dx Diesel Range**		**TPH-Dx Heavy Oil Range**	
			Value	Qual	Value	Qual	Value	Qual
SLR Groundwater Monitoring Well Sampling								
MW-5	MW-5-GW	9/9/2015	**69**	J	**423**		**173**	J
	MW-5-121115	12/11/2015	**42**	J	**385**		**294**	
	MW5-032816	3/29/2016	**-**		**189**		<250	
	MW5-062316	6/23/2016	**-**		**1,340**		**186**	J
	MW-5-1016	10/6/2016	**-**		**2,380**		**168**	J
	MW-5-0117	1/30/2017	**-**		**848**		**565**	
	MW-5-0417	4/25/2017	**-**		**363**		**310**	
	MW-5-0617	6/29/2017	**-**		**1,860**		**207**	J
	MW-5-1017	10/23/2017	**-**		**1,310**		**519**	
	MW-5-0118	1/15/2018	**-**		**568**		**433**	
	MW-5-0418	4/10/2018	**-**		**435**		**270**	
	MW-5-0718	7/9/2018	**-**		**1,250**		**222**	J
	MW-5-1018	10/24/2018	**-**		**1,340**		**149**	J
	MW-5-0119	1/17/2019	**-**		**1,070**		**280**	
	MW-5-0419	4/15/2019	**-**		**560**		**179**	J
MW-6	MW-6-GW	9/9/2015	**38**	J	<100		<250	
	MW-6-1215	12/10/2015	<100		**62**	J	**93**	J
	MW6-032916	3/29/2016	-		**62**	J	<250	
	MW6-062316	6/23/2016	-		<100		<250	
	MW-6-0117	1/31/2017	-		<250		**173**	J
	MW-6-0617	6/29/2017	-		<200		**87**	J
	MW-6-0118	1/15/2018	-		<200		**95**	J
	MW-6-0718	7/10/2018	-		<200		<250	
	MW-6-0119	1/17/2019	-		<200		<250	
MW-7	MW-7-GW	9/9/2015	**37**	J	**80**	J	<250	
	MW-7-1215	12/10/2015	<100		**69**	J	**88**	J
	MW7-032816	3/28/2816	-		<100		<250	
	MW7-062416	6/24/2016	-		**96**	J	<250	
	MW-7-0117	1/31/2017	-		**96**	J	**180**	J
	MW-7-0617	6/29/2017	-		**217**		**242**	J
	MW-7-0118	1/15/2018	-		<200		**92**	J
	MW-7-0718	7/10/2018	-		<200		**109**	J
	MW-7-0119	1/17/2019	-		**122**	J	**99**	J

Table AG-3: Total Petroleum Hydrocarbons (TPH)
Quarterly Groundwater Monitoring Summary Tables

Sample Location	Sample Label	Sample Date	Total Petroleum Hydrocarbons ^{A} (µg/L)					
			TPH-Gx Gasoline Range		TPH-Dx Diesel Range		TPH-Dx Heavy Oil Range	
			Value	Qual	Value	Qual	Value	Qual
SLR Groundwater Monitoring Well Sampling								
MW-8A	MW-8A-GW	9/9/2015	**2,760**		**31,700**		**2,360**	J
	MW-8A-121115	12/11/2015	**2,090**		**32,100**		<12,500	
	MW8A-032816	3/28/2016	-		**32,000**		**2,650**	J
	MW8A-062416	6/24/2016	-		**12,000**		<1,250	
	MW-8A-1016	10/6/2016	-		**60,300**		**4,890**	J
	MW-8A-0117	1/31/2017	-		**59,200**		**11,200**	
	MW-8A-0417	4/25/2017	-		**43,800**		**7,120**	
	MW-8A-0617	6/28/2017	-		**64,500**		**9,090**	
	MW-8A-1017	10/23/2017	-		**68,900**		<12,500	
	MW-8A-0118	1/16/2018	-		**32,700**		**3,450**	J
	MW-8A-0418	4/10/2018	-		**52,900**		**8,060**	
	MW-8A-0718	7/9/2018	-		**49,900**		**5,060**	
	MW-8A-1018	10/24/2018	-		**119,000**		**22,800**	
	MW-8A-0119	1/17/2019	-		**51,100**		**4,420**	
	MW-8A-0419	4/15/2019	-		**46,900**		**4,660**	J
MW-8B	MW-8B-GW	9/9/2015	**3,160**		**24,100**		<5,000	
	MW-8B-121115	12/11/2015	**2,000**		**131,000**		**20,100**	J
	MW8B-032816	3/28/2016	-		**52,000**		<4,120	
	MW8B-062416	6/24/2016	-		**23,400**		**1,410**	
	MW-8B-1016	10/6/2016	-		**55,700**		<8,250	
	MW-8B-0117	1/31/2017	-		**59,500**		**4,650**	
	MW-8B-0417	4/25/2017	-		**68,000**		**3,520**	
	MW-8B-0617	6/28/2017	-		**95,400**		**14,000**	
	MW-8B-1017	10/23/2017	-		**70,400**		<12,500	
	MW-8B-0118	1/16/2018	-		**38,300**		**2,090**	J
	MW-8B-0418	4/10/2018	-		**68,200**		**2,470**	J
	MW-8B-0718	7/9/2018	-		**225,000**		**50,000**	
	MW-8B-1018	10/24/2018	-		**57,300**		**2,990**	
	MW-8B-0119	1/17/2019	-		**108,000**		**17,100**	
	MW-8B-0419	4/15/2019	-		**52,700**		**6,900**	

Table AG-3: Total Petroleum Hydrocarbons (TPH)
Quarterly Groundwater Monitoring Summary Tables

Sample Location	**Sample Label**	**Sample Date**	**Total Petroleum Hydrocarbons** [A] **(µg/L)**					
			TPH-Gx Gasoline Range		**TPH-Dx Diesel Range**		**TPH-Dx Heavy Oil Range**	
			Value	Qual	Value	Qual	Value	Qual
SLR Groundwater Monitoring Well Sampling								
MW-9A	MW-9A-GW	9/10/2015	**221**		**154**		**92**	J
	MW-9A-1215	12/10/2015	<100		**138**		**157**	J
	MW9A-032916	3/29/2016	-		**44**	J	<250	
	MW9A-062416	6/24/2016	-		**68**	J	<250	
	MW-9A-0117	1/30/2017	-		**106**	J	<500	
	MW-9A-0617	6/29/2017	-		**104**	J	**90**	J
	MW-9A-0118	1/15/2018	-		<200		**94**	J
	MW-9A-0718	7/10/2018	-		**72**	J	**102**	J
	MW-9A-0119	1/17/2019	-		**77**	J	<250	
MW-9B	MW-9B-GW	9/10/2015	**34**	J	<100		<250	
	MW-9B-1215	12/10/2015	<100		<100		<250	
	MW9B-032916	3/29/2016	-		<100		<250	
	MW9B-062416	6/24/2016	-		<100		<250	
	MW-9B-0117	1/30/2017	-		<250		<500	
	MW-9B-0617	6/29/2017	-		<200		<250	
	MW-9B-0118	1/15/2018	-		<200		<250	
	MW-9B-0718	7/10/2018	-		<200		<250	
	MW-9B-0119	1/17/2019	-		<200		<250	
MW-10A	MW-10A-GW	9/10/2015	**2,590**		**14,700**		<5,000	
	MW-10A-121115	12/11/2015	**2,890**		**8,620**		**1,610**	
	MW10A-032916	3/29/2016	-		**9,980**		**1,590**	
	MW10A-062416	6/24/2016	-		**66,900**		**33,200**	
	MW10A-013017	1/30/2017	-		**11,000**		**1,930**	J
	MW10A-0417	4/25/2017	-		**8,820**		**589**	J
	MW-10A-0617	6/28/2017	-		**17,800**		**1,800**	J
	MW-10A-1017	10/23/2017	-		**29,400**		**2,430**	
	MW-10A-0118	1/15/2018	-		**7,970**		**1,850**	
	MW-10A-0418	4/10/2018	-		**14,700**		**3,530**	
	MW-10A-0718	7/10/2018	-		**30,500**		**3,510**	
	MW-10A-1018	10/24/2018	-		**35,200**		**3,790**	
	MW-10A-0119	1/17/2019	-		**16,700**		**2,720**	
	MW-10A-0419	4/15/2019	-		**8,830**		**1,930**	

Table AG-3: Total Petroleum Hydrocarbons (TPH)
Quarterly Groundwater Monitoring Summary Tables

Sample Location	Sample Label	Sample Date	Total Petroleum Hydrocarbons [A] (µg/L)					
			TPH-Gx Gasoline Range		TPH-Dx Diesel Range		TPH-Dx Heavy Oil Range	
			Value	Qual	Value	Qual	Value	Qual
SLR Groundwater Monitoring Well Sampling								
MW-10B	MW-10B-GW	9/10/2015	**300**		**1,410**		<250	
	MW-10B-121115	12/11/2015	**189**		**809**		<250	
	MW10B-032916	3/29/2016	-		**457**		<250	
	MW10B-062416	6/24/2016	-		**518**		**234**	J
	MW-10B-1016	10/6/2016	-		**294**		<165	
	MW-10B-0117	1/30/2017	-		**332**		<500	
	MW-10B-0417	4/25/2017	-		**222**		<250	
	MW-10B-0617	6/28/2017	-		**259**		<250	
	MW-10B-1017	10/23/2017	-		**192**	J	<250	
	MW-10B-0118	1/15/2018	-		**139**	J	<250	
	MW-10B-0418	4/10/2018	-		**140**	J	<250	
	MW-10B-0718	7/10/2018	-		**66**	J	<250	
	MW-10B-1018	10/24/2018	-		**298**		<250	
	MW-10B-0119	1/17/2019	-		**91**	J	<250	
	MW-10B-0419	4/15/2019	-		**76**	J	<250	
MW-11A	MW-11A-0719	7/30/2019	-		**584**		**176**	J
	MW-11A-0220	2/19/2020	-		<200		<250	
MW-17	MW-17-0719	7/30/2019	-		**251**		**119**	J

Notes

Bold indicates detected at or above the practical quantitation limit (PQL)

<2.0 indicates not detected above the laboratory PQL of 2.0 micrograms per liter (µg/L)

A - Total Petroleum Hydrocarbons (TPH) per NWTPH-Gx and NWTPH-Dx methodologies

Laboratory Qualifiers

J - The identification of the analyte is acceptable; the reported value is an estimate.

Table AG-4: Carcinogenic Polynuclear Aromatic Hydrocarbons (cPAHs)
Quarterly Groundwater Monitoring Summary Tables

Sample Location	Sample Label	Sample Date	Polynuclear Aromatic Compounds (PAHs) ^{A} (µg/L)															
			Carcinogenic PAHs														cPAH TEQ ^{B}	
			Benzo(a) anthracene		Benzo(a) pyrene		Benzo(b) fluoranthene		Benzo(k) fluoranthene		Chrysene		Dibenzo(a,h) anthracene		Indeno (1,2,3-cd) pyrene		U = 0	U = 1/2
			Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual		
MW-1	MW-1-GW	9/9/2015	**0.009**	J	<0.05		**0.003**	J	<0.05		<0.05		<0.05		<0.05		**0.001**	**0.034**
	MW-1-1215	12/10/2015	<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		ND	**0.038**
	MW-1-0719	7/31/2019	**0.019**		**0.017**		**0.019**		**0.019**		**0.021**		**0.016**		**0.018**		**0.026**	**0.026**
MW-2	MW-2-GW	9/10/2015	**0.008**	J	<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		**0.001**	**0.036**
	MW-2-121115	12/11/2015	<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		ND	**0.038**
	MW2-032916	3/29/2016	**0.009**	J	<0.05		**0.003**	J	<0.05		<0.05		<0.05		<0.05		**0.001**	**0.034**
	MW-2-0719	7/30/2019	<0.01		<0.01		**0.0008**	J	<0.01		**0.001**	J	<0.01		<0.01		**0.0001**	**0.0071**
MW-3	MW-3-121115	12/11/2015	<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		ND	**0.038**
	MW3-032916	3/29/2016	**0.013**	J	<0.05		**0.005**	J	<0.05		<0.05		<0.05		<0.05		**0.002**	**0.034**
	MW-3-0719	7/31/2019	**0.002**	J	**0.003**	J	**0.003**	J	<0.01		**0.004**	J	<0.01		**0.002**	J	**0.005**	**0.005**
MW-4	MW-4-GW	9/9/2015	**0.008**	J	<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		**0.001**	**0.036**
	MW-4-1215	12/10/2015	**0.005**	J	<0.05		**0.01**	J	<0.05		<0.05		<0.05		<0.05		**0.002**	**0.034**
	MW4-032816	3/28/2016	<0.05		<0.05		**0.002**	J	<0.05		<0.05		<0.05		<0.05		**0.0002**	**0.035**
	MW4-062316	6/23/2016	<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		ND	**0.038**
	MW-4-0719	7/30/2019	**0.001**	J	<0.01		**0.001**	J	<0.01		**0.002**	J	<0.01		<0.01		**0.0002**	**0.007**
MW-5	MW-5-GW	9/9/2015	**0.36**		**0.17**		**0.20**		**0.093**		**1.0**		**0.049**	J	**0.095**		**0.26**	**0.26**
	MW-5-121115	12/11/2015	**0.077**		**0.033**	J	**0.041**	J	**0.0156**	J	**0.054**		**0.012**	J	**0.015**	J	**0.050**	**0.050**
	MW5-032816	3/29/2016	<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		ND	**0.038**
	MW5-062316	6/23/2016	**1.8**		**0.90**		**1.1**		**0.32**		**1.1**		**0.095**	J	**0.26**		**1.3**	**1.3**
	MW5-0117	1/30/2017	**23**		**13**		**17**		**7.0**		**19**		<0.05		**4.8**		**18**	**18**
	MW-5-0617	6/29/2017	**0.60**		**0.18**		**0.29**		**0.070**	B	**0.31**		**0.019**	J,B	**0.058**		**0.29**	**0.29**
	MW-5-0118	1/15/2018	**2.3**		**1.4**		**1.9**		**0.60**		**1.3**		**0.18**		**0.50**		**1.9**	**1.9**
	MW-5-0718	7/9/2018	**1.0**		**0.46**		**0.68**		**0.18**		**0.57**		**0.054**		**0.16**		**0.65**	**0.65**
	MW-5-0119	1/17/2019	**3.4**		**1.9**		**2.6**		**0.72**		**2.3**		**0.22**		**0.74**		**2.7**	**2.7**
MW-6	MW-6-GW	9/9/2015	**0.007**	J	<0.05		**0.002**	J	<0.05		<0.05		<0.05		<0.05		**0.001**	**0.034**
	MW-6-1215	12/10/2015	<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		ND	**0.038**
	MW6-032916	3/29/2016	**0.012**	J	<0.05		**0.006**	J	<0.05		<0.05		<0.05		<0.05		**0.002**	**0.035**
	MW6-062316	6/23/2016	<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		ND	**0.038**
	MW-6-0117	1/31/2017	<0.05		<0.05		**0.008**	J	<0.05		<0.05		<0.05		<0.05		**0.001**	**0.071**
	MW-6-0617	6/29/2017	<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		ND	**0.038**
	MW-6-0118	1/15/2018	<0.095		<0.095		**0.006**	J,B	<0.095		<0.095		<0.095		<0.095		**0.001**	**0.068**
	MW-6-0718	7/10/2018	**0.27**		**0.12**		**0.18**		**0.060**		**0.24**		**0.009**	J	**0.029**		**0.17**	**0.17**
	MW-6-0119	1/17/2019	<0.0041		<0.0116		**0.005**	J,B	<0.0136		<0.0108		<0.00396		<0.0148		**0.001**	**0.008**
	MW-6-0719	7/31/2019	**0.005**	J	**0.005**	J	**0.006**	J	**0.005**	J	**0.006**	J	**0.004**	J	**0.005**	J	**0.008**	**0.008**

Table AG-4: Carcinogenic Polynuclear Aromatic Hydrocarbons (cPAHs)
Quarterly Groundwater Monitoring Summary Tables

Sample Location	Sample Label	Sample Date	Polynuclear Aromatic Compounds (PAHs) ^{A} (µg/L)															
			Carcinogenic PAHs														cPAH TEQ ^{B}	
			Benzo(a) anthracene		Benzo(a) pyrene		Benzo(b) fluoranthene		Benzo(k) fluoranthene		Chrysene		Dibenzo(a,h) anthracene		Indeno (1,2,3-cd) pyrene		U = 0	U = 1/2
			Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual		
MW-7	MW-7-GW	9/9/2015	**0.013**	J	<0.05		**0.003**	J	<0.05		<0.05		<0.05		<0.05		**0.002**	**0.034**
	MW-7-1215	12/10/2015	**0.00999**	J	<0.05		**0.007**	J	<0.05		<0.05		<0.05		<0.05		**0.002**	**0.034**
	MW7-032816	3/28/2016	**0.009**	J	<0.05		**0.004**	J	<0.05		<0.05		<0.05		<0.05		**0.001**	**0.034**
	MW7-062416	6/24/2016	<0.05		<0.05		**0.003**	J,B	<0.05		<0.05		<0.05		<0.05		**0.0003**	**0.036**
	MW-7-0117	1/31/2017	<0.05		<0.05		**0.003**	J	<0.05		<0.05		<0.05		<0.05		**0.0003**	**0.036**
	MW-7-0617	6/29/2017	<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		ND	**0.038**
	MW-7-0118	1/15/2018	<0.05		<0.05		**0.005**	J,B	<0.05		<0.05		<0.05		<0.05		**0.0005**	**0.036**
	MW-7-0718	7/10/2018	**0.047**	J	**0.022**	J	**0.029**	J	<0.05		**0.052**		<0.05		<0.05		**0.03**	**0.04**
	MW-7-0119	1/17/2019	**0.029**	J	**0.014**	J	**0.020**	J,B	<0.0136		**0.019**	J	<0.00394		<0.0148		**0.02**	**0.02**
	MW-7-0719	7/30/2019	**0.001**	J	**<0.01**		**0.001**	J	<0.01		**0.002**	J	<0.01		<0.01		**0.0002**	**0.007**
MW-8A	MW-8A-GW	9/9/2015	**7.9**		**4.9**		**5.4**		**2.1**	J	**9.9**		**0.63**	J	**1.5**	J	**6.7**	**6.7**
	MW-8A-121115	12/11/2015	**6.6**		**4.2**		**5.0**		**2.2**		**6.2**		**0.627**		**1.5**		**5.9**	**5.9**
	MW8A-032816	3/28/2016	**3.0**	**J**	<5.0		**1.7**	**J**	<5.0		**1.9**	**J**	<5.0		<5.0		**0.49**	**3.7**
	MW8A-062416	6/24/2016	**17**		**9.3**		**13**		**5.4**		**14**		**1.0**	J	**2.7**	J	**13**	**13**
	MW-8A-1016	10/6/2016	**8.0**		**6.4**		**7.5**		**3.0**		**10**		**0.956**	J	**2.0**		**8.6**	**8.6**
	MW-8A-0117	1/31/2017	**2,020**		**1,110**		**1,580**		**533**		**1,300**		**21**		**426**		**1,581**	**1,581**
	MW-8A-0417	4/25/2017	**71**		**37**		**54**		**19**		**45**		**6.6**		**14**		**54**	**54**
	MW-8A-0467	6/28/2017	**5.1**		**2.7**		**3.6**		**1.4**		**4.7**		**0.51**		**0.99**		**3.9**	**3.9**
	MW-8A-1017	10/23/2017	**4.3**		**2.2**		**3.1**		**0.87**		**3.1**		<0.1		**0.67**		**3.1**	**3.1**
	MW-8A-0118	1/16/2018	**9.0**		**1.1**		**6.6**		**2.7**		**7.1**		**1.4**		**1.7**		**3.3**	**3.3**
	MW-8A-0418	4/10/2018	**204**		**97**		**147**		**39**		**127**		**20**		**42**		**143**	**143**
	MW-8A-0718	7/9/2018	**11**		**5.4**		**7.5**		**2.8**		**10**		**0.85**		**1.9**		**7.9**	**7.9**
	MW-8A-1018	10/24/2018	**357**		**160**		**243**		**78**		**199**		**23**		**61**		**238**	**238**
	MW-8A-0119	1/17/2019	**28**		**15**		**22**		**5.1**		**18**		**1.8**		**6.3**		**21**	**21**
	MW-8A-0419	4/15/2019	**4.3**		**2.4**		**3.5**		**1.2**		**3.4**		**0.42**		**0.90**		**3.5**	**3.5**
MW-8B	MW-8B-GW	9/9/2015	**7.3**		**3.2**	J	**4.1**	J	**1.6**	J	**5.3**		<5		<5		**4.6**	**5.1**
	MW-8B-121115	12/11/2015	**1,830**		**998**		**1,320**		**463**		**1,460**		**128**		**300**		**1,417**	**1,417**
	MW8B-032816	3/28/2016	**232**		**131**		**202**		**51**		**191**		<1.0		**45**		**186**	**186**
	MW8B-062416	6/24/2016	**3.3**		**2.0**	J	**2.6**		**1.0**	J	**2.3**		<2		<2		**2.7**	**2.9**
	MW-8B-1016	10/6/2016	**13**	J	**9.5**	J	**10**	J	<25		**14**	J	<25		<25		**12**	**16**
	MW-8B-0117	1/31/2017	**24**		**13**		**17**		**6.7**		**19**		<0.1		**5.1**		**18**	**18**
	MW-8B-0417	4/25/2017	**19**		**11**		**13**		**6.5**		**17**		<0.05		**4.5**		**15**	**15**
	MW-8B-0617	6/28/2017	**28**		**15**		**25**		**7.0**		**21**		**2.1**		**5.6**		**22**	**22**
	MW-8B-1017	10/23/2017	**8.6**	J	**5.6**	J	**7.6**	J	**5.0**	J	**7.9**	J	**2.1**	J	<10		**8.0**	**8.5**
	MW-8B-0118	1/16/2018	**16**		**9.0**		**13**		**3.8**		**13**		**1.5**		**3.7**		**13**	**13**
	MW-8B-0418	4/10/2018	**52**		**31**		**44**		**16**		**44**		**6.3**		**13**		**44**	**44**
	MW-8B-0718	7/9/2018	**19**		**10**		**15**		**3.8**		**17**		**1.7**		**3.7**		**14**	**14**
	MW-8B-1018	10/24/2018	**61**		**28**		**43**		**12**		**52**		**3.5**		**9.1**		**41**	**41**
	MW-8B-0119	1/17/2019	**109**		**61**		**80**		**30**		**84**		**7.8**		**23.7**		**87**	**87**
	MW-8B-0419	4/15/2019	**19**		**11**		**17**		**4.2**		**15**		**1.0**		**3.1**		**16**	**16**

Table AG-4: Carcinogenic Polynuclear Aromatic Hydrocarbons (cPAHs)
Quarterly Groundwater Monitoring Summary Tables

Sample Location	**Sample Label**	**Sample Date**	**Polynuclear Aromatic Compounds (PAHs) ^{A} (µg/L)**															
			Carcinogenic PAHs														**cPAH TEQ ^{B}**	
			Benzo(a) anthracene		**Benzo(a) pyrene**		**Benzo(b) fluoranthene**		**Benzo(k) fluoranthene**		**Chrysene**		**Dibenzo(a,h) anthracene**		**Indeno (1,2,3-cd) pyrene**		U = 0	U = 1/2
			Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual		
MW-9A	MW-9A-GW	9/10/2015	**0.040**	J	<0.05		**0.012**	J	<0.05		**0.023**	J	<0.05		<0.05		**0.005**	**0.038**
	MW-9A-1215	12/10/2015	**0.034**	J	**0.024**	J	**0.036**	J	<0.05		**0.043**	J	<0.05		<0.05		**0.031**	**0.038**
	MW9A-032916	3/29/2016	**0.026**	J	**0.0126**	J	**0.020**	J	<0.05		**0.019**	J	<0.05		<0.05		**0.017**	**0.025**
	MW9A-062416	6/24/2016	**0.031**	J,B	<0.05		**0.009**	J,B	<0.05		**0.018**	J	<0.05		<0.05		**0.004**	**0.037**
	MW-9A-0117	1/30/2017	**0.060**		**0.0306**	J	**0.047**	J	**0.0155**	J	**0.061**		<0.05		**0.017**	J	**0.045**	**0.048**
	MW-9A-0617	6/29/2017	**0.032**	J,B	**0.061**	B	**0.011**	J,B	<0.05		**0.020**	J,B	<0.05		<0.05		**0.065**	**0.073**
	MW-9A-0118	1/15/2018	**0.236**		**0.044**	J	**0.069**		**0.0258**	J	**0.147**		**0.005**	J	<0.05		**0.14**	**0.14**
	MW-9A-0718	7/10/2018	**0.039**	J	<0.05		**0.015**	J	<0.05		**0.021**	J	<0.05		<0.05		**0.01**	**0.04**
	MW-9A-0119	1/17/2019	**0.053**		**0.018**	J	**0.025**	J,B	<0.0136		**0.039**	J	<0.00396		<0.0148		**0.03**	**0.03**
	MW-9A-0719	7/31/2019	**0.014**		**0.003**	J	**0.004**	J	<0.01		**0.015**		<0.01		**0.001**	J	**0.005**	**0.006**
MW-9B	MW-9B-GW	9/10/2015	**0.036**	J	**0.018**	J	**0.024**	J	<0.05		**0.032**	J	<0.05		<0.05		**0.026**	**0.028**
	MW-9B-1215	12/10/2015	**0.011**	J	<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		**0.001**	**0.036**
	MW9B-032916	3/29/2016	**0.011**	J	<0.05		**0.004**	J	<0.05		<0.05		<0.05		<0.05		**0.002**	**0.034**
	MW9B-062416	6/24/2016	**0.011**	J,B	<0.05		**0.004**	J,B	<0.05		<0.05		<0.05		<0.05		**0.002**	**0.034**
	MW-9B-0117	1/30/2017	<0.05		<0.05		**0.007**	J	<0.05		**0.012**	J	<0.05		<0.05		**0.001**	**0.036**
	MW-9B-0617	6/29/2017	**0.008**	J,B	<0.05		<0.05		<0.05		<0.05		<0.05		<0.05		**0.001**	**0.036**
	MW-9B-0118	1/15/2018	**0.051**		**0.012**	J	**0.018**	J,B	<0.05		**0.028**	J	**0.005**	J,B	<0.05		**0.020**	**0.025**
	MW-9B-0718	7/10/2018	**0.041**	J	<0.05		**0.019**	J	<0.05		**0.028**	J	<0.05		<0.05		**0.01**	**0.04**
	MW-9B-0119	1/17/2019	**0.023**	J	<0.0116		**0.012**	J,B	<0.0136		**0.013**	J	<0.00396		<0.0148		**0.004**	**0.01**
	MW-9B-0719	7/31/2019	**0.024**		**0.016**		**0.015**		**0.009**	J	**0.024**		**0.003**	J	**0.007**	J	**0.022**	**0.022**
MW-10A	MW-10A-GW	9/10/2015	**11**		**6.8**		**8.5**		**2.6**		**8.1**		**0.87**		**2.2**		**9.4**	**9.4**
	MW-10A-121115	12/11/2015	**37**		**22**		**29**		**8.7**		**26**		**2.4**		**6.4**		**30**	**30**
	MW10A-032916	3/29/2016	**1,060**		**601**		**723**		**296**		**822**		**70**		**181**		**842**	**842**
	MW10A-062416	6/24/2016	**31**		**20**		**26**		**12**		**28**		**1.9**	J	**5.7**		**28**	**28**
	MW10A-0117	1/30/2017	**35**		**14**	J	**26**		**13**	J	**34**		<25		<25		**22**	**25**
	MW-10A-0617	6/28/2017	**11**		**5.2**		**7.9**		**2.5**		**6.9**		**0.66**		**1.9**		**7.7**	**7.7**
	MW-10A-0118	1/15/2018	**28**		**15**		**21**		**6.7**		**20**		**1.8**		**4.7**		**21**	**21**
	MW-10A-0718	7/10/2018	**84**		**45**		**58**		**24**		**62**		**6.1**		**16**		**64**	**64**
	MW-10A-0119	1/17/2019	**1,050**		**531**		**707**		**202**		**756**		**65**		**221**		**763**	**763**

Table AG-4: Carcinogenic Polynuclear Aromatic Hydrocarbons (cPAHs)
Quarterly Groundwater Monitoring Summary Tables

Sample Location	**Sample Label**	**Sample Date**	**Polynuclear Aromatic Compounds (PAHs) ^{A} (µg/L)**															
			Carcinogenic PAHs														**cPAH TEQ ^{B}**	
			Benzo(a) anthracene		**Benzo(a) pyrene**		**Benzo(b) fluoranthene**		**Benzo(k) fluoranthene**		**Chrysene**		**Dibenzo(a,h) anthracene**		**Indeno (1,2,3-cd) pyrene**		U = 0	U = 1/2
			Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual		
MW-10B	MW-10B-GW	9/10/2015	**1.0**		**0.25**		**0.30**		**0.12**		**0.58**		<0.05		**0.055**		**0.40**	**0.41**
	MW-10B-121115	12/11/2015	**0.57**		**0.095**		**0.12**		**0.047**	J	**0.34**		<0.05		**0.021**	J	**0.17**	**0.18**
	MW10B-032916	3/29/2016	**0.58**		**0.090**		**0.13**		**0.0662**		**0.26**		<0.05		**0.028**	J	**0.17**	**0.18**
	MW10B-062416	6/24/2016	**0.63**		**0.056**		**0.10**		**0.0366**	J	**0.25**		<0.05		<0.05		**0.13**	**0.14**
	MW10B-0117	1/30/2017	**1.7**		**0.62**		**0.88**		**0.33**		**1.2**		<0.05		**0.21**		**0.95**	**0.95**
	MW-10B-0617	6/28/2017	**0.66**		**0.090**	B	**0.18**	B	**0.0627**	B	**0.35**		<0.05		**0.023**	J	**0.19**	**0.19**
	MW-10B-0118	1/15/2018	**0.91**		**0.23**		**0.36**		**0.12**		**0.63**		**0.029**	J	**0.073**		**0.39**	**0.39**
	MW-10B-0718	7/10/2018	**0.29**		**0.064**		**0.11**		**0.041**	J	**0.16**		<0.05		**0.017**	J	**0.11**	**0.11**
	MW-10B-0119	1/17/2019	**0.19**		**0.22**		**0.29**		**0.098**		**0.28**		**0.019**	J	**0.086**		**0.29**	**0.29**
MW-11A	MW-11A-0719	7/30/2019	**0.004**	J	**0.004**	J	**0.005**	J	**0.004**	J	**0.005**	J	**0.004**	J	**0.004**	J	**0.006**	**0.006**
MW-13	MW-13-0719	8/1/2019	**0.007**	J	**0.006**	J	**0.006**	J	**0.006**	J	**0.009**	J	**0.005**	J	**0.005**	J	**0.009**	**0.009**
MW-15	MW-15-0719	7/31/2019	<0.01		<0.01		<0.01		<0.01		**0.001**	J	<0.01		<0.01		**0.00001**	**0.008**

Notes
Bold indicates detected at or above the practical quantitation limit (PQL)
<2.0 indicates not detected above the laboratory PQL of 2.0 micrograms per liter (µg/L)
A - Carcinogenic Polynuclear Aromatic Hydrocarbons (cPAHs) EPA 8270-SIM Method (8270-LL method beginning with July 2019)
B - Toxic equivalent quotient (TEQ) values using a value of 0 for non-detect results (U=0) or using a value of 1/2 detection limit for non-detect results (U=1/2)

Laboratory Qualifiers
B - The same analyte is found in the associated blank.
J - The identification of the analyte is acceptable; the reported value is an estimate.

Table AG-5: Volatile Organic Compounds (VOCs)
Quarterly Groundwater Monitoring Summary Tables

Sample Location	**Sample Label**	**Sample Date**	**Volatile Organic Compounds (VOCs)^A (µg/L)**											
			Benzene		**Ethylbenzene**		**Naphthalene**		**Toluene**		**1,2,4-Trimethyl benzene**		**Xylenes**	
			Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
SLR Monitoring Well Sampling Event														
MW-1	MW-1-GW	9/9/2015	<0.50		<0.50		<0.50		<0.50		<0.50		<1.5	
	MW-1-1215	12/10/2015	<1		<1		<5		<5		<1		<3	
MW-2	MW-2-GW	9/10/2015	<0.50		<0.50		<0.50		<0.50		<0.50		<1.5	
	MW-2-121115	12/11/2015	<1		<1		**1.1**	J	<5		<1		<3	
MW-3	--^{B}	--	--		--		--		--		--		--	
	MW-3-121115	12/11/2015	<1		<1		<5		<5		<1		<3	
MW-4	MW-4-GW	9/9/2015	<0.50		<0.50		<0.50		<0.50		<0.50		<1.5	
	MW-4-1215	12/10/2015	<1		<1		<5		<5		<1		<3	
	MW4-062316	6/23/2016	--		--		<0.25		--		--		--	
MW-5	MW-5-GW	9/9/2015	**0.55**		<0.50		**153**		<0.50		**0.71**		<1.5	
	MW-5-121115	12/11/2015	<1		<1		**21**		<5		<1		<3	
	MW5-062316	6/23/2016	<1		--		**300**		--		--		--	
	MW5-0117	1/30/2017	<1		--		**81**		--		--		--	
	MW-5-0617	6/29/2017	**0.20**	J	--		**1,110**	J0	--		--		--	
	MW-5-0118	1/15/2018	**0.61**		--		**47**		--		--		--	
	MW-5-0718	7/9/2018	<0.50		--		**312**		--		--		--	
	MW-5-0119	1/17/2019	<0.50		--		**44**		--		--		--	
MW-6	MW-6-GW	9/9/2015	<0.50		<0.50		<0.50		<0.50		<0.50		<1.5	
	MW-6-1215	12/10/2015	<1		<1		<5		<5		<1		<3	
	MW6-02316	6/23/2016	<1		--		**0.0199**	J	--		--		--	
MW-7	MW-7-GW	9/9/2015	<0.50		<0.50		<0.50		<0.50		<0.50		<1.5	
	MW-7-1215	12/10/2015	<1		<1		<5		<5		<1		<3	
	MW7-062416	6/24/2016	<1		--		**3.82**		--		--		--	
MW-8A	MW-8A-GW	9/9/2015	**36**		**40**		**11,600**		**73**		**38**		**110**	
	MW-8A-121115	12/11/2015	**14**		**28**		**11,700**		**35**		**38**		**81**	
	MW8A-062416	6/24/2016	**43**		--		**11,000**		--		--		--	
	MW-8A-1016	10/6/2016	**62**		--		**10,500**		--		--		--	
	MW-8A-0117	1/31/2017	<250		--		**12,700**		--		--		--	
	MW-8A-0417	4/25/2017	**22**		--		**11,900**		--		--		--	
	MW-8A-0617	6/28/2017	**36**	J	--		**12,900**		--		--		--	
	MW-8A-1017	10/23/2017	**137**		--		**14,000**		--		--		--	
	MW-8A-0118	1/16/2018	<125		--		**14,100**		--		--		--	
	MW-8A-0418	4/10/2018	<125		--		**11,500**		--		--		--	
	MW-8A-0718	7/9/2018	**38**		--		**14,000**		--		--		--	
	MW-8A-1018	10/24/2018	**160**		--		**14,400**		--		--		--	
	MW-8A-0119	1/17/2019	**90**		--		**12,000**		--		--		--	
	MW-8A-0419	4/15/2019	**45**		--		**12,000**		--		--		--	
MW-8B	MW-8B-GW	9/9/2015	**98**		**59**		**11,000**		**154**		**37**		**133**	
	MW-8B-121115	12/11/2015	**125**		**62**		**10,700**		**169**		**30**		**132**	
	MW8B-062416	6/24/2016	**99**		--		**8,650**		--		--		--	
	MW-8B-1016	10/6/2016	**109**		--		**11,900**		--		--		--	
	MW-8B-0117	1/31/2017	**111**		--		**12,600**		--		--		--	
	MW-8B-0417	4/25/2017	**99**		--		**10,100**	J0	--		--		--	
	MW-8B-0617	6/28/2017	**107**		--		**12,400**	J0	--		--		--	
	MW-8B-1017	10/23/2017	**119**		--		**13,700**		--		--		--	
	MW-8B-0118	1/16/2018	**101**	J	--		**13,100**		--		--		--	
	MW-8B-0418	4/10/2018	**116**	J	--		**11,800**		--		--		--	
	MW-8B-0718	7/9/2018	**113**		--		**14,900**		--		--		--	
	MW-8B-1018	10/24/2018	**109**		--		**15,900**		--		--		--	
	MW-8B-0119	1/17/2019	**123**		--		**12,800**		--		--		--	
	MW-8B-0419	4/15/2019	**119**		--		**12,900**		--		--		--	
MW-9A	MW-9A-GW	9/10/2015	<0.50		<0.50		**4.5**		<0.50		**0.36**	J	<1.5	
	MW-9A-1215	12/10/2015	<1		<1		<5		<5		<1		<3	
	MW9A-062416	6/24/2016	<1		--		**0.079**	J	--		--		--	

Table AG-5: Volatile Organic Compounds (VOCs)
Quarterly Groundwater Monitoring Summary Tables

Sample Location	Sample Label	Sample Date	Volatile Organic Compounds (VOCs) ^{A} (µg/L)											
			Benzene		Ethylbenzene		Naphthalene		Toluene		1,2,4-Trimethyl benzene		Xylenes	
			Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
MW-9B	MW-9B-GW	9/10/2015	<0.50		<0.50		**0.81**		<0.50		<0.50		<1.5	
	MW-9B-1215	12/10/2015	<1		<1		<5		<5		<1		<3	
	MW9B-062416	6/24/2016	<1		--		**0.071**	J	--		--		--	
MW-10A	MW-10A-GW	9/10/2015	**50**		**88**		**8,030**		**126**		**38**		**140**	
	MW-10A-121115	12/11/2015	**1.9**	J	**15**		**2,590**		**9**	J	**13**		**24**	
	MW10A-062416	6/24/2016	**18**		--		**5,730**		--		--		--	
	MW10A-0117	1/30/2017	**11**		--		**3,800**		--		--		--	
	MW10A-0617	6/28/2017	**25**		--		**5,530**	J0	--		--		--	
	MW10A-0118	1/15/2018	**3.9**	J			**3,240**		--		--		--	
	MW10A-0718	7/10/2018	**69**				**8,480**		--		--		--	
	MW10A-0119	1/17/2019	**13**				**9,990**		--		--		--	
MW-10B	MW-10B-GW	9/10/2015	<0.50		**1.6**		**548**		**1.3**		**2.8**		**3.3**	
	MW-10B-121115	12/11/2015	<1		<1		**137**		<5		**0.52**	J	<3	
	MW10B-062416	6/24/2016	<1		--		**17**		--		--		--	
	MW10B-0117	1/30/2017	<1		--		**315**		--		--		--	
	MW10B-0617	6/28/2017	<12.5		--		**1,880**	J0	--		--		--	
	MW10B-0118	1/15/2018	<0.50		--		**12**		--		--		--	
	MW10B-0718	7/10/2018	<0.50		--		**142**		--		--		--	
	MW10B-0119	1/17/2019	<0.50		--		**3.4**		--		--		--	

Notes:
-- indicates Not Sampled or Not Analyzed for specific constituent
BOLD = Analytes detected at or above the practical quantitation limit (PQL)
<50 indicates not detected above the laboratory PQL of 50 µg/L (micrograms per Liter)
A - Select Volatile Organic Compounds (VOCs) per EPA Method 8260C
B - Monitoring Well MW-3 was not located during September 2015 sampling event

Laboratory Qualifiers
J - (EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J0 - Calibration verification outside of acceptance limits. Result is estimated.

Table AG-6: Polychlorinated Biphenyls (PCBs)
Quarterly Groundwater Monitoring Summary Tables

Lab Sample ID			L1124839-01		L1124839-02		L1124839-03		L1124839-04		L1124839-05		L1124839-06		L1124839-07		L1124839-08		L1124839-09		L1124839-10		L1124839-11		L1124839-12	
Field Sample ID			MW-1-0719		MW-2-0719		MW-3-0719		MW-4-0719		MW-5-0719		MW-6-0719		MW-7-0719		MW-8A-0719		MW-9A-0719		MW-10A-0719		MW-11A-0719		MW-12-0719	
Date Collected			7/31/2019		7/31/2019		7/31/2019		7/31/2019		07/30/2019		07/31/2019		07/30/2019		07/30/2019		07/31/2019		07/31/2019		07/30/2019		08/01/2019	
Method	Analyte	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Polychlorinated Biphenyls (PCBs)																										
1668A	Total PCBs ^{B}	pg/L	***150***	*J*	**116**	*J*	**784**	*J*	**186**	*J*	**126**	*J*	**115**	*J*	**388**	*J*	**826**	*J*	**195**	*J*	**3,520**	*J*	**176**	*J*	**5,270**	
1668A	TEQ: ND=0	pg/L	ND		ND		ND		ND		ND		ND		ND		**2.5**		***0.0003***		**1.1**		ND		**0.18**	
1668A	TEQ: ND=1/2DL	pg/L	**0.099**		**0.095**		**0.12**		**0.13**		**0.14**		**0.14**		**0.17**		**2.5**		**0.16**		**1.1**		**0.104**		**0.18**	

Lab Sample ID			L1124839-13		L1124839-14		L1096002-08		L1096002-06		L1124839-15	
Field Sample ID			MW-13-0719		MW-14-0719		MW-15-0719		MW-16-0719		MW-17-0719	
Date Collected			08/01/2019		08/01/2019		7/31/2019		7/31/2019		07/30/2019	
Method	Analyte	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Polychlorinated Biphenyls (PCBs)												
1668A	Total PCBs ^{B}	pg/L	**5,980**		**10,200**		**222**	*J*	**238**	*J*	**181**	*J*
1668A	TEQ: ND=0	pg/L	**0.15**		**0.16**		ND		ND		ND	
1668A	TEQ: ND=1/2DL	pg/L	**0.15**		**0.16**		**0.17**		**0.096**		**0.067**	

Notes

Bold indicates detected at or above the practical quantitation limit (PQL)

<2.0 indicates not detected above the laboratory PQL of 2.0 picograms per liter (pg/L)

A - Preliminary Cleanup Levels (PCLs) developed in June 2016 (revised April 2019, as applicable)

B - Total PCBs is sum of 209 PCB Congeners

Laboratory Qualifiers

J - The reported result is an estimate.

Table AG-7: Metals
Quarterly Groundwater Monitoring Summary Tables

Sample Location	Sample Label	Sample Date	Metals ^{A} (ug/L)																									
			Antimony		Arsenic		Beryllium		Cadmium		Chromium ^{B}		Copper		Lead		Nickel		Selenium		Silver		Thallium		Zinc		Mercury	
			Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
SLR Monitoring Well Sampling Event																												
MW-1	MW-1-0719	7/31/2019	<2.0		**3.0**		<2.0		<1.0		<2.0		**0.85**	J	**0.98**	J	<2.0		<2.0		<2.0		<2.0		**3.1**	J	<0.20	
MW-2	MW-2-0719	7/30/2019	<2.0		**2.3**		<2.0		<1.0		**0.78**	J	**0.89**	J	<2.0		**0.57**	J	<2.0		<2.0		<2.0		<25		<0.20	
MW-3	MW-3-0719	7/31/2019	<2.0		<2.0		<2.0		<1.0		**1.1**	J	<5.0		<2.0		<2.0		<2.0		<2.0		<2.0		<25		<0.20	
MW-4	MW-4-0719	7/30/2019	<2.0		**0.82**	J	<2.0		<1.0		<2.0		**0.62**	J	<2.0		**1.2**	J	**0.42**	J	<2.0		<2.0		<25		<0.20	
MW-5	MW-5-0719	7/30/2019	<2.0		**0.29**	J	<2.0		<1.0		**13**		**2.5**	J	<2.0		**0.84**	J	<2.0		<2.0		<2.0		<25		<0.20	
MW-6	MW-6-0719	7/31/2019	<2.0		**2.5**		<2.0		<1.0		<2.0		**0.65**	J	**0.48**	J	**78**		<2.0		<2.0		<2.0		**20**	J	<0.20	
	MW-6-0220	2/19/2020	<10		<10		<2.0		<2.0		<10		<10		**5.16**		**43**		<10		<5		**7.86**	**J**	<50		<0.20	
	MW-6-0220 ^{d}	2/19/2020	<10		<10		<2.0		**0.776**	J	<10		**11**		<5		**44**		<10		<5		<10		**10**	J	<0.20	
MW-7	MW-7-0719	7/30/2019	<2.0		**14**		<2.0		<1.0		**0.79**	J	**0.70**	J	<2.0		**6.6**		<2.0		<2.0		<2.0		**7.3**	J	<0.20	
	MW-7-0220	2/19/2020	<10		<10		<2.0		<2.0		<10		<10		**3.92**	J	**5.7**	J	<10		<5		<10		**6.6**	J	<0.20	
	MW-7-0220 ^{d}	2/19/2020	<10		<10		<2.0		<2.0		<10		**11**		<5		**4.9**	J	<10		<5		<10		**10.6**	J	<0.20	
MW-8A	MW-8A-0719	7/30/2019	**5.6**		**14**		<2.0		<1.0		**9.7**		**2.2**	J	**0.61**	J	**2.4**		**0.39**	J	<2.0		<2.0		<25		<0.20	
MW-9A	MW-9A-0719	7/31/2019	<2.0		**0.25**	J	<2.0		<1.0		**5.0**		**0.98**	J	<2.0		<2.0		<2.0		<2.0		<2.0		<25		<0.20	
MW-10A	MW-10A-0719	7/31/2019	<2.0		**5.0**		<2.0		<1.0		**3.5**		**5.4**		**0.76**	J	**1.8**	J	<2.0		<2.0		<2.0		**4.8**	J	<0.20	
MW-11A	MW-11A-0519	5/3/2019	<2.0		**6.0**	J6	<2.0		<1.0		**21**	J6 O1	**6.3**	B O1	**1.0**	J	**4.2**		**0.49**	J	<2.0		<2.0		**6.9**	B J O1	<0.20	
	MW-11A-0719	7/30/2019	<2.0		**4.6**		<2.0		<1.0		**22**		**2.9**	J	**0.36**	J	**1.1**	J	<2.0		<2.0		<2.0		<25		<0.20	
MW-12	MW-12-0519	5/3/2019	**6.6**		**19**		<2.0		<1.0		4.8		**7.3**	B	**11**		**7.7**		<2.0		<2.0		<2.0		**28**	B	<0.20	
	MW-12-0719	8/1/2019	**0.9**	J	**2.9**		<2.0		<1.0		<2.0		<5.0		<2.0		**2.3**		<2.0		<2.0		<2.0		<25		**0.12**	J
MW-13	MW-13-0519	5/3/2019	**2.1**		**4.4**		<2.0		<1.0		**2.5**		**46**		**24**		**3.0**		**0.68**	B J	<2.0		<2.0		**20**	B J	**0.066**	J
	MW-13-0719	8/1/2019	<2.0		**0.81**	J	<2.0		<1.0		**1.2**	J	**1.1**	J	**0.92**	J	**0.45**	J	<2.0		<2.0		<2.0		<25		<0.20	
MW-14	MW-14-0519	5/3/2019	<2.0		**17**		<2.0		<1.0		**3.6**		**7.4**	B	**2.1**		**2.9**		**0.41**	B J	<2.0		<2.0		**9.3**	B J	<0.20	
	MW-14-0719	8/1/2019	<2.0		**4.0**		<2.0		<1.0		**1.0**	J	**1.0**	J	**0.59**	J	**1.0**	J	<2.0		<2.0		<2.0		<25		<0.20	
MW-15	MW-15-0519	5/3/2019	<2.0		**0.59**		<2.0		<1.0		**1.3**		**1.2**		<2.0		<2.0		<2.0		<2.0		<2.0		<25		<0.2	
MW-16	MW-16-0519	5/3/2019	<2.0		**3.0**		<2.0		<1.0		**1.2**		**3.5**		**1.8**		**1.3**		<2.0		<2.0		<2.0		**4.0**		<0.2	
MW-17	MW-17-0519	5/3/2019	<2.0		**44**		<2.0		<1.0		**6.4**		**2.3**	B J	**0.91**	J	**2.1**		**0.39**	B J	<2.0		<2.0		**3.8**	B J	<0.20	
	MW-17-0719	7/30/2019	<2.0		**77**		<2.0		<1.0		<2.0		<5.0		<2.0		<2.0		<2.0		<2.0		<2.0		<25		<0.20	

Notes

Bold indicates detected at or above the practical quantitation limit (PQL)

<2.0 indicates not detected above the laboratory PQL of 2.0 micrograms per liter (µg/L)

A - Metals per EPA 6020B/7470A Methods

B - Chromium results and PCL are for Total Chromium

d - Analyzed for dissolved metals

Laboratory Qualifiers

B - The same analyte is found in the associated blank.

J - The identification of the analyte is acceptable; the reported value is an estimate.

J6 - The sample matrix interfered with the ability to make any accurate determination; spike value is low.

O1 - The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.

Table AG-8: Dioxin/Furan
Quarterly Groundwater Monitoring Summary Tables

Sample Location	Sample Label	Sample Date	Dioxins and Furans (pg/L) [A]																																			
			2,3,7,8-Tetra CDD		1,2,3,7,8-Penta CDD		1,2,3,4,7,8-Hexa CDD		1,2,3,6,7,8-Hexa CDD		1,2,3,7,8,9-Hexa CDD		1,2,3,4,6,7,8-Hepta CDD		Octa CDD		2,3,7,8-Tetra CDF D		1,2,3,7,8-Penta CDF		2,3,4,7,8-Penta CDF		1,2,3,4,7,8-Hexa CDF		1,2,3,6,7,8-Hexa CDF		2,3,4,6,7,8-Hexa CDF		1,2,3,7,8,9-Hexa CDF		1,2,3,4,6,7,8-Hepta CDF		1,2,3,4,7,8,9-Hepta CDF		Octa CDF		U = 0 [B]	U = 0.5 [B]
			Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Value
SLR Monitoring Well Sampling Event																																						
MW-1	MW-1-0719	7/31/2009	<3.68		<3.38		<4.92		<5.22		<5.16		<6.57		*<38.7*	J,B	<2.68		<2.77		<2.82		<4.96		<4.95		<5.08		<5.3		<7.48		<7.72		*<4.38*	J,B	*ND*	**6.03**
MW-4	MW-4-0719	7/30/2019	<5.33		<5.66		<7.56		<7.61		<7.92		<6.33		*<40.9*	J,B	<3.45		<4.1		<4.46		<5.16		<5.4		<5.59		<6.06		<7.75		<6.68		*<10.8*	J,B	*ND*	**8.78**
MW-6	MW6-1215	12/10/2015	<1.28		<1.74		<1.51		<1.52		<1.57		<2.52		**23**	J	<1.39		<1.03		<1.07		<0.922		<0.958		<1.07		<1.42		<1.34		<2.04		<6.59		**0.007**	**2.24**
	MW6-062316	6/23/2016	<0.80		<0.82		<1.1		<1.1		<1.1		<1.6		<1.7		<0.60		<0.88		<0.86		<0.65		<0.65		<0.66		<0.79		<1.1		<1.5		<1.3		ND	**1.31**
	MW-6-0117	1/31/2017	<1.1		<2.0		<1.3		<1.32		<1.4		<1.49		**8.9**	J	<1.11		<0.88		<0.90		<0.71		<0.72		<0.77		<1.0		<0.60		<0.80		<2.7		**0.003**	**2.13**
	MW-6-0617	6/29/2017	<2.1		<1.9		<2.1		<2.1		<2.0		<1.5		<4.2		<1.4		<1.0		<1.1		<1.3		<1.3		<1.3		<1.5		<0.92		<0.90		<4.3		ND	**2.48**
	MW-6-0118	1/15/2018	<1.6		<0.90		<0.69		<0.74		<0.70		<0.63		<3.9		<1.1		<0.57		<0.55		<0.51		<0.54		<0.57		<0.57		<0.37		<0.41		<1.6		ND	**1.47**
	MW-6-0718	7/10/2018	<2.1		<2.46		<1.99		<2.17		<2.04		<1.16		**9.30**	EMPC,J	<2.16		<1.4		<1.28		<1.5		<1.51		<1.5		<1.69		<1.07		<1.03		<2.88		**0.009**	**2.77**
	MW-6-0119	1/17/2019	<1.73		<1.91		<1.59		<1.58		<1.48		**2.78**	J, B	<4.15		<1.34		<1.05		<1.02		<1.58		<1.53		<1.48		<1.55		<0.755		<0.964		<2.43		**0.028**	**2.27**
MW-7	MW7-1215	12/10/2015	<2.17		<2.87		**3.6**	EMPC,J	**20**		**7.7**	EMPC,J	**566**		**4,830**		<2.23		<1.73		<1.9		**3.3**	J	**2.6**	J	**3.9**	J	<2.83		**73**		<3.77		**182**		**12**	**15**
	MW7-062416	6/24/2016	<1.2		<1.1		<1.4		<1.4		<1.4		**7.6**		**66**		<0.51		<0.98		<0.95		<1.1		<1.1		<1.1		<1.4		<0.81	1	<0.96		<2.0	1	**0.10**	**1.88**
	MW-7-0117	1/31/2017	<4.77		<5.85		<4.0		<4.05		<4.23		**37**		**261**	EMPC	<3.61		<3.95		<3.7		<2.61		<2.41		<2.64		<3.27		<2.7		<3.27		<10.7		**0.45**	**7.74**
	MW-7-0617	6/29/2017	<1.9		<1.6		<1.5		<1.6		<1.5		**13**	J,B	**104**		<1.3		<1.4		<1.5		<0.96		<0.97		<0.96		<1.1		<1.3		<1.2		<3.5		**0.23**	**2.47**
	MW-7-0118	1/15/2018	<1.6		<1.6		<1.4		<1.3		<1.3		**80**		**665**		<1.3		<1.3		<1.3		<0.68		<0.71		<0.75		<0.81		**11**	J	<0.58		**16**	EMPC,J	**1.59**	**3.53**
	MW-7-0718	7/10/2018	<3.17		<2.66		<1.49		<1.68		<1.56		**17.3**	J	**149**		<2.09		<1.33		<1.15		<1.25		<1.38		<1.29		<1.51		**2.88**	J	<1.01		**8.3**	J	**0.36**	**3.55**
	MW-7-0119	1/17/2019	<1.63		<1.64		<1.78		<1.85		<1.62		**43.3**		**353**		<1.18		<0.99		<0.96		<1.46		<1.45		<1.43		<1.39		**6.52**	J	<0.884		**13.8**	J	**0.87**	**2.97**
MW-8A	MW8A-062416	6/24/2016	<0.84		<1.2		<1.4		1.2		<1.1		**2.1**		**8.1**		<1.1		<1.2		<1.2		<1.2		<1.0		<1.2		<1.4		<1.6	1	<1.4		**3.4**		**0.024**	**1.74**
	MW-8A-0617	6/28/2017	<1.2		<2.2		<2.2		<1.8		3.82	EMPC,J	**5.7**	J,B	**33**	EMPC,J	<1.8		<2.1		<1.9		<1.3		<1.5		<2.0		<1.5		**2.5**	J	1.78	EMPC,J	<2.3		**0.082**	**2.69**
	MW-8A-0718	7/9/2018	<3.86		<4.45		<2.54		<2.36		<2.8		<2.47		**36**	J	<3.35		<2.15		<2.13		<1.6		<1.61		<1.89		<2.13		<1.12		<1.2		**6.29**		**0.036**	**4.61**
MW-9A	MW9A-1215	12/10/2015	<2.09		<3.31		<2.72		<2.83		<2.62		**5.7**	EMPC,J	**29**		<2.1		<1.44		<1.51		<1.74		<1.85		<1.81		<2.51		**1.6**	EMPC,J	<3.54		<9.78		**0.081**	**3.95**
	MW9A-062416	6/24/2016	<0.97		<1.4		<1.2		<1.2		<1.2		<1.2		**3.8**		<0.48		<1.0		<0.98		<0.72		<0.72		<0.73		<0.87		<1.2		<1.5		<1.1		**0.001**	**1.72**
	MW-9A-0617	6/29/2017	<1.4		<1.5		<1.4		<1.4		<1.3		<1.3		<5.6		<0.94		<1.2		<1.2		<0.92		<0.86		<0.90		<1.0		<0.93		<0.93		<3.4		ND	**1.83**
	MW-9A-0718	7/10/2018	<1.99		<1.41		<1.33		<1.44		<1.37		2.3	J	<2.39		<1.16		<0.919		<0.842		<0.785		<0.753		<0.813		<0.975		<0.764		<0.888		<2.04		**0.023**	**2.05**
MW-15	MW-15-0719	7/31/2019	<5.11		<4.51		<6.8		<6.07		<6.73		<7.93		*<30.3*	J,B	<4.2		<2.91		<3.53		<4.06		<3.86		<4.71		<4.71		<4.94		<4.35		<5		*ND*	**7.53**
MW-16	MW-16-0719	7/31/2019	<5.01		<5.31		<4.9		<5.28		<4.88		<7.36		*<28.1*	J,B	<3.63		<3.48		<3.4		<4.24		<4.01		<4.06		<4.43		<4.86		<4.6		<4.6		*ND*	**7.59**

Notes

Bold indicates detected at or above the practical quantitation limit (PQL)

<2.0 indicates not detected above the laboratory PQL of 2.0 micrograms per liter (µg/L)

Values in italics indicate presented value different than lab report following Level IV Data Validations

A - Dioxins and Furans per EPA 1613 Method

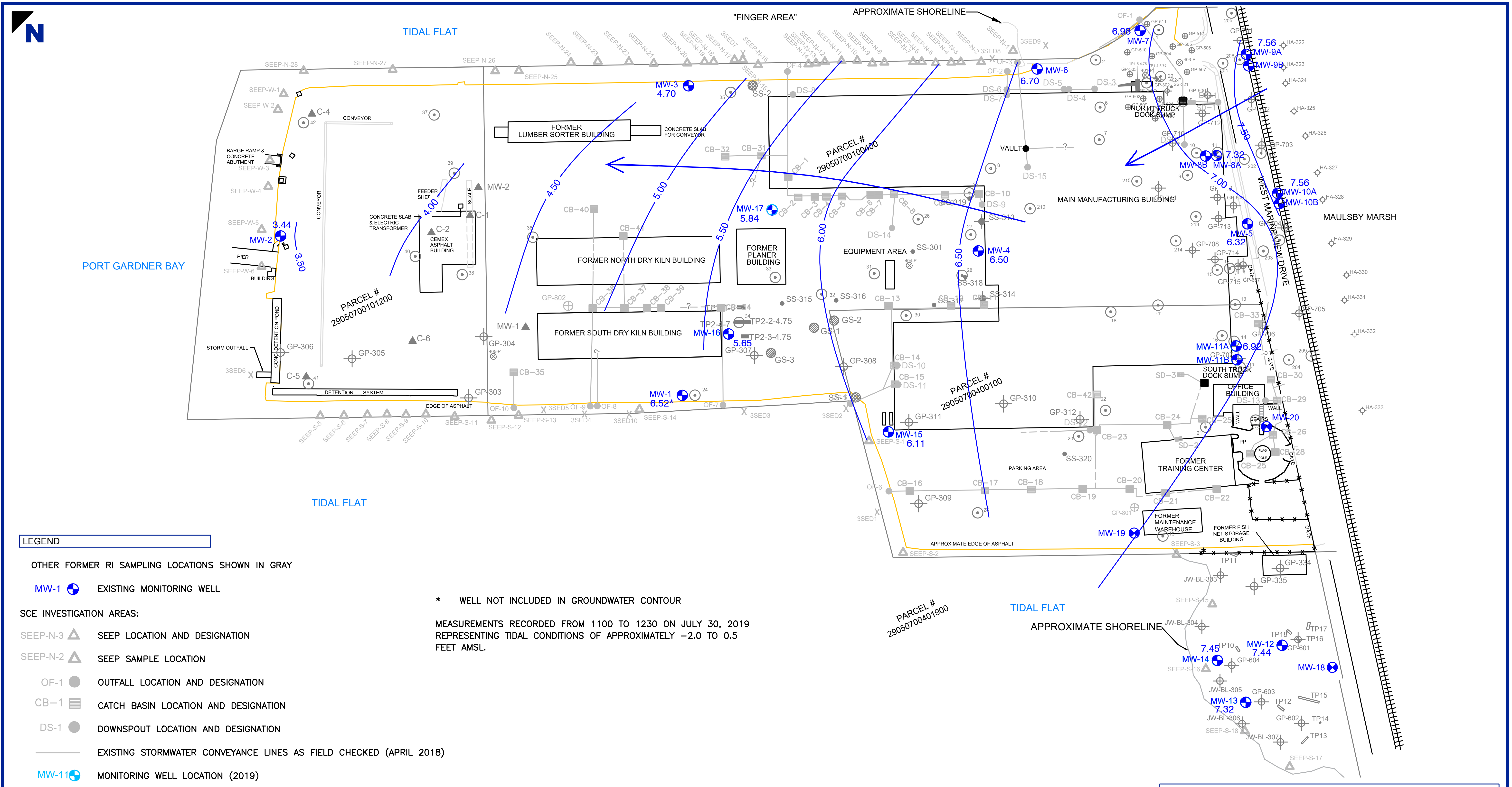
B - Toxic equivalent quotient (TEQ) values using a value of 0 for non-detect results (U=0) or using a value of 1/2 detection limit for non-detect results (U=1/2)

Laboratory Qualifiers

EMPC - Represents an Estimated Maximum Possible Concentration. EMPC's arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined io-abundance ratio is outside the allowed theoretical range), or where thise is a co-eluting interference

J - Indicates that the analyte has a concentration below the reporting limit (lowest point of calibration curve)

B - The analyte was found in the method blank, at a concentration that was at least 10% of the concentration of the sample.



LEGEND

OTHER FORMER RI SAMPLING LOCATIONS SHOWN IN GRAY

MW-1	EXISTING MONITORING WELL

SCE INVESTIGATION AREAS:

SEEP-N-3 △	SEEP LOCATION AND DESIGNATION
SEEP-N-2 △	SEEP SAMPLE LOCATION
OF-1 ●	OUTFALL LOCATION AND DESIGNATION
CB-1 ▨	CATCH BASIN LOCATION AND DESIGNATION
DS-1 ●	DOWNSPOUT LOCATION AND DESIGNATION
―	EXISTING STORMWATER CONVEYANCE LINES AS FIELD CHECKED (APRIL 2018)
MW-11	MONITORING WELL LOCATION (2019)
#.#	GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
―	ESTIMATED GROUNDWATER CONTOUR
→	ESTIMATED GROUNDWATER FLOW DIRECTION

* WELL NOT INCLUDED IN GROUNDWATER CONTOUR

MEASUREMENTS RECORDED FROM 1100 TO 1230 ON JULY 30, 2019 REPRESENTING TIDAL CONDITIONS OF APPROXIMATELY –2.0 TO 0.5 FEET AMSL.

NOTES

THE BUILDINGS, SURFACE UTILITIES, EDGE OF PAVEMENT, AND APPROXIMATE SHORELINE SHOWN ON THIS MAP ARE BASED ON A 2006 SURVEY PERFORMED BY WH PACIFIC.

SLR

FORMER E.A. NORD SITE
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report
2020 REVISED RI/FS REPORT (APPENDIX G)

Drawing
EXAMPLE ESTIMATED GROUNDWATER FLOW AND GRADIENT IN SHALLOW ZONE

Date May 2019	Scale AS SHOWN	Fig. No. AG-1
File Name SW_SITE PLAN_NORD_2	Project No. 108.00228.00059	

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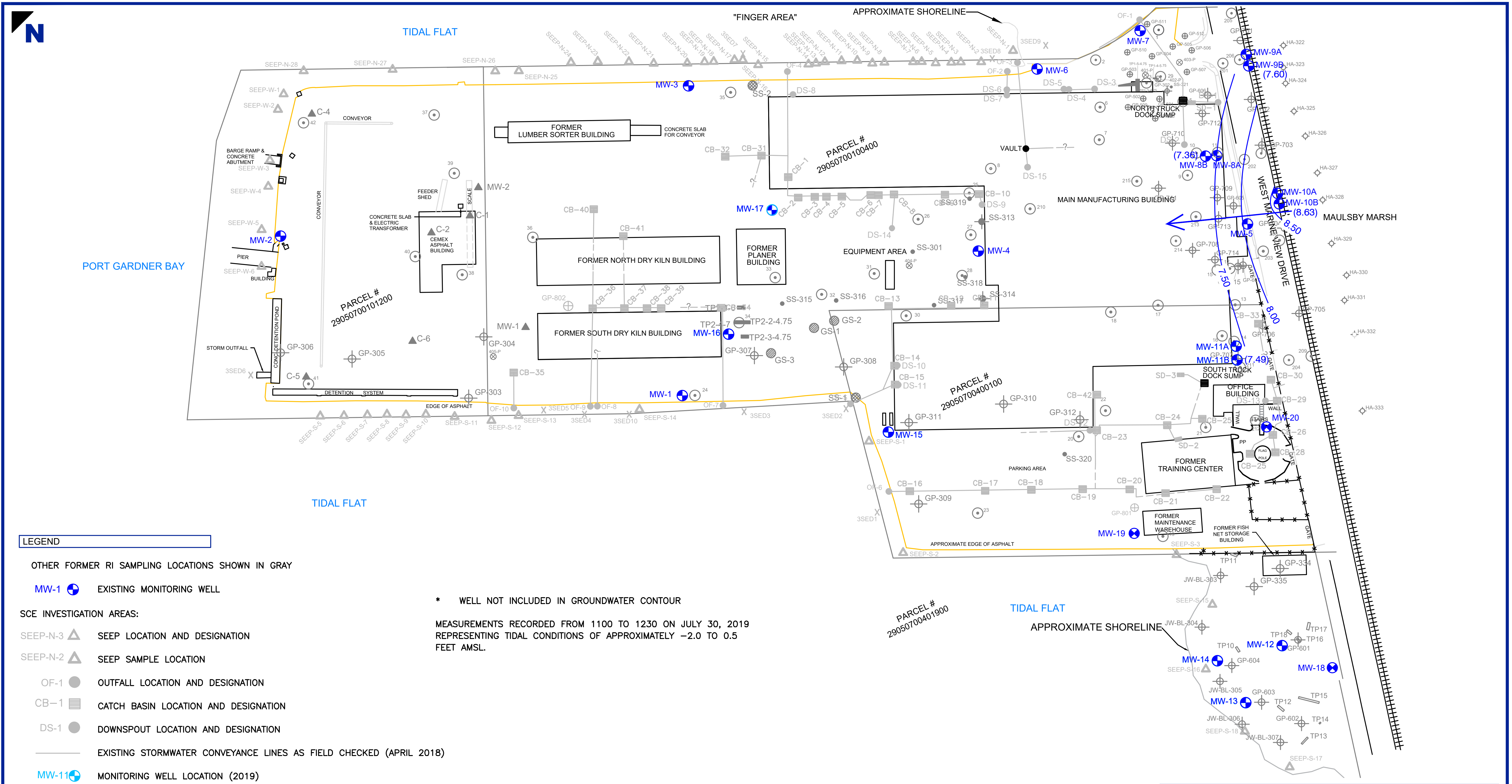

LEGEND

OTHER FORMER RI SAMPLING LOCATIONS SHOWN IN GRAY

MW-1 ⊕ EXISTING MONITORING WELL

SCE INVESTIGATION AREAS:

SEEP-N-3 △ SEEP LOCATION AND DESIGNATION

SEEP-N-2 △ SEEP SAMPLE LOCATION

OF-1 ● OUTFALL LOCATION AND DESIGNATION

CB-1 ▨ CATCH BASIN LOCATION AND DESIGNATION

DS-1 ● DOWNSPOUT LOCATION AND DESIGNATION

—— EXISTING STORMWATER CONVEYANCE LINES AS FIELD CHECKED (APRIL 2018)

MW-11 ⊕ MONITORING WELL LOCATION (2019)

#.# GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)

—— ESTIMATED GROUNDWATER CONTOUR

→ ESTIMATED GROUNDWATER FLOW DIRECTION

* WELL NOT INCLUDED IN GROUNDWATER CONTOUR

MEASUREMENTS RECORDED FROM 1100 TO 1230 ON JULY 30, 2019 REPRESENTING TIDAL CONDITIONS OF APPROXIMATELY −2.0 TO 0.5 FEET AMSL.

NOTES

THE BUILDINGS, SURFACE UTILITIES, EDGE OF PAVEMENT, AND APPROXIMATE SHORELINE SHOWN ON THIS MAP ARE BASED ON A 2006 SURVEY PERFORMED BY WH PACIFIC.

0 175 350 525'

SLR

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FORMER E.A. NORD SITE
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report
2020 REVISED RI/FS REPORT (APPENDIX G)

Drawing
EXAMPLE ESTIMATED GROUNDWATER FLOW AND GRADIENT IN SHALLOW ZONE

Date May 2019	Scale AS SHOWN	Fig. No. AG-2
File Name SW_SITE PLAN_NORD_2	Project No. 108.00228.00059	

APPENDIX H

DATA TABLES AND SPME RESULTS

(TABLES 1 THROUGH 4; SURFACE, SUBSURFACE CHEM, SIEVING, TISSUE)

Description: Provides tabulated summaries of all marine data collected as part of the RI, and the SPME Results Memorandum.

Table H-1
Surface Sediment Results

Task					Baywood	Baywood	Baywood	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					BW-03	BW-03	BW-11	FS2757-3SED1	FS2757-3SED1	FS2757-3SED1	FS2757-3SED1	FS2757-3SED10
Sample ID					BW-03-SS-090602	BW-53-SS-090602	BW-11-SS-090602	3SED1-A	3SED1-B	3SED1-C	3SED2-A	3SED10-A
Sample Date					6/2/2009	6/2/2009	6/2/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1303268	1303268	1303114	-122.213139	-122.213139	-122.213139	-122.213139	-122.214142
Y					373754	373754	374189	48.014366	48.014366	48.014366	48.014366	48.015575
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII								
Conventional Parameters (pct)												
Total organic carbon					**1.19**	**1.61**	**1.52**	**2.2**	**3.06**	**2.3**	**2.12**	**0.713**
Moisture, percent					--	--	--	--	--	--	--	--
Total Solids					**47.9**	**48.1**	**44.9**	**56.5**	**55.5**	**56.5**	**81.4**	**86.2**
Total solids (preserved)					**43.5**	**44.7**	**41.5**	**61.6**	**57.5**	**51.3**	**81.4**	**85.4**
Total volatile solids					**7.1**	**7.16**	**8.73**	**6.34**	**6.14**	**5.72**	**2.09**	**1.69**
Conventional Parameters (mg/kg)												
Ammonia as nitrogen					**5.88**	**6.2**	**13.6**	**5.03**	**8.48**	**8.15**	**1.44**	**0.5**
Black carbon					--	--	--	--	--	--	--	--
Sulfide					**606000**	**1740000**	**1360000**	**54.3**	**48.8**	**7.77**	**492**	1.16 U
Grain Size (pct)												
Cobbles					--	--	--	--	--	--	--	--
Gravel					0.1 U	**0.2**	**0.5**	**14.8**	**5.7**	**15.5**	**41**	**50.1**
Sand					--	--	--	--	--	--	--	--
Sand, very coarse					**1.4**	**1.6**	**1.4**	**5.7**	**4.3**	**4.3**	**8.4**	**7**
Sand, coarse					**1.2**	**1**	**1.4**	**7.3**	**5.2**	**5.9**	**16.6**	**14.8**
Sand, medium					**1.1**	**0.7**	**1.4**	**11.4**	**6.4**	**8.2**	**21.3**	**16.6**
Sand, fine					**0.7**	**0.5**	**1.3**	**5.9**	**4.5**	**4.9**	**7.4**	**6.3**
Sand, very fine					**1**	**0.9**	**2.8**	**3.3**	**3.6**	**4.1**	**1.5**	**1.1**
Silt					--	--	--	--	--	--	--	--
Silt, coarse					**6.5**	**12.7**	**21**	**8.7**	**11.7**	**10**	**0.2**	**1.7**
Silt, medium					**26.8**	**22.3**	**22.8**	**13.4**	**20.3**	**17**	**0.7**	**0.5**
Silt, fine					**26.3**	**25.9**	**21.3**	**12**	**14.9**	**12.2**	**1**	**0.6**
Silt, very fine					**14.8**	**15.2**	**12.5**	**9.9**	**8.2**	**6**	**0.6**	**0.5**
Total fines (Reported, not calculated)					--	--	--	--	--	--	**3.8**	--
Clay					--	--	--	--	--	--	--	--
Clay, coarse					**7.3**	**6.4**	**5**	**0.1**	**4.7**	**3.4**	**0.4**	**0.4**
Clay, medium					**5.6**	**5**	**3.2**	**3.1**	**4.2**	**3.4**	**0.4**	**0.2**
Clay, fine					**7.4**	**7.7**	**5.6**	**4.5**	**6.4**	**5.1**	**0.5**	**0.3**
Metals (mg/kg)												
Antimony					10 UJ	10 UJ	10 UJ	--	--	--	--	--
Arsenic	57	93	57	93	**20**	**20**	**20**	**16**	**16**	**15**	**9**	**13**
Cadmium	5.1	6.7	5.1	6.7	0.4 U	0.4 U	0.4 U	0.3 U	0.3 U	0.4 U	0.2 U	0.2 U
Chromium	260	270	260	270	**63**	**69**	**61**	**41.2**	**46.5**	**41.8**	**28.4**	**28.5**
Copper	390	390	390	390	**67.9**	**72.6**	**65.7**	**43.7**	**48.1**	**46.8**	**18.4**	**20.5**
Lead	450	530	450	530	**12**	**13**	**11**	**10**	**11**	**10**	**6**	**9**
Mercury	0.41	0.59	0.41	0.59	**0.1**	**0.1**	**0.11**	**0.08**	**0.09**	**0.08**	0.02 U	0.03 U
Nickel					**51**	**56**	**51**	--	--	--	--	--
Silver	6.1	6.1	6.1	6.1	0.6 U	0.6 U	0.7 U	0.5 U	0.5 U	0.5 U	0.4 U	0.3 U
Zinc	410	960	410	960	**94 J**	**104 J**	**88 J**	**74**	**80**	**73**	**45**	**46**
Volatile Organics (mg/kg-OC)												
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			0.08319 U	0.06025 U	0.06447 U	--	--	--	--	--
Volatile Organics (µg/kg)												
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	0.99 U	0.97 U	0.98 U	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					**Baywood**	**Baywood**	**Baywood**	**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenAODE5095**
Location ID					**BW-03**	**BW-03**	**BW-11**	**FS2757-3SED1**	**FS2757-3SED1**	**FS2757-3SED1**	**FS2757-3SED1**	**FS2757-3SED10**
Sample ID					**BW-03-SS-090602**	**BW-53-SS-090602**	**BW-11-SS-090602**	**3SED1-A**	**3SED1-B**	**3SED1-C**	**3SED2-A**	**3SED10-A**
Sample Date					**6/2/2009**	**6/2/2009**	**6/2/2009**	**6/3/2009**	**6/3/2009**	**6/3/2009**	**6/3/2009**	**6/5/2009**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**FD**	**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1303268**	**1303268**	**1303114**	**-122.213139**	**-122.213139**	**-122.213139**	**-122.213139**	**-122.214142**
Y					**373754**	**373754**	**374189**	**48.014366**	**48.014366**	**48.014366**	**48.014366**	**48.015575**
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**								
Semivolatile Organics (mg/kg-OC)												
1,2,4-Trichlorobenzene	0.81	1.8			0.5126 U	0.3789 U	0.3947 U	0.818 U	0.588 U	0.783 U	0.849 U	0.8555 U
1,2-Dichlorobenzene	2.3	2.3			0.5126 U	0.3789 U	0.3947 U	0.818 U	0.588 U	0.783 U	0.849 U	0.8555 U
1,4-Dichlorobenzene	3.1	9			0.5126 U	0.3789 U	0.3947 U	0.818 U	0.588 U	0.783 U	0.849 U	0.8555 U
bis(2-Ethylhexyl)phthalate	47	78			**2.689**	**1.366**	**2.237**	**2.545 J**	**2.908**	**4**	**6.132**	**2.525 J**
Butylbenzyl phthalate	4.9	64			1.261 U	0.932 U	**2.171 J**	2.091 U	1.471 U	**3.739**	2.17 U	2.104 U
Diethyl phthalate	61	110			1.681 U	1.18 U	1.316 U	2.682 U	1.928 U	2.87 U	2.736 U	2.665 U
Dimethyl phthalate	53	53			1.681 U	1.18 U	1.316 U	2.682 U	1.928 U	2.87 U	2.736 U	2.665 U
Di-n-butyl phthalate	220	1700			1.681 U	1.18 U	1.316 U	2.682 U	1.928 U	2.87 U	2.736 U	2.665 U
Di-n-octyl phthalate	58	4500			1.681 U	1.18 U	1.316 U	2.682 U	1.928 U	2.87 U	2.736 U	2.665 U
Hexachlorobenzene	0.38	2.3			0.08319 U	0.06025 U	**0.0658**	0.818 U	0.588 U	0.783 U	0.849 U	0.8555 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	0.818 U	0.588 U	0.783 U	0.849 U	0.8555 U
n-Nitrosodiphenylamine	11	11			0.5126 U	0.3789 U	0.3947 U	0.818 U	0.588 U	0.783 U	0.849 U	0.8555 U
Semivolatile Organics (µg/kg)												
1,2,4-Trichlorobenzene			31	51	6.1 U	6.1 U	6 U	18 U	18 U	18 U	18 U	6.1 U
1,2-Dichlorobenzene			35	50	6.1 U	6.1 U	6 U	18 U	18 U	18 U	18 U	6.1 U
1,3-Dichlorobenzene					20 U	19 U	20 U	18 U	18 U	18 U	18 U	6.1 U
1,4-Dichlorobenzene			110	110	6.1 U	6.1 U	6 U	18 U	18 U	18 U	18 U	6.1 U
2,4-Dimethylphenol	29	29	29	29	6.1 UJ	6.1 UJ	6 UJ	18 U	18 U	18 U	18 U	6.1 U
2-Methylphenol (o-Cresol)	63	63	63	63	6.1 U	6.1 U	6 U	18 U	18 U	18 U	18 U	6.1 U
4-Methylphenol (p-Cresol)	670	670	670	670	20 U	19 U	**18 J**	59 U	59 U	66 U	58 U	19 U
Benzoic acid	650	650	650	650	200 U	190 U	200 U	590 U	590 U	660 U	580 U	190 U
Benzyl alcohol	57	73	57	73	31 UJ	30 UJ	30 UJ	59 U	59 U	66 U	58 U	19 U
bis(2-Ethylhexyl)phthalate			1300	1900	**32**	**22**	**34**	**56 J**	**89**	**92**	**130**	**18 J**
Butylbenzyl phthalate			63	900	15 U	15 U	**33 J**	46 U	45 U	**86**	46 U	15 U
Diethyl phthalate			200	1200	20 U	19 U	20 U	59 U	59 U	66 U	58 U	19 U
Dimethyl phthalate			71	160	20 U	19 U	20 U	59 U	59 U	66 U	58 U	19 U
Di-n-butyl phthalate			1400	1400	20 U	19 U	20 U	59 U	59 U	66 U	58 U	19 U
Di-n-octyl phthalate			6200	6200	20 U	19 U	20 U	59 U	59 U	66 U	58 U	19 U
Hexachlorobenzene			22	70	0.99 U	0.97 U	**1**	18 U	18 U	18 U	18 U	6.1 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	18 U	18 U	18 U	18 U	6.1 U
Hexachloroethane					--	--	--	59 U	59 U	66 U	58 U	19 U
n-Nitrosodiphenylamine			28	40	6.1 U	6.1 U	6 U	18 U	18 U	18 U	18 U	6.1 U
Pentachlorophenol	360	690	360	690	31 U	30 U	30 U	92 U	90 U	90 U	92 U	30 U
Phenol	420	1200	420	1200	20 U	19 U	20 U	59 U	59 U	66 U	58 U	19 U
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)												
2-Methylnaphthalene	38	64			1.681 U	1.18 U	1.316 U	2.682 U	1.928 U	2.87 U	2.736 U	**4.488**
Acenaphthene	16	57			1.681 U	1.18 U	1.316 U	2.682 U	1.928 U	2.87 U	2.736 U	**18.233**
Acenaphthylene	66	66			1.681 U	1.18 U	1.316 U	2.682 U	1.928 U	2.87 U	2.736 U	**4.348**
Anthracene	220	1200			**1.008 J**	**0.683 J**	**0.987 J**	2.682 U	1.928 U	2.87 U	**2.5 J**	**8.555**
Benzo(a)anthracene	110	270			**2.185**	**1.491**	**3.158 J**	2.682 U	**1.013 J**	**1.739 J**	2.736 U	**18.233**
Benzo(a)pyrene	99	210			**1.933**	**1.118 J**	**1.842**	2.682 U	**1.013 J**	**2.348 J**	2.736 U	**10.799**
Benzo(g,h,i)perylene	31	78			1.681 UJ	1.18 UJ	1.316 UJ	2.682 U	**1.013 J**	**1.565 J**	2.736 U	**2.945**
Chrysene	110	460			**4.706**	**3.602**	**7.237 J**	**1.636 J**	**1.765 J**	**3.348**	**1.934 J**	**42.076**

Table H-1
Surface Sediment Results

Task					Baywood	Baywood	Baywood	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					BW-03	BW-03	BW-11	FS2757-3SED1	FS2757-3SED1	FS2757-3SED1	FS2757-3SED1	FS2757-3SED10
Sample ID					BW-03-SS-090602	BW-53-SS-090602	BW-11-SS-090602	3SED1-A	3SED1-B	3SED1-C	3SED2-A	3SED10-A
Sample Date					6/2/2009	6/2/2009	6/2/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1303268	1303268	1303114	-122.213139	-122.213139	-122.213139	-122.213139	-122.214142
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	373754	373754	374189	48.014366	48.014366	48.014366	48.014366	48.015575
Analyte												
Dibenzo(a,h)anthracene	12	33			0.5126 UJ	0.3789 UJ	0.3947 UJ	0.818 U	0.588 U	0.783 U	0.849 U	0.8555 U
Dibenzofuran	15	58			1.681 U	1.18 U	1.316 U	2.682 U	1.928 U	2.87 U	2.736 U	**28.05**
Fluoranthene	160	1200			**7.395**	**4.099**	**11.842**	2.682 U	**2.418**	**3.13**	**1.981 J**	**182.328**
Fluorene	23	79			1.681 U	1.18 U	1.316 U	2.682 U	1.928 U	2.87 U	2.736 U	**32.258**
Indeno(1,2,3-c,d)pyrene	34	88			1.681 U	1.18 U	1.316 U	2.682 U	1.928 U	2.87 U	2.736 U	**2.945**
Naphthalene	99	170			1.681 U	1.18 U	1.316 U	2.682 U	1.928 U	2.87 U	2.736 U	**2.945**
Phenanthrene	100	480			**1.681**	**0.932 J**	**1.842**	2.682 U	**1.078 J**	2.87 U	2.736 U	**252.454**
Pyrene	1000	1400			**4.034**	**2.236**	**4.276 J**	2.682 U	**1.732 J**	**2.261 J**	**2.783**	**154.278**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					**2.955462 J**	**1.79441 J**	**2.993421 J**	**3.85273 J**	**1.56667 J**	**3.29435 J**	**3.93443 J**	**19.314165**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					**2.845798 J**	**1.71646 J**	**2.907895 J**	**1.93455 J**	**1.44085 J**	**3.11174 J**	**1.97689 J**	**19.271388**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					**2.736134 J**	**1.638509 J**	**2.822368 J**	**0.01636 J**	**1.31503 J**	**2.92913 J**	**0.01934 J**	**19.228612**
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			**5.378 J**	**3.354 J**	**5.921 J**	2.682 U	**1.83 J**	**3.739 J**	2.736 U	**58.906**
Total HPAH (SMS) (U = 0)	960	5300			**25.6303 J**	**15.9006 J**	**34.2763 J**	**1.636 J**	**10.784 J**	**18.13 J**	**6.698 J**	**472.5105**
Total LPAH (SMS) (U = 0)	370	780			**2.689 J**	**1.615 J**	**2.829 J**	2.682 U	**1.078 J**	2.87 U	**2.5 J**	**318.794**
Polycyclic Aromatic Hydrocarbons (µg/kg)												
1-Methylnaphthalene					20 U	19 U	20 U	59 U	59 U	66 U	58 U	**30**
2-Methylnaphthalene			670	670	20 U	19 U	20 U	59 U	59 U	66 U	58 U	**32**
Acenaphthene			500	500	20 U	19 U	20 U	59 U	59 U	66 U	58 U	**130**
Acenaphthylene			1300	1300	20 U	19 U	20 U	59 U	59 U	66 U	58 U	**31**
Anthracene			960	960	**12 J**	**11 J**	**15 J**	59 U	59 U	66 U	**53 J**	**61**
Benzo(a)anthracene			1300	1600	**26**	**24**	**48 J**	59 U	**31 J**	**40 J**	58 U	**130**
Benzo(a)pyrene			1600	1600	**23**	**18 J**	**28**	59 U	**31 J**	**54 J**	58 U	**77**
Benzo(b)fluoranthene					**32 J**	**27 J**	**45 J**	59 U	**28 J**	**43 J**	58 U	**210**
Benzo(g,h,i)perylene			670	720	20 UJ	19 UJ	20 UJ	59 U	**31 J**	**36 J**	58 U	**21**
Benzo(k)fluoranthene					**32 J**	**27 J**	**45 J**	59 U	**28 J**	**43 J**	58 U	**210**
Chrysene			1400	2800	**56**	**58**	**110 J**	**36 J**	**54 J**	**77**	**41 J**	**300**
Dibenzo(a,h)anthracene			230	230	6.1 UJ	6.1 UJ	6 UJ	18 U	18 U	18 U	18 U	6.1 U
Dibenzofuran			540	540	20 U	19 U	20 U	59 U	59 U	66 U	58 U	**200**
Fluoranthene			1700	2500	**88**	**66**	**180**	59 U	**74**	**72**	**42 J**	**1300**
Fluorene			540	540	20 U	19 U	20 U	59 U	59 U	66 U	58 U	**230**
Indeno(1,2,3-c,d)pyrene			600	690	20 U	19 U	20 U	59 U	59 U	66 U	58 U	**21**
Naphthalene			2100	2100	20 U	19 U	20 U	59 U	59 U	66 U	58 U	**21**
Phenanthrene			1500	1500	**20**	**15 J**	**28**	59 U	**33 J**	66 U	58 U	**1800**
Pyrene			2600	3300	**48**	**36**	**65 J**	59 U	**53 J**	**52 J**	**59**	**1100**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					**35.17 J**	**28.89 J**	**45.5 J**	**84.76 J**	**47.94 J**	**75.77 J**	**83.41 J**	**137.71**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					**33.865 J**	**27.635 J**	**44.2 J**	**42.56 J**	**44.09 J**	**71.57 J**	**41.91 J**	**137.405**
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	**64 J**	**54 J**	**90 J**	59 U	**56 J**	**86 J**	58 U	**420**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					**32.56 J**	**26.38 J**	**42.9 J**	**0.36 J**	**40.24 J**	**67.37 J**	**0.41 J**	**137.1**
Total HPAH (SMS) (U = 0)			12000	17000	**305 J**	**256 J**	**521 J**	**36 J**	**330 J**	**417 J**	**142 J**	**3369**
Total LPAH (SMS) (U = 0)			5200	5200	**32 J**	**26 J**	**43 J**	59 U	**33 J**	66 U	**53 J**	**2273**
Dioxin Furans (ng/kg)												
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					**0.312 J**	**0.183 J**	**0.223 J**	**0.496**	0.499 U	**0.476**	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					**1.07 J**	**0.684 J**	**0.801 J**	**1.82**	**1.97**	**1.56**	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**1.49 J**	**1.56 J**	**1.38 J**	**2.73**	**3.32**	**3**	--	--

Table H-1

Surface Sediment Results

Task					Baywood	Baywood	Baywood	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					BW-03	BW-03	BW-11	FS2757-3SED1	FS2757-3SED1	FS2757-3SED1	FS2757-3SED1	FS2757-3SED10
Sample ID					BW-03-SS-090602	BW-53-SS-090602	BW-11-SS-090602	3SED1-A	3SED1-B	3SED1-C	3SED2-A	3SED10-A
Sample Date					6/2/2009	6/2/2009	6/2/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1303268	1303268	1303114	-122.213139	-122.213139	-122.213139	-122.213139	-122.214142
Y					373754	373754	374189	48.014366	48.014366	48.014366	48.014366	48.015575
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII								
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					8.2	6.76	5.08	30.7	29.4	23.2	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					3.78	2.86	2.82	9.93	11.4	9.04	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					130	93.5	89.8	738	620	583	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					1160	734	731	5050	5130	5030	--	--
Total Tetrachlorodibenzo-p-dioxin (TCDD)					12.6 J	11.8 J	22.8 J	--	--	--	--	--
Total Pentachlorodibenzo-p-dioxin (PeCDD)					13.7 J	10.9 J	21.6 J	--	--	--	--	--
Total Hexachlorodibenzo-p-dioxin (HxCDD)					67.9 J	54.2 J	57.2	--	--	--	--	--
Total Heptachlorodibenzo-p-dioxin (HpCDD)					300	218	272	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					1.22	1.03	1.16	2.79	2.87	2.56	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					0.474 J	0.408 J	0.402 J	2.76	2.19	1.94	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					1.05 J	0.824 J	0.928 J	3.56	3.09	2.65	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					1.26 J	0.86 J	0.821 J	10.6	8.35	7.82	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					1.09 J	0.778 J	0.693 J	4.31	3.66	3.25	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					0.336 J	0.357 J	0.275 J	0.38	0.363 U	0.297	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					1.76 J	1.31 J	1.12 J	2.91	2.91	2.87	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					27.9	17.3	12.2	109	91.2 U	87.8	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					1.43 J	0.952 J	0.763 J	8.24	6.9	6.44	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					64.8	35.6	33.3	328	249	215	--	--
Total Tetrachlorodibenzofuran (TCDF)					14.7 J	11.3 J	13.3 J	--	--	--	--	--
Total Pentachlorodibenzofuran (PeCDF)					14.5 J	8.99 J	9.3 J	--	--	--	--	--
Total Hexachlorodibenzofuran (HxCDF)					37.3 J	26.2 J	19.5 J	--	--	--	--	--
Total Heptachlorodibenzofuran (HpCDF)					90.3 J	52 J	37.9	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					5.22428 J	3.87688 J	4.14076 J	14.6467	13.9152	12.1996	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					3.84688 J	2.91058 J	2.92186 J	10.413	10.0022	8.882	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					5.58556 J	4.02634 J	3.90628 J	20.0676	18.4837	16.4388	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					5.22428 J	3.87688 J	4.14076 J	14.6467	13.19155	12.1996	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					3.84688 J	2.91058 J	2.92186 J	10.413	9.27855	8.882	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					5.58556 J	4.02634 J	3.90628 J	20.0676	17.76005	16.4388	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					5.22428 J	3.87688 J	4.14076 J	14.6467	12.4679	12.1996	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					3.84688 J	2.91058 J	2.92186 J	10.413	8.5549	8.882	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					5.58556 J	4.02634 J	3.90628 J	20.0676	17.0364	16.4388	--	--
PCB Aroclors (mg/kg-OC)												
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			0.8235 U	0.6087 U	0.6447 U	0.3409	0.4804	0.3609	0.184 U	0.547 U
PCB Aroclors (µg/kg)												
Aroclor 1016					9.8 U	9.8 U	9.8 U	3.9 U	3.9 U	4 U	3.9 U	3.9 U
Aroclor 1221					9.8 U	9.8 U	9.8 U	3.9 U	3.9 U	4 U	3.9 U	3.9 U
Aroclor 1232					9.8 U	9.8 U	9.8 U	3.9 U	3.9 U	4 U	3.9 U	3.9 U
Aroclor 1242					9.8 U	9.8 U	9.8 U	3.9 U	3.9 U	4 U	3.9 U	3.9 U
Aroclor 1248					9.8 U	9.8 U	9.8 U	3.9 U	3.9 U	4 U	3.9 U	3.9 U
Aroclor 1254					9.8 U	9.8 U	9.8 U	7.5	9.4	8.3	3.9 U	3.9 U
Aroclor 1260					9.8 U	9.8 U	9.8 U	3.9 U	5.3	4 U	3.9 U	3.9 U
Aroclor 1262					9.8 U	9.8 U	9.8 U	--	--	--	--	--
Aroclor 1268					9.8 U	9.8 U	9.8 U	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	9.8 U	9.8 U	9.8 U	7.5	14.7	8.3	3.9 U	3.9 U

Table H-1
Surface Sediment Results

Task					Baywood	Baywood	Baywood	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					BW-03	BW-03	BW-11	FS2757-3SED1	FS2757-3SED1	FS2757-3SED1	FS2757-3SED1	FS2757-3SED10
Sample ID					BW-03-SS-090602	BW-53-SS-090602	BW-11-SS-090602	3SED1-A	3SED1-B	3SED1-C	3SED2-A	3SED10-A
Sample Date					6/2/2009	6/2/2009	6/2/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1303268	1303268	1303114	-122.213139	-122.213139	-122.213139	-122.213139	-122.214142
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373754	373754	374189	48.014366	48.014366	48.014366	48.014366	48.015575
Analyte												
PCB Congeners (mg/kg-OC)												
Total PCB Congener (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener (U = 0)	12	65			--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--	--
PCB Congeners (ng/kg)												
PCB-001					--	--	--	--	--	--	--	--
PCB-002					--	--	--	--	--	--	--	--
PCB-003					--	--	--	--	--	--	--	--
PCB-004					--	--	--	--	--	--	--	--
PCB-005					--	--	--	--	--	--	--	--
PCB-006					--	--	--	--	--	--	--	--
PCB-007					--	--	--	--	--	--	--	--
PCB-008					--	--	--	--	--	--	--	--
PCB-009					--	--	--	--	--	--	--	--
PCB-010					--	--	--	--	--	--	--	--
PCB-011					--	--	--	--	--	--	--	--
PCB-012/013					--	--	--	--	--	--	--	--
PCB-014					--	--	--	--	--	--	--	--
PCB-015					--	--	--	--	--	--	--	--
PCB-016					--	--	--	--	--	--	--	--
PCB-017					--	--	--	--	--	--	--	--
PCB-018/030					--	--	--	--	--	--	--	--
PCB-019					--	--	--	--	--	--	--	--
PCB-020/028					--	--	--	--	--	--	--	--
PCB-021/033					--	--	--	--	--	--	--	--
PCB-022					--	--	--	--	--	--	--	--
PCB-023					--	--	--	--	--	--	--	--
PCB-024					--	--	--	--	--	--	--	--
PCB-025					--	--	--	--	--	--	--	--
PCB-026/029					--	--	--	--	--	--	--	--
PCB-027					--	--	--	--	--	--	--	--
PCB-031					--	--	--	--	--	--	--	--
PCB-032					--	--	--	--	--	--	--	--
PCB-034					--	--	--	--	--	--	--	--
PCB-035					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					Baywood	Baywood	Baywood	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					BW-03	BW-03	BW-11	FS2757-3SED1	FS2757-3SED1	FS2757-3SED1	FS2757-3SED1	FS2757-3SED10
Sample ID					BW-03-SS-090602	BW-53-SS-090602	BW-11-SS-090602	3SED1-A	3SED1-B	3SED1-C	3SED2-A	3SED10-A
Sample Date					6/2/2009	6/2/2009	6/2/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1303268	1303268	1303114	-122.213139	-122.213139	-122.213139	-122.213139	-122.214142
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373754	373754	374189	48.014366	48.014366	48.014366	48.014366	48.015575
Analyte												
PCB-036					--	--	--	--	--	--	--	--
PCB-037					--	--	--	--	--	--	--	--
PCB-038					--	--	--	--	--	--	--	--
PCB-039					--	--	--	--	--	--	--	--
PCB-040/071					--	--	--	--	--	--	--	--
PCB-041					--	--	--	--	--	--	--	--
PCB-042					--	--	--	--	--	--	--	--
PCB-043					--	--	--	--	--	--	--	--
PCB-044/047/065					--	--	--	--	--	--	--	--
PCB-045					--	--	--	--	--	--	--	--
PCB-046					--	--	--	--	--	--	--	--
PCB-048					--	--	--	--	--	--	--	--
PCB-049/069					--	--	--	--	--	--	--	--
PCB-050/053					--	--	--	--	--	--	--	--
PCB-051					--	--	--	--	--	--	--	--
PCB-052					--	--	--	--	--	--	--	--
PCB-054					--	--	--	--	--	--	--	--
PCB-055					--	--	--	--	--	--	--	--
PCB-056					--	--	--	--	--	--	--	--
PCB-057					--	--	--	--	--	--	--	--
PCB-058					--	--	--	--	--	--	--	--
PCB-059/062/075					--	--	--	--	--	--	--	--
PCB-060					--	--	--	--	--	--	--	--
PCB-061/070/074/076					--	--	--	--	--	--	--	--
PCB-063					--	--	--	--	--	--	--	--
PCB-064					--	--	--	--	--	--	--	--
PCB-066					--	--	--	--	--	--	--	--
PCB-067					--	--	--	--	--	--	--	--
PCB-068					--	--	--	--	--	--	--	--
PCB-072					--	--	--	--	--	--	--	--
PCB-073					--	--	--	--	--	--	--	--
PCB-077					--	--	--	--	--	--	--	--
PCB-078					--	--	--	--	--	--	--	--
PCB-079					--	--	--	--	--	--	--	--
PCB-080					--	--	--	--	--	--	--	--
PCB-081					--	--	--	--	--	--	--	--
PCB-082					--	--	--	--	--	--	--	--
PCB-083					--	--	--	--	--	--	--	--
PCB-084					--	--	--	--	--	--	--	--
PCB-085/116					--	--	--	--	--	--	--	--
PCB-086/087/097/108/119/125					--	--	--	--	--	--	--	--
PCB-086/087/097/109/119/125					--	--	--	--	--	--	--	--
PCB-088					--	--	--	--	--	--	--	--
PCB-089					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					Baywood	Baywood	Baywood	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					BW-03	BW-03	BW-11	FS2757-3SED1	FS2757-3SED1	FS2757-3SED1	FS2757-3SED1	FS2757-3SED10
Sample ID					BW-03-SS-090602	BW-53-SS-090602	BW-11-SS-090602	3SED1-A	3SED1-B	3SED1-C	3SED2-A	3SED10-A
Sample Date					6/2/2009	6/2/2009	6/2/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1303268	1303268	1303114	-122.213139	-122.213139	-122.213139	-122.213139	-122.214142
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373754	373754	374189	48.014366	48.014366	48.014366	48.014366	48.015575
Analyte												
PCB-090/101/113					--	--	--	--	--	--	--	--
PCB-091					--	--	--	--	--	--	--	--
PCB-092					--	--	--	--	--	--	--	--
PCB-093/100					--	--	--	--	--	--	--	--
PCB-094					--	--	--	--	--	--	--	--
PCB-095					--	--	--	--	--	--	--	--
PCB-096					--	--	--	--	--	--	--	--
PCB-098					--	--	--	--	--	--	--	--
PCB-099					--	--	--	--	--	--	--	--
PCB-102					--	--	--	--	--	--	--	--
PCB-103					--	--	--	--	--	--	--	--
PCB-104					--	--	--	--	--	--	--	--
PCB-105					--	--	--	--	--	--	--	--
PCB-106					--	--	--	--	--	--	--	--
PCB-107					--	--	--	--	--	--	--	--
PCB-107/124					--	--	--	--	--	--	--	--
PCB-108/124					--	--	--	--	--	--	--	--
PCB-109					--	--	--	--	--	--	--	--
PCB-110					--	--	--	--	--	--	--	--
PCB-111					--	--	--	--	--	--	--	--
PCB-112					--	--	--	--	--	--	--	--
PCB-114					--	--	--	--	--	--	--	--
PCB-115					--	--	--	--	--	--	--	--
PCB-117					--	--	--	--	--	--	--	--
PCB-118					--	--	--	--	--	--	--	--
PCB-120					--	--	--	--	--	--	--	--
PCB-121					--	--	--	--	--	--	--	--
PCB-122					--	--	--	--	--	--	--	--
PCB-123					--	--	--	--	--	--	--	--
PCB-126					--	--	--	--	--	--	--	--
PCB-127					--	--	--	--	--	--	--	--
PCB-128/166					--	--	--	--	--	--	--	--
PCB-129/138/163					--	--	--	--	--	--	--	--
PCB-130					--	--	--	--	--	--	--	--
PCB-131					--	--	--	--	--	--	--	--
PCB-132					--	--	--	--	--	--	--	--
PCB-133					--	--	--	--	--	--	--	--
PCB-134					--	--	--	--	--	--	--	--
PCB-135/151					--	--	--	--	--	--	--	--
PCB-136					--	--	--	--	--	--	--	--
PCB-137					--	--	--	--	--	--	--	--
PCB-139/140					--	--	--	--	--	--	--	--
PCB-141					--	--	--	--	--	--	--	--
PCB-142					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					Baywood	Baywood	Baywood	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					BW-03	BW-03	BW-11	FS2757-3SED1	FS2757-3SED1	FS2757-3SED1	FS2757-3SED1	FS2757-3SED10
Sample ID					BW-03-SS-090602	BW-53-SS-090602	BW-11-SS-090602	3SED1-A	3SED1-B	3SED1-C	3SED2-A	3SED10-A
Sample Date					6/2/2009	6/2/2009	6/2/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1303268	1303268	1303114	-122.213139	-122.213139	-122.213139	-122.213139	-122.214142
Y					373754	373754	374189	48.014366	48.014366	48.014366	48.014366	48.015575
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII								
PCB-143					--	--	--	--	--	--	--	--
PCB-144					--	--	--	--	--	--	--	--
PCB-145					--	--	--	--	--	--	--	--
PCB-146					--	--	--	--	--	--	--	--
PCB-147/149					--	--	--	--	--	--	--	--
PCB-148					--	--	--	--	--	--	--	--
PCB-150					--	--	--	--	--	--	--	--
PCB-152					--	--	--	--	--	--	--	--
PCB-153/168					--	--	--	--	--	--	--	--
PCB-154					--	--	--	--	--	--	--	--
PCB-155					--	--	--	--	--	--	--	--
PCB-156/157					--	--	--	--	--	--	--	--
PCB-158					--	--	--	--	--	--	--	--
PCB-159					--	--	--	--	--	--	--	--
PCB-160					--	--	--	--	--	--	--	--
PCB-161					--	--	--	--	--	--	--	--
PCB-162					--	--	--	--	--	--	--	--
PCB-164					--	--	--	--	--	--	--	--
PCB-165					--	--	--	--	--	--	--	--
PCB-167					--	--	--	--	--	--	--	--
PCB-169					--	--	--	--	--	--	--	--
PCB-170					--	--	--	--	--	--	--	--
PCB-171/173					--	--	--	--	--	--	--	--
PCB-172					--	--	--	--	--	--	--	--
PCB-174					--	--	--	--	--	--	--	--
PCB-175					--	--	--	--	--	--	--	--
PCB-176					--	--	--	--	--	--	--	--
PCB-177					--	--	--	--	--	--	--	--
PCB-178					--	--	--	--	--	--	--	--
PCB-179					--	--	--	--	--	--	--	--
PCB-180/193					--	--	--	--	--	--	--	--
PCB-181					--	--	--	--	--	--	--	--
PCB-182					--	--	--	--	--	--	--	--
PCB-183					--	--	--	--	--	--	--	--
PCB-184					--	--	--	--	--	--	--	--
PCB-185					--	--	--	--	--	--	--	--
PCB-186					--	--	--	--	--	--	--	--
PCB-187					--	--	--	--	--	--	--	--
PCB-188					--	--	--	--	--	--	--	--
PCB-189					--	--	--	--	--	--	--	--
PCB-190					--	--	--	--	--	--	--	--
PCB-191					--	--	--	--	--	--	--	--
PCB-192					--	--	--	--	--	--	--	--
PCB-194					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					Baywood	Baywood	Baywood	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					BW-03	BW-03	BW-11	FS2757-3SED1	FS2757-3SED1	FS2757-3SED1	FS2757-3SED1	FS2757-3SED10
Sample ID					BW-03-SS-090602	BW-53-SS-090602	BW-11-SS-090602	3SED1-A	3SED1-B	3SED1-C	3SED2-A	3SED10-A
Sample Date					6/2/2009	6/2/2009	6/2/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1303268	1303268	1303114	-122.213139	-122.213139	-122.213139	-122.213139	-122.214142
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	373754	373754	374189	48.014366	48.014366	48.014366	48.014366	48.015575
Analyte												
PCB-195					--	--	--	--	--	--	--	--
PCB-196					--	--	--	--	--	--	--	--
PCB-197					--	--	--	--	--	--	--	--
PCB-198/199					--	--	--	--	--	--	--	--
PCB-200					--	--	--	--	--	--	--	--
PCB-201					--	--	--	--	--	--	--	--
PCB-202					--	--	--	--	--	--	--	--
PCB-203					--	--	--	--	--	--	--	--
PCB-204					--	--	--	--	--	--	--	--
PCB-205					--	--	--	--	--	--	--	--
PCB-206					--	--	--	--	--	--	--	--
PCB-207					--	--	--	--	--	--	--	--
PCB-208					--	--	--	--	--	--	--	--
PCB-209					--	--	--	--	--	--	--	--
Total PCB Congener (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (mg/kg)												
Diesel range hydrocarbons					**10**	**12**	**15**	--	--	--	--	--
Motor oil range hydrocarbons					**54**	**70**	**79**	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)												
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**0.0004390151261 J**	**0.0002408 J**	**0.0002724184211 J**	**0.000665759**	**0.000454745**	**0.000530417**	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**0.0003232672269 J**	**0.0001807813665 J**	**0.0001922276316 J**	**0.000473318**	**0.000326869**	**0.000386174**	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**0.0004693747899 J**	**0.0002500832298 J**	**0.0002569921053 J**	**0.000912164**	**0.000604042**	**0.00071473**	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**0.0004390151261 J**	**0.0002408 J**	**0.0002724184211 J**	**0.000665759**	**0.000431096**	**0.000530417**	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**0.0003232672269 J**	**0.0001807813665 J**	**0.0001922276316 J**	**0.000473318**	**0.000303221**	**0.000386174**	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**0.0004693747899 J**	**0.0002500832298 J**	**0.0002569921053 J**	**0.000912164**	**0.000580394**	**0.00071473**	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**0.0004390151261 J**	**0.0002408 J**	**0.0002724184211 J**	**0.000665759**	**0.000407448**	**0.000530417**	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**0.0003232672269 J**	**0.0001807813665 J**	**0.0001922276316 J**	**0.000473318**	**0.000279572**	**0.000386174**	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**0.0004693747899 J**	**0.0002500832298 J**	**0.0002569921053 J**	**0.000912164**	**0.000556745**	**0.00071473**	--	--
Dioxin Furans and PCB Congeners (ng/kg)												
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**5.22428 J**	**3.87688 J**	**4.14076 J**	**14.6467**	**13.9152**	**12.1996**	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**3.84688 J**	**2.91058 J**	**2.92186 J**	**10.413**	**10.0022**	**8.882**	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**5.58556 J**	**4.02634 J**	**3.90628 J**	**20.0676**	**18.4837**	**16.4388**	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**5.22428 J**	**3.87688 J**	**4.14076 J**	**14.6467**	**13.19155**	**12.1996**	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**3.84688 J**	**2.91058 J**	**2.92186 J**	**10.413**	**9.27855**	**8.882**	--	--

Table H-1
Surface Sediment Results

Task					Baywood	Baywood	Baywood	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					BW-03	BW-03	BW-11	FS2757-3SED1	FS2757-3SED1	FS2757-3SED1	FS2757-3SED1	FS2757-3SED10
Sample ID					BW-03-SS-090602	BW-53-SS-090602	BW-11-SS-090602	3SED1-A	3SED1-B	3SED1-C	3SED2-A	3SED10-A
Sample Date					6/2/2009	6/2/2009	6/2/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1303268	1303268	1303114	-122.213139	-122.213139	-122.213139	-122.213139	-122.214142
Y Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373754	373754	374189	48.014366	48.014366	48.014366	48.014366	48.015575
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					5.58556 J	4.02634 J	3.90628 J	20.0676	17.76005	16.4388	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					5.22428 J	3.87688 J	4.14076 J	14.6467	12.4679	12.1996	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					3.84688 J	2.91058 J	2.92186 J	10.413	8.5549	8.882	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					5.58556 J	4.02634 J	3.90628 J	20.0676	17.0364	16.4388	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED10	FS2757-3SED10	FS2757-3SED11	FS2757-3SED11	FS2757-3SED12	FS2757-3SED12	FS2757-3SED2	FS2757-3SED2
Sample ID					3SED10-B	3SED10-C	3SED11-A	3SED11-B	3SED12-A	3SED12-B	3SED2-B	3SED2-C
Sample Date					6/5/2009	6/5/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.214142	-122.214142	-122.2125	-122.2125	-122.21213	-122.21213	-122.212828	-122.212828
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	48.015575	48.015575	48.01249	48.01249	48.01274	48.01274	48.014696	48.014696
Analyte												
Conventional Parameters (pct)												
Total organic carbon					**0.952**	**1.83**	**1.12**	**1.03**	**0.814**	**1.45**	**3.25**	**5.41**
Moisture, percent					--	--	--	--	--	--	--	--
Total Solids					**54.2**	**62.3**	**64.4**	**62.9**	**68**	**59.3**	**68.8**	**61.9**
Total solids (preserved)					**51.3**	**58.6**	**64.5**	**60.6**	**61.5**	**60.9**	**55.6**	**55**
Total volatile solids					**7.77**	**7.14**	**3.23**	**4.08**	**2.91**	**4.44**	**4.94**	**9.87**
Conventional Parameters (mg/kg)												
Ammonia as nitrogen					**20.9**	**2.57**	**5.96**	**6.89**	**9.94**	**7.19**	**9.51**	**5.95**
Black carbon					--	--	--	--	--	--	--	--
Sulfide					**29.6**	**7.75**	**13.4**	**21**	**74.1**	**173**	**250**	**462**
Grain Size (pct)												
Cobbles					--	--	--	--	--	--	--	--
Gravel					**2.2**	**14**	**0.8**	**1.9**	**0.3**	**0.1**	**5.8**	**6.2**
Sand					--	--	--	--	--	--	--	--
Sand, very coarse					**2.5**	**5.9**	**0.2**	**0.4**	**0.3**	**0.7**	**5.3**	**5.1**
Sand, coarse					**2.5**	**3.2**	**0.7**	**0.6**	**0.5**	**0.7**	**11.4**	**9.4**
Sand, medium					**3**	**6.1**	**1.5**	**1.4**	**1.2**	**1.1**	**24.4**	**16.6**
Sand, fine					**3.9**	**6**	**9.7**	**8.8**	**7.7**	**5.4**	**16.4**	**10.7**
Sand, very fine					**6.9**	**6.3**	**31.5**	**24.1**	**32.7**	**19.5**	**8.6**	**6.2**
Silt					--	--	--	--	--	--	--	--
Silt, coarse					**16.4**	**13.5**	**22.9**	**24.3**	**25.6**	**26**	**7**	**8.5**
Silt, medium					**21.6**	**14.6**	**14**	**15.5**	**13.1**	**21**	**5.9**	**11.2**
Silt, fine					**14.5**	**10.1**	**7.8**	**9.2**	**8.1**	**11.5**	**5.8**	**9.7**
Silt, very fine					**10.2**	**6.9**	**3.2**	**4.9**	**3.4**	**4.7**	**3**	**5.6**
Total fines (Reported, not calculated)					--	--	--	--	--	--	--	--
Clay					--	--	--	--	--	--	--	--
Clay, coarse					**6**	**4.1**	**2.2**	**2.4**	**2**	**2.6**	--	**3.1**
Clay, medium					**3.3**	**3.3**	**2.2**	**2.5**	**2.1**	**2.8**	**1.7**	**3**
Clay, fine					**6.9**	**6**	**3.3**	**4**	**3.1**	**4**	**2.6**	**4.6**
Metals (mg/kg)												
Antimony					--	--	--	--	--	--	--	--
Arsenic	57	93	57	93	**21**	**40**	**11**	**12**	**12**	**13**	**15**	**15**
Cadmium	5.1	6.7	5.1	6.7	0.4 U	0.8 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chromium	260	270	260	270	**54.7**	**66**	**36.8**	**43**	**37.2**	**42**	**41**	**46.4**
Copper	390	390	390	390	**61.9**	**89.7**	**30.1**	**37.3**	**29**	**37.4**	**38.9**	**54**
Lead	450	530	450	530	**15**	**31**	**7**	**8**	**8**	**8**	**15**	**17**
Mercury	0.41	0.59	0.41	0.59	**0.09**	**0.11**	**0.05**	**0.06**	**0.05**	**0.06**	**0.05**	**0.07**
Nickel					--	--	--	--	--	--	--	--
Silver	6.1	6.1	6.1	6.1	0.5 U	1 U	0.4 U	0.5 U	0.4 U	0.5 U	0.5 U	**1**
Zinc	410	960	410	960	**98**	**119**	**55**	**65**	**54**	**64**	**74**	**117**
Volatile Organics (mg/kg-OC)												
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--	--	--
Volatile Organics (µg/kg)												
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					**FS2757-3SED10**	**FS2757-3SED10**	**FS2757-3SED11**	**FS2757-3SED11**	**FS2757-3SED12**	**FS2757-3SED12**	**FS2757-3SED2**	**FS2757-3SED2**
Sample ID					**3SED10-B**	**3SED10-C**	**3SED11-A**	**3SED11-B**	**3SED12-A**	**3SED12-B**	**3SED2-B**	**3SED2-C**
Sample Date					**6/5/2009**	**6/5/2009**	**6/3/2009**	**6/3/2009**	**6/3/2009**	**6/3/2009**	**6/3/2009**	**6/3/2009**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**-122.214142**	**-122.214142**	**-122.2125**	**-122.2125**	**-122.21213**	**-122.21213**	**-122.212828**	**-122.212828**
Y					**48.015575**	**48.015575**	**48.01249**	**48.01249**	**48.01274**	**48.01274**	**48.014696**	**48.014696**
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**								
Semivolatile Organics (mg/kg-OC)												
1,2,4-Trichlorobenzene	0.81	1.8			0.63 U	0.3333 U	0.536 U	0.583 U	0.7494 U	0.4207 U	0.554 U	0.351 U
1,2-Dichlorobenzene	2.3	2.3			0.63 U	0.3333 U	0.536 U	0.583 U	0.7494 U	0.4207 U	0.554 U	0.351 U
1,4-Dichlorobenzene	3.1	9			0.63 U	0.3333 U	0.536 U	0.583 U	0.7494 U	0.4207 U	0.554 U	0.351 U
bis(2-Ethylhexyl)phthalate	47	78			**3.782**	**2.568**	**1.071 J**	**1.456 J**	**1.597 J**	**0.897 J**	**3.077**	**11.46**
Butylbenzyl phthalate	4.9	64			1.576 U	0.82 U	1.339 U	1.456 U	1.843 U	1.034 U	1.415 U	0.869 U
Diethyl phthalate	61	110			**1.996 J**	1.093 U	1.786 U	1.942 U	2.457 U	1.379 U	1.785 U	1.091 U
Dimethyl phthalate	53	53			2.101 U	1.093 U	1.786 U	1.942 U	2.457 U	1.379 U	1.785 U	1.091 U
Di-n-butyl phthalate	220	1700			2.101 U	1.093 U	1.786 U	1.942 U	2.457 U	1.379 U	1.785 U	1.091 U
Di-n-octyl phthalate	58	4500			2.101 U	1.093 U	1.786 U	1.942 U	2.457 U	1.379 U	1.785 U	1.091 U
Hexachlorobenzene	0.38	2.3			0.63 U	0.3333 U	0.536 U	0.583 U	0.7494 U	0.4207 U	0.585 U	0.1072 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			0.63 U	0.3333 U	0.536 U	0.583 U	0.7494 U	0.4207 U	0.554 U	0.351 U
n-Nitrosodiphenylamine	11	11			0.63 U	0.3333 U	0.536 U	0.583 U	0.7494 U	0.4207 U	1.477 U	0.351 U
Semivolatile Organics (µg/kg)												
1,2,4-Trichlorobenzene			31	51	6 U	6.1 U	6 U	6 U	6.1 U	6.1 U	18 U	19 U
1,2-Dichlorobenzene			35	50	6 U	6.1 U	6 U	6 U	6.1 U	6.1 U	18 U	19 U
1,3-Dichlorobenzene					6 U	6.1 U	6 U	6 U	6.1 U	6.1 U	18 U	19 U
1,4-Dichlorobenzene			110	110	6 U	6.1 U	6 U	6 U	6.1 U	6.1 U	18 U	19 U
2,4-Dimethylphenol	29	29	29	29	6 U	6.1 U	6 U	6 U	6.1 U	6.1 U	18 U	19 U
2-Methylphenol (o-Cresol)	63	63	63	63	6 U	6.1 U	6 U	6 U	6.1 U	6.1 U	18 U	19 U
4-Methylphenol (p-Cresol)	670	670	670	670	**14 J**	**18 J**	20 U	20 U	20 U	20 U	58 U	59 U
Benzoic acid	650	650	650	650	200 U	200 U	200 U	200 U	200 U	200 U	580 U	590 U
Benzyl alcohol	57	73	57	73	20 U	30 U	20 U	20 U	20 U	20 U	58 U	59 U
bis(2-Ethylhexyl)phthalate			1300	1900	**36**	**47**	**12 J**	**15 J**	**13 J**	**13 J**	**100**	**620**
Butylbenzyl phthalate			63	900	15 U	15 U	15 U	15 U	15 U	15 U	46 U	47 U
Diethyl phthalate			200	1200	**19 J**	20 U	20 U	20 U	20 U	20 U	58 U	59 U
Dimethyl phthalate			71	160	20 U	20 U	20 U	20 U	20 U	20 U	58 U	59 U
Di-n-butyl phthalate			1400	1400	20 U	20 U	20 U	20 U	20 U	20 U	58 U	59 U
Di-n-octyl phthalate			6200	6200	20 U	20 U	20 U	20 U	20 U	20 U	58 U	59 U
Hexachlorobenzene			22	70	6 U	6.1 U	6 U	6 U	6.1 U	6.1 U	19 U	5.8 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	6 U	6.1 U	6 U	6 U	6.1 U	6.1 U	18 U	19 U
Hexachloroethane					20 U	20 U	20 U	20 U	20 U	20 U	58 U	59 U
n-Nitrosodiphenylamine			28	40	6 U	6.1 U	6 U	6 U	6.1 U	6.1 U	48 U	19 U
Pentachlorophenol	360	690	360	690	30 U	30 U	30 U	30 U	30 U	31 U	93 U	93 U
Phenol	420	1200	420	1200	20 U	20 U	**14 J**	20 U	20 U	20 U	58 U	59 U
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)												
2-Methylnaphthalene	38	64			2.101 U	**0.601 J**	1.786 U	1.942 U	2.457 U	1.379 U	1.785 U	1.091 U
Acenaphthene	16	57			2.101 U	1.093 U	1.786 U	1.942 U	2.457 U	1.379 U	1.785 U	1.091 U
Acenaphthylene	66	66			**1.155 J**	1.093 U	1.786 U	1.942 U	2.457 U	1.379 U	1.785 U	1.091 U
Anthracene	220	1200			**3.676**	**1.967**	1.786 U	1.942 U	2.457 U	1.379 U	**6.154**	**2.218**
Benzo(a)anthracene	110	270			**9.979**	**4.754**	1.786 U	**1.845 J**	2.457 U	**0.828 J**	**1.785**	**0.628 J**
Benzo(a)pyrene	99	210			**6.303**	**1.803**	1.786 U	**2.039**	2.457 U	**0.828 J**	**2.338**	**0.906 J**
Benzo(g,h,i)perylene	31	78			**1.891 J**	**1.53**	1.786 U	**1.165 J**	2.457 U	1.379 U	**1.6 J**	**0.721 J**
Chrysene	110	460			**24.16**	**24.044**	**1.429 J**	**3.01**	**1.843 J**	**1.586**	**3.015**	**1.22**

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED10	FS2757-3SED10	FS2757-3SED11	FS2757-3SED11	FS2757-3SED12	FS2757-3SED12	FS2757-3SED2	FS2757-3SED2
Sample ID					3SED10-B	3SED10-C	3SED11-A	3SED11-B	3SED12-A	3SED12-B	3SED2-B	3SED2-C
Sample Date					6/5/2009	6/5/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.214142	-122.214142	-122.2125	-122.2125	-122.21213	-122.21213	-122.212828	-122.212828
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	48.015575	48.015575	48.01249	48.01249	48.01274	48.01274	48.014696	48.014696
Analyte												
Dibenzo(a,h)anthracene	12	33			2.101 U	1.093 U	0.536 U	0.583 U	0.8231 U	**0.4207**	1.785 U	0.351 U
Dibenzofuran	15	58			2.101 U	1.093 U	1.786 U	1.942 U	2.457 U	1.379 U	1.785 U	1.091 U
Fluoranthene	160	1200			**68.277**	**10.929**	**1.607 J**	**5.146**	**1.843 J**	**2**	**4.308**	**2.033**
Fluorene	23	79			**1.366 J**	**0.656 J**	1.786 U	1.942 U	2.457 U	1.379 U	1.785 U	1.091 U
Indeno(1,2,3-c,d)pyrene	34	88			**2.206**	**1.913**	1.786 U	**1.068 J**	2.457 U	1.379 U	**1.323 J**	**0.555 J**
Naphthalene	99	170			2.101 U	1.093 U	1.786 U	1.942 U	2.457 U	1.379 U	1.785 U	1.091 U
Phenanthrene	100	480			**10.084**	**1.803**	1.786 U	**2.136**	2.457 U	1.379 U	**3.077**	**1.553**
Pyrene	1000	1400			**38.866**	**9.836**	**1.161 J**	**3.204**	**1.351 J**	**1.31 J**	**2.923**	**1.275**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					**10.4937**	**6.20765**	**2.56786 J**	**2.82621 J**	**3.540541 J**	**1.29931 J**	**3.264 J**	**1.23031 J**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					**10.38866**	**6.15301**	**1.29107 J**	**2.79709 J**	**1.779484 J**	**1.230345 J**	**3.17477 J**	**1.21275 J**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					**10.28361**	**6.09836**	**0.01429 J**	**2.76796 J**	**0.018428 J**	**1.161379 J**	**3.08554 J**	**1.19519 J**
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			**25.21**	**33.88**	1.786 U	**4.078**	2.457 U	**1.931 J**	**4.062**	**1.59 J**
Total HPAH (SMS) (U = 0)	960	5300			**176.891 J**	**88.689**	**4.196 J**	**21.553 J**	**5.0369 J**	**8.9034 J**	**21.354 J**	**8.928 J**
Total LPAH (SMS) (U = 0)	370	780			**16.282 J**	**4.426 J**	1.786 U	**2.136**	2.457 U	1.379 U	**9.231**	**3.771**
Polycyclic Aromatic Hydrocarbons (µg/kg)												
1-Methylnaphthalene					20 U	20 U	20 U	20 U	20 U	20 U	58 U	59 U
2-Methylnaphthalene			670	670	20 U	**11 J**	20 U	20 U	20 U	20 U	58 U	59 U
Acenaphthene			500	500	20 U	20 U	20 U	20 U	20 U	20 U	58 U	59 U
Acenaphthylene			1300	1300	**11 J**	20 U	20 U	20 U	20 U	20 U	58 U	59 U
Anthracene			960	960	**35**	**36**	20 U	20 U	20 U	20 U	**200**	**120**
Benzo(a)anthracene			1300	1600	**95**	**87**	20 U	**19 J**	20 U	**12 J**	**58**	**34 J**
Benzo(a)pyrene			1600	1600	**60**	**33**	20 U	**21**	20 U	**12 J**	**76**	**49 J**
Benzo(b)fluoranthene					**120**	**310**	20 U	**21**	20 U	**14 J**	**66**	**43 J**
Benzo(g,h,i)perylene			670	720	**18 J**	**28**	20 U	**12 J**	20 U	20 U	**52 J**	**39 J**
Benzo(k)fluoranthene					**120**	**310**	20 U	**21**	20 U	**14 J**	**66**	**43 J**
Chrysene			1400	2800	**230**	**440**	**16 J**	**31**	**15 J**	**23**	**98**	**66**
Dibenzo(a,h)anthracene			230	230	20 U	20 U	6 U	6 U	6.7 U	**6.1**	58 U	19 U
Dibenzofuran			540	540	20 U	20 U	20 U	20 U	20 U	20 U	58 U	59 U
Fluoranthene			1700	2500	**650**	**200**	**18 J**	**53**	**15 J**	**29**	**140**	**110**
Fluorene			540	540	**13 J**	**12 J**	20 U	20 U	20 U	20 U	58 U	59 U
Indeno(1,2,3-c,d)pyrene			600	690	**21**	**35**	20 U	**11 J**	20 U	20 U	**43 J**	**30 J**
Naphthalene			2100	2100	20 U	20 U	20 U	20 U	20 U	20 U	58 U	59 U
Phenanthrene			1500	1500	**96**	**33**	20 U	**22**	20 U	20 U	**100**	**84**
Pyrene			2600	3300	**370**	**180**	**13 J**	**33**	**11 J**	**19 J**	**95**	**69**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					**99.9**	**113.6**	**28.76 J**	**29.11 J**	**28.82 J**	**18.84 J**	**106.08 J**	**66.56 J**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					**98.9**	**112.6**	**14.46 J**	**28.81 J**	**14.485 J**	**17.84 J**	**103.18 J**	**65.61 J**
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	**240**	**620**	20 U	**42**	20 U	**28 J**	**132**	**86 J**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					**97.9**	**111.6**	**0.16 J**	**28.51 J**	**0.15 J**	**16.84 J**	**100.28 J**	**64.66 J**
Total HPAH (SMS) (U = 0)			12000	17000	**1684 J**	**1623**	**47 J**	**222 J**	**41 J**	**129.1 J**	**694 J**	**483 J**
Total LPAH (SMS) (U = 0)			5200	5200	**155 J**	**81 J**	20 U	**22**	20 U	20 U	**300**	**204**
Dioxin Furans (ng/kg)												
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED10	FS2757-3SED10	FS2757-3SED11	FS2757-3SED11	FS2757-3SED12	FS2757-3SED12	FS2757-3SED2	FS2757-3SED2
Sample ID					3SED10-B	3SED10-C	3SED11-A	3SED11-B	3SED12-A	3SED12-B	3SED2-B	3SED2-C
Sample Date					6/5/2009	6/5/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.214142	-122.214142	-122.2125	-122.2125	-122.21213	-122.21213	-122.212828	-122.212828
Y					48.015575	48.015575	48.01249	48.01249	48.01274	48.01274	48.014696	48.014696
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII								
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					--	--	--	--	--	--	--	--
Total Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	--	--	--	--
Total Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	--	--	--	--
Total Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--	--
Total Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					--	--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					--	--	--	--	--	--	--	--
Total Tetrachlorodibenzofuran (TCDF)					--	--	--	--	--	--	--	--
Total Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--	--
Total Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--	--
Total Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--	--
PCB Aroclors (mg/kg-OC)												
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			0.4097 U	**0.5847**	**12.321**	**8.932**	**169.533**	**3.379**	**0.1446**	**0.342**
PCB Aroclors (µg/kg)												
Aroclor 1016					3.9 U	3.9 U	12 U	25 U	60 U	27 U	3.9 U	3.9 U
Aroclor 1221					3.9 U	3.9 U	12 U	25 U	60 U	27 U	3.9 U	3.9 U
Aroclor 1232					3.9 U	3.9 U	12 U	25 U	60 U	27 U	3.9 U	3.9 U
Aroclor 1242					3.9 U	3.9 U	12 U	25 U	60 U	27 U	3.9 U	3.9 U
Aroclor 1248					3.9 U	3.9 U	12 U	25 U	60 U	27 U	3.9 U	**12**
Aroclor 1254					3.9 U	**4.5**	**99**	**92**	**990**	**49**	**4.7**	**6.5**
Aroclor 1260					3.9 U	**6.2**	**39**	25 U	**390**	27 U	3.9 U	3.9 U
Aroclor 1262					--	--	--	--	--	--	--	--
Aroclor 1268					--	--	--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	3.9 U	**10.7**	**138**	**92**	**1380**	**49**	**4.7**	**18.5**

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					**FS2757-3SED10**	**FS2757-3SED10**	**FS2757-3SED11**	**FS2757-3SED11**	**FS2757-3SED12**	**FS2757-3SED12**	**FS2757-3SED2**	**FS2757-3SED2**
Sample ID					**3SED10-B**	**3SED10-C**	**3SED11-A**	**3SED11-B**	**3SED12-A**	**3SED12-B**	**3SED2-B**	**3SED2-C**
Sample Date					**6/5/2009**	**6/5/2009**	**6/3/2009**	**6/3/2009**	**6/3/2009**	**6/3/2009**	**6/3/2009**	**6/3/2009**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**-122.214142**	**-122.214142**	**-122.2125**	**-122.2125**	**-122.21213**	**-122.21213**	**-122.212828**	**-122.212828**
Y					**48.015575**	**48.015575**	**48.01249**	**48.01249**	**48.01274**	**48.01274**	**48.014696**	**48.014696**
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**								
PCB Congeners (mg/kg-OC)												
Total PCB Congener (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener (U = 0)	12	65			--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--	--
PCB Congeners (ng/kg)												
PCB-001					--	--	--	--	--	--	--	--
PCB-002					--	--	--	--	--	--	--	--
PCB-003					--	--	--	--	--	--	--	--
PCB-004					--	--	--	--	--	--	--	--
PCB-005					--	--	--	--	--	--	--	--
PCB-006					--	--	--	--	--	--	--	--
PCB-007					--	--	--	--	--	--	--	--
PCB-008					--	--	--	--	--	--	--	--
PCB-009					--	--	--	--	--	--	--	--
PCB-010					--	--	--	--	--	--	--	--
PCB-011					--	--	--	--	--	--	--	--
PCB-012/013					--	--	--	--	--	--	--	--
PCB-014					--	--	--	--	--	--	--	--
PCB-015					--	--	--	--	--	--	--	--
PCB-016					--	--	--	--	--	--	--	--
PCB-017					--	--	--	--	--	--	--	--
PCB-018/030					--	--	--	--	--	--	--	--
PCB-019					--	--	--	--	--	--	--	--
PCB-020/028					--	--	--	--	--	--	--	--
PCB-021/033					--	--	--	--	--	--	--	--
PCB-022					--	--	--	--	--	--	--	--
PCB-023					--	--	--	--	--	--	--	--
PCB-024					--	--	--	--	--	--	--	--
PCB-025					--	--	--	--	--	--	--	--
PCB-026/029					--	--	--	--	--	--	--	--
PCB-027					--	--	--	--	--	--	--	--
PCB-031					--	--	--	--	--	--	--	--
PCB-032					--	--	--	--	--	--	--	--
PCB-034					--	--	--	--	--	--	--	--
PCB-035					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					**FS2757-3SED10**	**FS2757-3SED10**	**FS2757-3SED11**	**FS2757-3SED11**	**FS2757-3SED12**	**FS2757-3SED12**	**FS2757-3SED2**	**FS2757-3SED2**
Sample ID					**3SED10-B**	**3SED10-C**	**3SED11-A**	**3SED11-B**	**3SED12-A**	**3SED12-B**	**3SED2-B**	**3SED2-C**
Sample Date					**6/5/2009**	**6/5/2009**	**6/3/2009**	**6/3/2009**	**6/3/2009**	**6/3/2009**	**6/3/2009**	**6/3/2009**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**-122.214142**	**-122.214142**	**-122.2125**	**-122.2125**	**-122.21213**	**-122.21213**	**-122.212828**	**-122.212828**
Y					**48.015575**	**48.015575**	**48.01249**	**48.01249**	**48.01274**	**48.01274**	**48.014696**	**48.014696**
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**								
PCB-036					--	--	--	--	--	--	--	--
PCB-037					--	--	--	--	--	--	--	--
PCB-038					--	--	--	--	--	--	--	--
PCB-039					--	--	--	--	--	--	--	--
PCB-040/071					--	--	--	--	--	--	--	--
PCB-041					--	--	--	--	--	--	--	--
PCB-042					--	--	--	--	--	--	--	--
PCB-043					--	--	--	--	--	--	--	--
PCB-044/047/065					--	--	--	--	--	--	--	--
PCB-045					--	--	--	--	--	--	--	--
PCB-046					--	--	--	--	--	--	--	--
PCB-048					--	--	--	--	--	--	--	--
PCB-049/069					--	--	--	--	--	--	--	--
PCB-050/053					--	--	--	--	--	--	--	--
PCB-051					--	--	--	--	--	--	--	--
PCB-052					--	--	--	--	--	--	--	--
PCB-054					--	--	--	--	--	--	--	--
PCB-055					--	--	--	--	--	--	--	--
PCB-056					--	--	--	--	--	--	--	--
PCB-057					--	--	--	--	--	--	--	--
PCB-058					--	--	--	--	--	--	--	--
PCB-059/062/075					--	--	--	--	--	--	--	--
PCB-060					--	--	--	--	--	--	--	--
PCB-061/070/074/076					--	--	--	--	--	--	--	--
PCB-063					--	--	--	--	--	--	--	--
PCB-064					--	--	--	--	--	--	--	--
PCB-066					--	--	--	--	--	--	--	--
PCB-067					--	--	--	--	--	--	--	--
PCB-068					--	--	--	--	--	--	--	--
PCB-072					--	--	--	--	--	--	--	--
PCB-073					--	--	--	--	--	--	--	--
PCB-077					--	--	--	--	--	--	--	--
PCB-078					--	--	--	--	--	--	--	--
PCB-079					--	--	--	--	--	--	--	--
PCB-080					--	--	--	--	--	--	--	--
PCB-081					--	--	--	--	--	--	--	--
PCB-082					--	--	--	--	--	--	--	--
PCB-083					--	--	--	--	--	--	--	--
PCB-084					--	--	--	--	--	--	--	--
PCB-085/116					--	--	--	--	--	--	--	--
PCB-086/087/097/108/119/125					--	--	--	--	--	--	--	--
PCB-086/087/097/109/119/125					--	--	--	--	--	--	--	--
PCB-088					--	--	--	--	--	--	--	--
PCB-089					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED10	FS2757-3SED10	FS2757-3SED11	FS2757-3SED11	FS2757-3SED12	FS2757-3SED12	FS2757-3SED2	FS2757-3SED2
Sample ID					3SED10-B	3SED10-C	3SED11-A	3SED11-B	3SED12-A	3SED12-B	3SED2-B	3SED2-C
Sample Date					6/5/2009	6/5/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.214142	-122.214142	-122.2125	-122.2125	-122.21213	-122.21213	-122.212828	-122.212828
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	48.015575	48.015575	48.01249	48.01249	48.01274	48.01274	48.014696	48.014696
Analyte												
PCB-090/101/113					--	--	--	--	--	--	--	--
PCB-091					--	--	--	--	--	--	--	--
PCB-092					--	--	--	--	--	--	--	--
PCB-093/100					--	--	--	--	--	--	--	--
PCB-094					--	--	--	--	--	--	--	--
PCB-095					--	--	--	--	--	--	--	--
PCB-096					--	--	--	--	--	--	--	--
PCB-098					--	--	--	--	--	--	--	--
PCB-099					--	--	--	--	--	--	--	--
PCB-102					--	--	--	--	--	--	--	--
PCB-103					--	--	--	--	--	--	--	--
PCB-104					--	--	--	--	--	--	--	--
PCB-105					--	--	--	--	--	--	--	--
PCB-106					--	--	--	--	--	--	--	--
PCB-107					--	--	--	--	--	--	--	--
PCB-107/124					--	--	--	--	--	--	--	--
PCB-108/124					--	--	--	--	--	--	--	--
PCB-109					--	--	--	--	--	--	--	--
PCB-110					--	--	--	--	--	--	--	--
PCB-111					--	--	--	--	--	--	--	--
PCB-112					--	--	--	--	--	--	--	--
PCB-114					--	--	--	--	--	--	--	--
PCB-115					--	--	--	--	--	--	--	--
PCB-117					--	--	--	--	--	--	--	--
PCB-118					--	--	--	--	--	--	--	--
PCB-120					--	--	--	--	--	--	--	--
PCB-121					--	--	--	--	--	--	--	--
PCB-122					--	--	--	--	--	--	--	--
PCB-123					--	--	--	--	--	--	--	--
PCB-126					--	--	--	--	--	--	--	--
PCB-127					--	--	--	--	--	--	--	--
PCB-128/166					--	--	--	--	--	--	--	--
PCB-129/138/163					--	--	--	--	--	--	--	--
PCB-130					--	--	--	--	--	--	--	--
PCB-131					--	--	--	--	--	--	--	--
PCB-132					--	--	--	--	--	--	--	--
PCB-133					--	--	--	--	--	--	--	--
PCB-134					--	--	--	--	--	--	--	--
PCB-135/151					--	--	--	--	--	--	--	--
PCB-136					--	--	--	--	--	--	--	--
PCB-137					--	--	--	--	--	--	--	--
PCB-139/140					--	--	--	--	--	--	--	--
PCB-141					--	--	--	--	--	--	--	--
PCB-142					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED10	FS2757-3SED10	FS2757-3SED11	FS2757-3SED11	FS2757-3SED12	FS2757-3SED12	FS2757-3SED2	FS2757-3SED2
Sample ID					3SED10-B	3SED10-C	3SED11-A	3SED11-B	3SED12-A	3SED12-B	3SED2-B	3SED2-C
Sample Date					6/5/2009	6/5/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.214142	-122.214142	-122.2125	-122.2125	-122.21213	-122.21213	-122.212828	-122.212828
Y					48.015575	48.015575	48.01249	48.01249	48.01274	48.01274	48.014696	48.014696
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII								
PCB-143					--	--	--	--	--	--	--	--
PCB-144					--	--	--	--	--	--	--	--
PCB-145					--	--	--	--	--	--	--	--
PCB-146					--	--	--	--	--	--	--	--
PCB-147/149					--	--	--	--	--	--	--	--
PCB-148					--	--	--	--	--	--	--	--
PCB-150					--	--	--	--	--	--	--	--
PCB-152					--	--	--	--	--	--	--	--
PCB-153/168					--	--	--	--	--	--	--	--
PCB-154					--	--	--	--	--	--	--	--
PCB-155					--	--	--	--	--	--	--	--
PCB-156/157					--	--	--	--	--	--	--	--
PCB-158					--	--	--	--	--	--	--	--
PCB-159					--	--	--	--	--	--	--	--
PCB-160					--	--	--	--	--	--	--	--
PCB-161					--	--	--	--	--	--	--	--
PCB-162					--	--	--	--	--	--	--	--
PCB-164					--	--	--	--	--	--	--	--
PCB-165					--	--	--	--	--	--	--	--
PCB-167					--	--	--	--	--	--	--	--
PCB-169					--	--	--	--	--	--	--	--
PCB-170					--	--	--	--	--	--	--	--
PCB-171/173					--	--	--	--	--	--	--	--
PCB-172					--	--	--	--	--	--	--	--
PCB-174					--	--	--	--	--	--	--	--
PCB-175					--	--	--	--	--	--	--	--
PCB-176					--	--	--	--	--	--	--	--
PCB-177					--	--	--	--	--	--	--	--
PCB-178					--	--	--	--	--	--	--	--
PCB-179					--	--	--	--	--	--	--	--
PCB-180/193					--	--	--	--	--	--	--	--
PCB-181					--	--	--	--	--	--	--	--
PCB-182					--	--	--	--	--	--	--	--
PCB-183					--	--	--	--	--	--	--	--
PCB-184					--	--	--	--	--	--	--	--
PCB-185					--	--	--	--	--	--	--	--
PCB-186					--	--	--	--	--	--	--	--
PCB-187					--	--	--	--	--	--	--	--
PCB-188					--	--	--	--	--	--	--	--
PCB-189					--	--	--	--	--	--	--	--
PCB-190					--	--	--	--	--	--	--	--
PCB-191					--	--	--	--	--	--	--	--
PCB-192					--	--	--	--	--	--	--	--
PCB-194					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED10	FS2757-3SED10	FS2757-3SED11	FS2757-3SED11	FS2757-3SED12	FS2757-3SED12	FS2757-3SED2	FS2757-3SED2
Sample ID					3SED10-B	3SED10-C	3SED11-A	3SED11-B	3SED12-A	3SED12-B	3SED2-B	3SED2-C
Sample Date					6/5/2009	6/5/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.214142	-122.214142	-122.2125	-122.2125	-122.21213	-122.21213	-122.212828	-122.212828
Y					48.015575	48.015575	48.01249	48.01249	48.01274	48.01274	48.014696	48.014696
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII								
PCB-195					--	--	--	--	--	--	--	--
PCB-196					--	--	--	--	--	--	--	--
PCB-197					--	--	--	--	--	--	--	--
PCB-198/199					--	--	--	--	--	--	--	--
PCB-200					--	--	--	--	--	--	--	--
PCB-201					--	--	--	--	--	--	--	--
PCB-202					--	--	--	--	--	--	--	--
PCB-203					--	--	--	--	--	--	--	--
PCB-204					--	--	--	--	--	--	--	--
PCB-205					--	--	--	--	--	--	--	--
PCB-206					--	--	--	--	--	--	--	--
PCB-207					--	--	--	--	--	--	--	--
PCB-208					--	--	--	--	--	--	--	--
PCB-209					--	--	--	--	--	--	--	--
Total PCB Congener (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (mg/kg)												
Diesel range hydrocarbons					--	--	--	--	--	--	--	--
Motor oil range hydrocarbons					--	--	--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)												
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	--	--	--	--	--
Dioxin Furans and PCB Congeners (ng/kg)												
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	JeldWenAODE5095 FS2757-3SED10 3SED10-B 6/5/2009 0 - 10 cm N SE -122.214142 48.015575	JeldWenAODE5095 FS2757-3SED10 3SED10-C 6/5/2009 0 - 10 cm N SE -122.214142 48.015575	JeldWenAODE5095 FS2757-3SED11 3SED11-A 6/3/2009 0 - 10 cm N SE -122.2125 48.01249	JeldWenAODE5095 FS2757-3SED11 3SED11-B 6/3/2009 0 - 10 cm N SE -122.2125 48.01249	JeldWenAODE5095 FS2757-3SED12 3SED12-A 6/3/2009 0 - 10 cm N SE -122.21213 48.01274	JeldWenAODE5095 FS2757-3SED12 3SED12-B 6/3/2009 0 - 10 cm N SE -122.21213 48.01274	JeldWenAODE5095 FS2757-3SED2 3SED2-B 6/3/2009 0 - 10 cm N SE -122.212828 48.014696	JeldWenAODE5095 FS2757-3SED2 3SED2-C 6/3/2009 0 - 10 cm N SE -122.212828 48.014696
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED3	FS2757-3SED3	FS2757-3SED3	FS2757-3SED4	FS2757-3SED4	FS2757-3SED4	FS2757-3SED5	FS2757-3SED5
Sample ID					3SED3-A	3SED3-B	3SED3-C	3SED4-A	3SED4-B	3SED4-C	3SED5-A	3SED5-B
Sample Date					6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/5/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.213567	-122.213567	-122.213567	-122.214406	-122.214406	-122.214406	-122.214718	-122.214718
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	48.015214	48.015214	48.015214	48.01574	48.01574	48.01574	48.016007	48.016007
Analyte												
Conventional Parameters (pct)												
Total organic carbon					**6.65**	**2.06**	**2.91**	**1.56**	**0.74**	**1.17**	**4.92**	**1.01**
Moisture, percent					--	--	--	--	--	--	--	--
Total Solids					**79.5**	**54.2**	**52.8**	**78.8**	**74**	**72.7**	**82.5**	**68.7**
Total solids (preserved)					**80.7**	**53.7**	**58.5**	**79.6**	**74.3**	**71.1**	**83.3**	**72**
Total volatile solids					**3.23**	**6.04**	**7.48**	**1.71**	**1.99**	**2.37**	**3.21**	**3.97**
Conventional Parameters (mg/kg)												
Ammonia as nitrogen					**0.48**	**4.95**	**9.4**	**5.09**	**6.93**	**6.96**	**0.8**	**4.01**
Black carbon					--	--	--	--	--	--	--	--
Sulfide					**3.39**	**59.2**	**67.5**	1.44 U	1.45 U	**42.9**	1.22 U	**163**
Grain Size (pct)												
Cobbles					--	--	--	--	--	--	--	--
Gravel					**59.7**	**6.4**	**27.3**	**43.9**	**10.9**	**2**	**39.1**	**22**
Sand					--	--	--	--	--	--	--	--
Sand, very coarse					**7.1**	**4.6**	**8.2**	**5.9**	**7**	**4.6**	**10.1**	**5.8**
Sand, coarse					**7.6**	**5.4**	**7.5**	**13.2**	**20.3**	**17**	**16.8**	**6.2**
Sand, medium					**7**	**5.3**	**6.9**	**21.5**	**30.2**	**29.3**	**18.2**	**9.2**
Sand, fine					**3.4**	**4.1**	**3.9**	**8.2**	**13.8**	**15.1**	**7.3**	**5.2**
Sand, very fine					**1.8**	**3.9**	**2.6**	**1.8**	**3**	**5.1**	**1.8**	**6.5**
Silt					--	--	--	--	--	--	--	--
Silt, coarse					**1.6**	**7.2**	**3.6**	**0.7**	**1.9**	**6.8**	**3.1**	**19**
Silt, medium					**2.8**	**18.3**	**11.8**	**1.2**	**4.5**	**6.8**	**0.9**	**10.4**
Silt, fine					**2.7**	**17.4**	**10.5**	**1**	**2.7**	**4.6**	**0.8**	**5.7**
Silt, very fine					**2.2**	**9.7**	**7**	**0.8**	**1.9**	**2.9**	**0.5**	**3.2**
Total fines (Reported, not calculated)					--	--	--	--	--	--	--	--
Clay					--	--	--	--	--	--	--	--
Clay, coarse					**1.6**	**6.4**	**4**	**0.5**	**1**	**1.8**	**0.5**	**1.8**
Clay, medium					**1.1**	**4.2**	**2.3**	**0.6**	**1.2**	**1.3**	**0.3**	**1.7**
Clay, fine					**1.3**	**7.3**	**4.5**	**0.8**	**1.7**	**2.6**	**0.6**	**3.5**
Metals (mg/kg)												
Antimony					--	--	--	--	--	--	--	--
Arsenic	57	93	57	93	**13**	**20**	40 U	**10**	**11**	**14**	**10**	**16**
Cadmium	5.1	6.7	5.1	6.7	0.3 U	0.4 U	2 U	0.2 U	0.3 U	0.3 U	0.2 U	0.3 U
Chromium	260	270	260	270	**28.6**	**52**	**88**	**19.6**	**33.8**	**34.9**	**26.6**	**39.8**
Copper	390	390	390	390	**48.8**	**59.9**	**155**	**27.5**	**19**	**28.4**	**19.5**	**31.5**
Lead	450	530	450	530	**13**	**12**	20 U	**8**	**5**	**9**	**12**	**5**
Mercury	0.41	0.59	0.41	0.59	**0.06**	**0.09**	**0.07**	0.02 U	0.03 U	**0.04**	0.03 U	**0.05**
Nickel					--	--	--	--	--	--	--	--
Silver	6.1	6.1	6.1	6.1	0.4 U	0.6 U	3 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Zinc	410	960	410	960	**102**	**95**	**65**	**33**	**46**	**60**	**55**	**55**
Volatile Organics (mg/kg-OC)												
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--	--	--
Volatile Organics (µg/kg)												
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenAODE5095**
Location ID					**FS2757-3SED3**	**FS2757-3SED3**	**FS2757-3SED3**	**FS2757-3SED4**	**FS2757-3SED4**	**FS2757-3SED4**	**FS2757-3SED5**	**FS2757-3SED5**
Sample ID					**3SED3-A**	**3SED3-B**	**3SED3-C**	**3SED4-A**	**3SED4-B**	**3SED4-C**	**3SED5-A**	**3SED5-B**
Sample Date					**6/4/2009**	**6/4/2009**	**6/4/2009**	**6/4/2009**	**6/4/2009**	**6/4/2009**	**6/5/2009**	**6/5/2009**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**-122.213567**	**-122.213567**	**-122.213567**	**-122.214406**	**-122.214406**	**-122.214406**	**-122.214718**	**-122.214718**
Y	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**	**48.015214**	**48.015214**	**48.015214**	**48.01574**	**48.01574**	**48.01574**	**48.016007**	**48.016007**
Analyte												
Semivolatile Organics (mg/kg-OC)												
1,2,4-Trichlorobenzene	0.81	1.8			0.0872 U	0.2961 U	0.206 U	0.385 U	0.8243 U	0.513 U	0.1199 U	0.604 U
1,2-Dichlorobenzene	2.3	2.3			0.0872 U	0.2961 U	0.206 U	0.385 U	0.8243 U	0.513 U	0.1199 U	0.604 U
1,4-Dichlorobenzene	3.1	9			0.0872 U	0.2961 U	0.206 U	0.385 U	0.8243 U	0.513 U	0.1199 U	0.604 U
bis(2-Ethylhexyl)phthalate	47	78			**0.752 J**	**3.689 J**	**2.955**	**0.962 J**	**2.838**	**2.222**	**11.789**	**4.059**
Butylbenzyl phthalate	4.9	64			0.211 U	**1.359**	0.515 U	0.962 U	2.027 U	1.282 U	**1.402 J**	1.485 U
Diethyl phthalate	61	110			1.053 U	3.835 U	2.543 U	1.218 U	2.568 U	1.709 U	1.667 U	**4.158**
Dimethyl phthalate	53	53			1.053 U	3.835 U	2.543 U	1.218 U	2.568 U	1.709 U	1.667 U	1.881 U
Di-n-butyl phthalate	220	1700			1.053 U	3.835 U	2.543 U	1.218 U	2.568 U	1.709 U	1.667 U	**1.386 J**
Di-n-octyl phthalate	58	4500			1.053 U	3.835 U	2.543 U	1.218 U	2.568 U	1.709 U	1.667 U	1.881 U
Hexachlorobenzene	0.38	2.3			0.0917 U	0.291 U	0.206 U	0.385 U	0.8243 U	0.513 U	0.1199 U	0.604 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			0.0872 U	0.2961 U	0.206 U	0.385 U	0.8243 U	0.513 U	0.1199 U	0.604 U
n-Nitrosodiphenylamine	11	11			0.0872 U	0.2961 U	0.206 U	0.385 U	0.8243 U	0.513 U	0.1199 U	0.604 U
Semivolatile Organics (µg/kg)												
1,2,4-Trichlorobenzene			31	51	5.8 U	6.1 U	6 U	6 U	6.1 U	6 U	5.9 U	6.1 U
1,2-Dichlorobenzene			35	50	5.8 U	6.1 U	6 U	6 U	6.1 U	6 U	5.9 U	6.1 U
1,3-Dichlorobenzene					5.8 U	6.1 U	6 U	6 U	6.1 U	6 U	5.9 U	6.1 U
1,4-Dichlorobenzene			110	110	5.8 U	6.1 U	6 U	6 U	6.1 U	6 U	5.9 U	6.1 U
2,4-Dimethylphenol	29	29	29	29	5.8 U	6.1 U	6 U	6 U	6.1 U	6 U	5.9 U	6.1 U
2-Methylphenol (o-Cresol)	63	63	63	63	5.8 U	6.1 U	6 U	6 U	6.1 U	6 U	5.9 U	6.1 U
4-Methylphenol (p-Cresol)	670	670	670	670	70 U	79 U	74 U	**34**	**18 J**	**16 J**	82 U	19 U
Benzoic acid	650	650	650	650	700 U	790 U	740 U	190 U	190 U	200 U	820 U	190 U
Benzyl alcohol	57	73	57	73	29 U	30 U	30 U	19 U	19 U	30 U	30 U	30 U
bis(2-Ethylhexyl)phthalate			1300	1900	**50 J**	**76 J**	**86**	**15 J**	**21**	**26**	**580**	**41**
Butylbenzyl phthalate			63	900	14 U	**28**	15 U	15 U	15 U	15 U	**69 J**	15 U
Diethyl phthalate			200	1200	70 U	79 U	74 U	19 U	19 U	20 U	82 U	**42**
Dimethyl phthalate			71	160	70 U	79 U	74 U	19 U	19 U	20 U	82 U	19 U
Di-n-butyl phthalate			1400	1400	70 U	79 U	74 U	19 U	19 U	20 U	82 U	**14 J**
Di-n-octyl phthalate			6200	6200	70 U	79 U	74 U	19 U	19 U	20 U	82 U	19 U
Hexachlorobenzene			22	70	6.1 U	6 U	6 U	6 U	6.1 U	6 U	5.9 U	6.1 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	5.8 U	6.1 U	6 U	6 U	6.1 U	6 U	5.9 U	6.1 U
Hexachloroethane					70 U	79 U	74 U	19 U	19 U	20 U	82 U	19 U
n-Nitrosodiphenylamine			28	40	5.8 U	6.1 U	6 U	6 U	6.1 U	6 U	5.9 U	6.1 U
Pentachlorophenol	360	690	360	690	**100**	30 U	30 U	30 U	30 U	30 U	**79**	30 U
Phenol	420	1200	420	1200	70 U	79 U	74 U	**41**	**61**	**30**	82 U	19 U
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)												
2-Methylnaphthalene	38	64			1.053 U	3.835 U	2.543 U	1.218 U	2.568 U	1.709 U	1.667 U	1.881 U
Acenaphthene	16	57			1.053 U	3.835 U	2.543 U	1.218 U	2.568 U	1.709 U	1.667 U	1.881 U
Acenaphthylene	66	66			1.053 U	3.835 U	2.543 U	1.218 U	2.568 U	1.709 U	1.667 U	1.881 U
Anthracene	220	1200			1.053 U	3.835 U	2.543 U	1.218 U	**1.892 J**	**1.368 J**	1.667 U	1.881 U
Benzo(a)anthracene	110	270			1.053 U	3.835 U	2.543 U	1.218 U	**3.514**	**4.957**	1.667 U	**2.376**
Benzo(a)pyrene	99	210			1.053 U	3.835 U	2.543 U	**0.897 J**	**2.838**	**2.65**	1.667 U	**1.98**
Benzo(g,h,i)perylene	31	78			**0.992 J**	3.835 U	2.543 U	**0.769 J**	**2.297 J**	**1.538 J**	1.667 U	**0.9802 J**
Chrysene	110	460			1.053 U	**2.816 J**	**1.615 J**	**3.013**	**6.081**	**9.402**	1.667 U	**4.851**

Table H-1
Surface Sediment Results

Task					**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenAODE5095**
Location ID					**FS2757-3SED3**	**FS2757-3SED3**	**FS2757-3SED3**	**FS2757-3SED4**	**FS2757-3SED4**	**FS2757-3SED4**	**FS2757-3SED5**	**FS2757-3SED5**
Sample ID					**3SED3-A**	**3SED3-B**	**3SED3-C**	**3SED4-A**	**3SED4-B**	**3SED4-C**	**3SED5-A**	**3SED5-B**
Sample Date					**6/4/2009**	**6/4/2009**	**6/4/2009**	**6/4/2009**	**6/4/2009**	**6/4/2009**	**6/5/2009**	**6/5/2009**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**-122.213567**	**-122.213567**	**-122.213567**	**-122.214406**	**-122.214406**	**-122.214406**	**-122.214718**	**-122.214718**
Y					**48.015214**	**48.015214**	**48.015214**	**48.01574**	**48.01574**	**48.01574**	**48.016007**	**48.016007**
Analyte	**SMS_Marine_SCO_SCUMII**	**SMS_Marine_CSL_SCUMII**	**AET_Marine_SCO_SCUMII**	**AET_Marine_CSL_SCUMII**								
Dibenzo(a,h)anthracene	12	33			**0.211**	**0.291**	**0.268**	0.385 U	0.8243 U	0.513 U	1.667 U	0.604 U
Dibenzofuran	15	58			1.053 U	3.835 U	2.543 U	1.218 U	2.568 U	1.709 U	1.667 U	1.881 U
Fluoranthene	160	1200			1.053 U	**3.204 J**	**1.649 J**	**3.269**	**9.595**	**25.641**	1.667 U	**12.871**
Fluorene	23	79			1.053 U	3.835 U	2.543 U	1.218 U	2.568 U	**0.855 J**	1.667 U	1.881 U
Indeno(1,2,3-c,d)pyrene	34	88			1.053 U	3.835 U	2.543 U	1.218 U	**1.486 J**	**1.282 J**	1.667 U	1.881 U
Naphthalene	99	170			1.053 U	3.835 U	2.543 U	1.218 U	2.568 U	1.709 U	1.667 U	1.881 U
Phenanthrene	100	480			1.053 U	3.835 U	2.543 U	**0.833 J**	**2.838**	**10.256**	1.667 U	**2.178**
Pyrene	1000	1400			1.053 U	**2.67 J**	**1.409 J**	**2.051**	**7.297**	**15.385**	**0.854 J**	**7.129**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					**1.50526**	**5.42621 J**	**3.603093 J**	**1.51731 J**	**4.12973 J**	**4.34188 J**	1.66667 U	**3.089109**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					**0.76316**	**2.74175 J**	**1.823024 J**	**1.37628 J**	**4.088514 J**	**4.31624 J**	1.66667 U	**2.964851**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					**0.02105**	**0.05728 J**	**0.042955 J**	**1.23526 J**	**4.047297 J**	**4.2906 J**	1.66667 U	**2.840594**
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			1.053 U	3.835 U	2.543 U	**3.077**	**6.486**	**9.231**	1.667 U	**5.743**
Total HPAH (SMS) (U = 0)	960	5300			**1.203 J**	**8.981 J**	**4.9416 J**	**13.077 J**	**39.5946 J**	**70.085 J**	**0.854 J**	**35.9307 J**
Total LPAH (SMS) (U = 0)	370	780			1.053 U	3.835 U	2.543 U	**0.833 J**	**4.73 J**	**12.479 J**	1.667 U	**2.178**
Polycyclic Aromatic Hydrocarbons (µg/kg)												
1-Methylnaphthalene					70 U	79 U	74 U	19 U	19 U	20 U	82 U	19 U
2-Methylnaphthalene			670	670	70 U	79 U	74 U	19 U	19 U	20 U	82 U	19 U
Acenaphthene			500	500	70 U	79 U	74 U	19 U	19 U	20 U	82 U	19 U
Acenaphthylene			1300	1300	70 U	79 U	74 U	19 U	19 U	20 U	82 U	19 U
Anthracene			960	960	70 U	79 U	74 U	19 U	**14 J**	**16 J**	82 U	19 U
Benzo(a)anthracene			1300	1600	70 U	79 U	74 U	19 U	**26**	**58**	82 U	**24**
Benzo(a)pyrene			1600	1600	70 U	79 U	74 U	**14 J**	**21**	**31**	82 U	**20**
Benzo(b)fluoranthene					70 U	79 U	74 U	**24**	**24**	**54**	82 U	**29**
Benzo(g,h,i)perylene			670	720	**66 J**	79 U	74 U	**12 J**	**17 J**	**18 J**	82 U	**9.9 J**
Benzo(k)fluoranthene					70 U	79 U	74 U	**24**	**24**	**54**	82 U	**29**
Chrysene			1400	2800	70 U	**58 J**	**47 J**	**47**	**45**	**110**	82 U	**49**
Dibenzo(a,h)anthracene			230	230	**14**	**6**	**7.8**	6 U	6.1 U	6 U	82 U	6.1 U
Dibenzofuran			540	540	70 U	79 U	74 U	19 U	19 U	20 U	82 U	19 U
Fluoranthene			1700	2500	70 U	**66 J**	**48 J**	**51**	**71**	**300**	82 U	**130**
Fluorene			540	540	70 U	79 U	74 U	19 U	19 U	**10 J**	82 U	19 U
Indeno(1,2,3-c,d)pyrene			600	690	70 U	79 U	74 U	19 U	**11 J**	**15 J**	82 U	19 U
Naphthalene			2100	2100	70 U	79 U	74 U	19 U	19 U	20 U	82 U	19 U
Phenanthrene			1500	1500	70 U	79 U	74 U	**13 J**	**21**	**120**	82 U	**22**
Pyrene			2600	3300	70 U	**55 J**	**41 J**	**32**	**54**	**180**	**42 J**	**72**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					**100.1**	**111.78 J**	**104.85 J**	**23.67 J**	**30.56 J**	**50.8 J**	82 U	**31.2**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					**50.75**	**56.48 J**	**53.05 J**	**21.47 J**	**30.255 J**	**50.5 J**	82 U	**29.945**
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	70 U	79 U	74 U	**48**	**48**	**108**	82 U	**58**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					**1.4**	**1.18 J**	**1.25 J**	**19.27 J**	**29.95 J**	**50.2 J**	82 U	**28.69**
Total HPAH (SMS) (U = 0)			12000	17000	**80 J**	**185 J**	**143.8 J**	**204 J**	**293 J**	**820 J**	**42 J**	**362.9 J**
Total LPAH (SMS) (U = 0)			5200	5200	70 U	79 U	74 U	**13 J**	**35 J**	**146 J**	82 U	**22**
Dioxin Furans (ng/kg)												
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED3	FS2757-3SED3	FS2757-3SED3	FS2757-3SED4	FS2757-3SED4	FS2757-3SED4	FS2757-3SED5	FS2757-3SED5
Sample ID					3SED3-A	3SED3-B	3SED3-C	3SED4-A	3SED4-B	3SED4-C	3SED5-A	3SED5-B
Sample Date					6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/5/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.213567	-122.213567	-122.213567	-122.214406	-122.214406	-122.214406	-122.214718	-122.214718
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	48.015214	48.015214	48.015214	48.01574	48.01574	48.01574	48.016007	48.016007
Analyte												
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					--	--	--	--	--	--	--	--
Total Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	--	--	--	--
Total Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	--	--	--	--
Total Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--	--
Total Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					--	--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					--	--	--	--	--	--	--	--
Total Tetrachlorodibenzofuran (TCDF)					--	--	--	--	--	--	--	--
Total Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--	--
Total Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--	--
Total Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--	--
PCB Aroclors (mg/kg-OC)												
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			**0.1098**	**0.5534**	**0.1443**	**0.3269**	0.527 U	0.3333 U	**0.0833**	0.3861 U
PCB Aroclors (µg/kg)												
Aroclor 1016					4 U	4 U	3.9 U	3.8 U	3.9 U	3.9 U	3.9 U	3.9 U
Aroclor 1221					4 U	4 U	3.9 U	3.8 U	3.9 U	3.9 U	3.9 U	3.9 U
Aroclor 1232					4 U	4 U	3.9 U	3.8 U	3.9 U	3.9 U	3.9 U	3.9 U
Aroclor 1242					4 U	4 U	3.9 U	3.8 U	3.9 U	3.9 U	3.9 U	3.9 U
Aroclor 1248					4 U	4 U	3.9 U	3.8 U	3.9 U	3.9 U	3.9 U	3.9 U
Aroclor 1254					4 U	**4.4**	**4.2**	3.8 U	3.9 U	3.9 U	3.9 U	3.9 U
Aroclor 1260					**7.3**	**7**	3.9 U	**5.1**	3.9 U	3.9 U	**4.1**	3.9 U
Aroclor 1262					--	--	--	--	--	--	--	--
Aroclor 1268					--	--	--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	**7.3**	**11.4**	**4.2**	**5.1**	3.9 U	3.9 U	**4.1**	3.9 U

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED3	FS2757-3SED3	FS2757-3SED3	FS2757-3SED4	FS2757-3SED4	FS2757-3SED4	FS2757-3SED5	FS2757-3SED5
Sample ID					3SED3-A	3SED3-B	3SED3-C	3SED4-A	3SED4-B	3SED4-C	3SED5-A	3SED5-B
Sample Date					6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/5/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.213567	-122.213567	-122.213567	-122.214406	-122.214406	-122.214406	-122.214718	-122.214718
Y					48.015214	48.015214	48.015214	48.01574	48.01574	48.01574	48.016007	48.016007
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII								
PCB Congeners (mg/kg-OC)												
Total PCB Congener (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener (U = 0)	12	65			--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--	--
PCB Congeners (ng/kg)												
PCB-001					--	--	--	--	--	--	--	--
PCB-002					--	--	--	--	--	--	--	--
PCB-003					--	--	--	--	--	--	--	--
PCB-004					--	--	--	--	--	--	--	--
PCB-005					--	--	--	--	--	--	--	--
PCB-006					--	--	--	--	--	--	--	--
PCB-007					--	--	--	--	--	--	--	--
PCB-008					--	--	--	--	--	--	--	--
PCB-009					--	--	--	--	--	--	--	--
PCB-010					--	--	--	--	--	--	--	--
PCB-011					--	--	--	--	--	--	--	--
PCB-012/013					--	--	--	--	--	--	--	--
PCB-014					--	--	--	--	--	--	--	--
PCB-015					--	--	--	--	--	--	--	--
PCB-016					--	--	--	--	--	--	--	--
PCB-017					--	--	--	--	--	--	--	--
PCB-018/030					--	--	--	--	--	--	--	--
PCB-019					--	--	--	--	--	--	--	--
PCB-020/028					--	--	--	--	--	--	--	--
PCB-021/033					--	--	--	--	--	--	--	--
PCB-022					--	--	--	--	--	--	--	--
PCB-023					--	--	--	--	--	--	--	--
PCB-024					--	--	--	--	--	--	--	--
PCB-025					--	--	--	--	--	--	--	--
PCB-026/029					--	--	--	--	--	--	--	--
PCB-027					--	--	--	--	--	--	--	--
PCB-031					--	--	--	--	--	--	--	--
PCB-032					--	--	--	--	--	--	--	--
PCB-034					--	--	--	--	--	--	--	--
PCB-035					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED3	FS2757-3SED3	FS2757-3SED3	FS2757-3SED4	FS2757-3SED4	FS2757-3SED4	FS2757-3SED5	FS2757-3SED5
Sample ID					3SED3-A	3SED3-B	3SED3-C	3SED4-A	3SED4-B	3SED4-C	3SED5-A	3SED5-B
Sample Date					6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/5/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.213567	-122.213567	-122.213567	-122.214406	-122.214406	-122.214406	-122.214718	-122.214718
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	48.015214	48.015214	48.015214	48.01574	48.01574	48.01574	48.016007	48.016007
Analyte												
PCB-036					--	--	--	--	--	--	--	--
PCB-037					--	--	--	--	--	--	--	--
PCB-038					--	--	--	--	--	--	--	--
PCB-039					--	--	--	--	--	--	--	--
PCB-040/071					--	--	--	--	--	--	--	--
PCB-041					--	--	--	--	--	--	--	--
PCB-042					--	--	--	--	--	--	--	--
PCB-043					--	--	--	--	--	--	--	--
PCB-044/047/065					--	--	--	--	--	--	--	--
PCB-045					--	--	--	--	--	--	--	--
PCB-046					--	--	--	--	--	--	--	--
PCB-048					--	--	--	--	--	--	--	--
PCB-049/069					--	--	--	--	--	--	--	--
PCB-050/053					--	--	--	--	--	--	--	--
PCB-051					--	--	--	--	--	--	--	--
PCB-052					--	--	--	--	--	--	--	--
PCB-054					--	--	--	--	--	--	--	--
PCB-055					--	--	--	--	--	--	--	--
PCB-056					--	--	--	--	--	--	--	--
PCB-057					--	--	--	--	--	--	--	--
PCB-058					--	--	--	--	--	--	--	--
PCB-059/062/075					--	--	--	--	--	--	--	--
PCB-060					--	--	--	--	--	--	--	--
PCB-061/070/074/076					--	--	--	--	--	--	--	--
PCB-063					--	--	--	--	--	--	--	--
PCB-064					--	--	--	--	--	--	--	--
PCB-066					--	--	--	--	--	--	--	--
PCB-067					--	--	--	--	--	--	--	--
PCB-068					--	--	--	--	--	--	--	--
PCB-072					--	--	--	--	--	--	--	--
PCB-073					--	--	--	--	--	--	--	--
PCB-077					--	--	--	--	--	--	--	--
PCB-078					--	--	--	--	--	--	--	--
PCB-079					--	--	--	--	--	--	--	--
PCB-080					--	--	--	--	--	--	--	--
PCB-081					--	--	--	--	--	--	--	--
PCB-082					--	--	--	--	--	--	--	--
PCB-083					--	--	--	--	--	--	--	--
PCB-084					--	--	--	--	--	--	--	--
PCB-085/116					--	--	--	--	--	--	--	--
PCB-086/087/097/108/119/125					--	--	--	--	--	--	--	--
PCB-086/087/097/109/119/125					--	--	--	--	--	--	--	--
PCB-088					--	--	--	--	--	--	--	--
PCB-089					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED3	FS2757-3SED3	FS2757-3SED3	FS2757-3SED4	FS2757-3SED4	FS2757-3SED4	FS2757-3SED5	FS2757-3SED5
Sample ID					3SED3-A	3SED3-B	3SED3-C	3SED4-A	3SED4-B	3SED4-C	3SED5-A	3SED5-B
Sample Date					6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/5/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.213567	-122.213567	-122.213567	-122.214406	-122.214406	-122.214406	-122.214718	-122.214718
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	48.015214	48.015214	48.015214	48.01574	48.01574	48.01574	48.016007	48.016007
Analyte												
PCB-090/101/113					--	--	--	--	--	--	--	--
PCB-091					--	--	--	--	--	--	--	--
PCB-092					--	--	--	--	--	--	--	--
PCB-093/100					--	--	--	--	--	--	--	--
PCB-094					--	--	--	--	--	--	--	--
PCB-095					--	--	--	--	--	--	--	--
PCB-096					--	--	--	--	--	--	--	--
PCB-098					--	--	--	--	--	--	--	--
PCB-099					--	--	--	--	--	--	--	--
PCB-102					--	--	--	--	--	--	--	--
PCB-103					--	--	--	--	--	--	--	--
PCB-104					--	--	--	--	--	--	--	--
PCB-105					--	--	--	--	--	--	--	--
PCB-106					--	--	--	--	--	--	--	--
PCB-107					--	--	--	--	--	--	--	--
PCB-107/124					--	--	--	--	--	--	--	--
PCB-108/124					--	--	--	--	--	--	--	--
PCB-109					--	--	--	--	--	--	--	--
PCB-110					--	--	--	--	--	--	--	--
PCB-111					--	--	--	--	--	--	--	--
PCB-112					--	--	--	--	--	--	--	--
PCB-114					--	--	--	--	--	--	--	--
PCB-115					--	--	--	--	--	--	--	--
PCB-117					--	--	--	--	--	--	--	--
PCB-118					--	--	--	--	--	--	--	--
PCB-120					--	--	--	--	--	--	--	--
PCB-121					--	--	--	--	--	--	--	--
PCB-122					--	--	--	--	--	--	--	--
PCB-123					--	--	--	--	--	--	--	--
PCB-126					--	--	--	--	--	--	--	--
PCB-127					--	--	--	--	--	--	--	--
PCB-128/166					--	--	--	--	--	--	--	--
PCB-129/138/163					--	--	--	--	--	--	--	--
PCB-130					--	--	--	--	--	--	--	--
PCB-131					--	--	--	--	--	--	--	--
PCB-132					--	--	--	--	--	--	--	--
PCB-133					--	--	--	--	--	--	--	--
PCB-134					--	--	--	--	--	--	--	--
PCB-135/151					--	--	--	--	--	--	--	--
PCB-136					--	--	--	--	--	--	--	--
PCB-137					--	--	--	--	--	--	--	--
PCB-139/140					--	--	--	--	--	--	--	--
PCB-141					--	--	--	--	--	--	--	--
PCB-142					--	--	--	--	--	--	--	--

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED3	FS2757-3SED3	FS2757-3SED3	FS2757-3SED4	FS2757-3SED4	FS2757-3SED4	FS2757-3SED5	FS2757-3SED5
Sample ID					3SED3-A	3SED3-B	3SED3-C	3SED4-A	3SED4-B	3SED4-C	3SED5-A	3SED5-B
Sample Date					6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/5/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.213567	-122.213567	-122.213567	-122.214406	-122.214406	-122.214406	-122.214718	-122.214718
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	48.015214	48.015214	48.015214	48.01574	48.01574	48.01574	48.016007	48.016007
Analyte												
PCB-143					--	--	--	--	--	--	--	--
PCB-144					--	--	--	--	--	--	--	--
PCB-145					--	--	--	--	--	--	--	--
PCB-146					--	--	--	--	--	--	--	--
PCB-147/149					--	--	--	--	--	--	--	--
PCB-148					--	--	--	--	--	--	--	--
PCB-150					--	--	--	--	--	--	--	--
PCB-152					--	--	--	--	--	--	--	--
PCB-153/168					--	--	--	--	--	--	--	--
PCB-154					--	--	--	--	--	--	--	--
PCB-155					--	--	--	--	--	--	--	--
PCB-156/157					--	--	--	--	--	--	--	--
PCB-158					--	--	--	--	--	--	--	--
PCB-159					--	--	--	--	--	--	--	--
PCB-160					--	--	--	--	--	--	--	--
PCB-161					--	--	--	--	--	--	--	--
PCB-162					--	--	--	--	--	--	--	--
PCB-164					--	--	--	--	--	--	--	--
PCB-165					--	--	--	--	--	--	--	--
PCB-167					--	--	--	--	--	--	--	--
PCB-169					--	--	--	--	--	--	--	--
PCB-170					--	--	--	--	--	--	--	--
PCB-171/173					--	--	--	--	--	--	--	--
PCB-172					--	--	--	--	--	--	--	--
PCB-174					--	--	--	--	--	--	--	--
PCB-175					--	--	--	--	--	--	--	--
PCB-176					--	--	--	--	--	--	--	--
PCB-177					--	--	--	--	--	--	--	--
PCB-178					--	--	--	--	--	--	--	--
PCB-179					--	--	--	--	--	--	--	--
PCB-180/193					--	--	--	--	--	--	--	--
PCB-181					--	--	--	--	--	--	--	--
PCB-182					--	--	--	--	--	--	--	--
PCB-183					--	--	--	--	--	--	--	--
PCB-184					--	--	--	--	--	--	--	--
PCB-185					--	--	--	--	--	--	--	--
PCB-186					--	--	--	--	--	--	--	--
PCB-187					--	--	--	--	--	--	--	--
PCB-188					--	--	--	--	--	--	--	--
PCB-189					--	--	--	--	--	--	--	--
PCB-190					--	--	--	--	--	--	--	--
PCB-191					--	--	--	--	--	--	--	--
PCB-192					--	--	--	--	--	--	--	--
PCB-194					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED3	FS2757-3SED3	FS2757-3SED3	FS2757-3SED4	FS2757-3SED4	FS2757-3SED4	FS2757-3SED5	FS2757-3SED5
Sample ID					3SED3-A	3SED3-B	3SED3-C	3SED4-A	3SED4-B	3SED4-C	3SED5-A	3SED5-B
Sample Date					6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/5/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.213567	-122.213567	-122.213567	-122.214406	-122.214406	-122.214406	-122.214718	-122.214718
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	48.015214	48.015214	48.015214	48.01574	48.01574	48.01574	48.016007	48.016007
Analyte												
PCB-195					--	--	--	--	--	--	--	--
PCB-196					--	--	--	--	--	--	--	--
PCB-197					--	--	--	--	--	--	--	--
PCB-198/199					--	--	--	--	--	--	--	--
PCB-200					--	--	--	--	--	--	--	--
PCB-201					--	--	--	--	--	--	--	--
PCB-202					--	--	--	--	--	--	--	--
PCB-203					--	--	--	--	--	--	--	--
PCB-204					--	--	--	--	--	--	--	--
PCB-205					--	--	--	--	--	--	--	--
PCB-206					--	--	--	--	--	--	--	--
PCB-207					--	--	--	--	--	--	--	--
PCB-208					--	--	--	--	--	--	--	--
PCB-209					--	--	--	--	--	--	--	--
Total PCB Congener (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (mg/kg)												
Diesel range hydrocarbons					--	--	--	--	--	--	--	--
Motor oil range hydrocarbons					--	--	--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)												
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	--	--	--	--	--
Dioxin Furans and PCB Congeners (ng/kg)												
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	JeldWenAODE5095 FS2757-3SED3 3SED3-A 6/4/2009 0 - 10 cm N SE -122.213567 48.015214	JeldWenAODE5095 FS2757-3SED3 3SED3-B 6/4/2009 0 - 10 cm N SE -122.213567 48.015214	JeldWenAODE5095 FS2757-3SED3 3SED3-C 6/4/2009 0 - 10 cm N SE -122.213567 48.015214	JeldWenAODE5095 FS2757-3SED4 3SED4-A 6/4/2009 0 - 10 cm N SE -122.214406 48.01574	JeldWenAODE5095 FS2757-3SED4 3SED4-B 6/4/2009 0 - 10 cm N SE -122.214406 48.01574	JeldWenAODE5095 FS2757-3SED4 3SED4-C 6/4/2009 0 - 10 cm N SE -122.214406 48.01574	JeldWenAODE5095 FS2757-3SED5 3SED5-A 6/5/2009 0 - 10 cm N SE -122.214718 48.016007	JeldWenAODE5095 FS2757-3SED5 3SED5-B 6/5/2009 0 - 10 cm N SE -122.214718 48.016007
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED5	FS2757-3SED6	FS2757-3SED6	FS2757-3SED6	FS2757-3SED7	FS2757-3SED7	FS2757-3SED7	FS2757-3SED8
Sample ID					3SED5-C	3SED6-A	3SED6-B	3SED6-C	3SED7-A	3SED7-B	3SED7-C	3SED8-A
Sample Date					6/5/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.214718	-122.216064	-122.216064	-122.216064	-122.211212	-122.211212	-122.211212	-122.210042
Y					48.016007	48.017134	48.017134	48.017134	48.01625	48.01625	48.01625	48.015442
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII								
Conventional Parameters (pct)												
Total organic carbon					**1.29**	**0.922**	**0.289**	**0.686**	**2.2**	**2.51**	**2.66**	**4.88**
Moisture, percent					--	--	--	--	--	--	--	--
Total Solids					**60.4**	**78.1**	**87.8**	**84.2**	**82.4**	**51**	**54.2**	**62.3**
Total solids (preserved)					**61**	**79.1**	**82.4**	**77**	**69.5**	**49**	**49.9**	**57.1**
Total volatile solids					**4.5**	**2.71**	**3.21**	**3.5**	**3.59**	**8.24**	**6.87**	**6.67**
Conventional Parameters (mg/kg)												
Ammonia as nitrogen					**4.25**	**1.08**	**0.11**	**0.17**	**2.82**	**2.82**	**6.23**	**2.13**
Black carbon					--	--	--	--	--	--	--	--
Sulfide					**12.4**	1.28 U	1.11 U	1.36 U	**29.2**	**82.1**	**51.8**	**132**
Grain Size (pct)												
Cobbles					--	--	--	--	--	--	--	--
Gravel					**6.1**	**64.1**	**65.6**	**69.9**	**51.4**	**1.6**	**2.3**	**13.4**
Sand					--	--	--	--	--	--	--	--
Sand, very coarse					**3.1**	**8**	**5.5**	**6.3**	**7.9**	**2.9**	**3**	**7**
Sand, coarse					**5.4**	**9.6**	**7.5**	**7.7**	**8.4**	**2.6**	**2.9**	**11.7**
Sand, medium					**11.3**	**11.1**	**9.2**	**8**	**11.4**	**5.3**	**3.7**	**18.5**
Sand, fine					**8.5**	**3.2**	**2.2**	**1.9**	**4.8**	**4.1**	**3**	**6.9**
Sand, very fine					**10.3**	**1**	**1.2**	**1.3**	**0.9**	**2.2**	**1.8**	**1.6**
Silt					--	--	--	--	--	--	--	--
Silt, coarse					**22**	--	**4.7**	**1**	**4**	**10.2**	**5.3**	**3**
Silt, medium					**13.1**	--	**1**	**0.9**	**2.9**	**20.5**	**22.5**	**8**
Silt, fine					**7.3**	--	**0.8**	**0.8**	**3.2**	**18.8**	**21.7**	**9.8**
Silt, very fine					**4.1**	--	**0.7**	**0.6**	**1.7**	**12.2**	**12.8**	**8.2**
Total fines (Reported, not calculated)					--	--	--	--	--	--	--	--
Clay					--	--	--	--	--	--	--	--
Clay, coarse					**2.3**	--	**0.6**	**0.5**	**1.4**	**6.6**	**6.4**	**4.4**
Clay, medium					**2.1**	--	**0.4**	**0.4**	**0.8**	**5**	**6.3**	**2.7**
Clay, fine					**4.3**	--	**0.7**	**0.6**	**1.3**	**8.1**	**8.2**	**4.8**
Metals (mg/kg)												
Antimony					--	--	--	--	--	--	--	--
Arsenic	57	93	57	93	**18**	20 U	**20**	**8**	**13**	**20**	**30**	**17**
Cadmium	5.1	6.7	5.1	6.7	0.3 U	0.6 U	0.6 U	0.2 U	0.3 U	0.4 U	0.4 U	0.3 U
Chromium	260	270	260	270	**42.4**	**29**	**34**	**13.3**	**34.3**	**60**	**64**	**66.3**
Copper	390	390	390	390	**34.2**	**64.9**	**58.4**	**36.2**	**61.7**	**94.9**	**77.6**	**47.6**
Lead	450	530	450	530	**7**	6 U	6 U	2 U	**10**	**17**	**15**	**21**
Mercury	0.41	0.59	0.41	0.59	**0.05**	0.02 U	0.02 U	0.02 U	**0.04**	**0.11**	**0.11**	**0.1**
Nickel					--	--	--	--	--	--	--	--
Silver	6.1	6.1	6.1	6.1	0.5 U	0.9 U	0.9 U	0.4 U	0.4 U	0.6 U	0.6 U	0.5 U
Zinc	410	960	410	960	**60**	**121**	**60**	**23**	**84**	**121**	**119**	**94**
Volatile Organics (mg/kg-OC)												
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--	--	--
Volatile Organics (µg/kg)												
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED5	FS2757-3SED6	FS2757-3SED6	FS2757-3SED6	FS2757-3SED7	FS2757-3SED7	FS2757-3SED7	FS2757-3SED8
Sample ID					3SED5-C	3SED6-A	3SED6-B	3SED6-C	3SED7-A	3SED7-B	3SED7-C	3SED8-A
Sample Date					6/5/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.214718	-122.216064	-122.216064	-122.216064	-122.211212	-122.211212	-122.211212	-122.210042
Y					48.016007	48.017134	48.017134	48.017134	48.01625	48.01625	48.01625	48.015442
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII								
Semivolatile Organics (mg/kg-OC)												
1,2,4-Trichlorobenzene	0.81	1.8			0.4806 U	0.651 U	2.0415 U	0.875 U	0.2636 U	0.243 U	0.2293 U	0.123 U
1,2-Dichlorobenzene	2.3	2.3			0.4806 U	0.651 U	2.0415 U	0.875 U	0.2636 U	0.243 U	0.2293 U	0.123 U
1,4-Dichlorobenzene	3.1	9			0.4806 U	0.651 U	2.0415 U	0.875 U	0.2636 U	0.243 U	0.2293 U	0.123 U
bis(2-Ethylhexyl)phthalate	47	78			**4.651**	2.061 U	6.92 U	2.77 U	**4.455**	**5.578**	**3.759**	**3.074**
Butylbenzyl phthalate	4.9	64			1.163 U	1.627 U	5.19 U	2.187 U	**0.773**	0.598 U	0.752 U	0.41 U
Diethyl phthalate	61	110			1.55 U	2.061 U	6.92 U	2.77 U	2.818 U	0.797 U	0.752 U	0.41 U
Dimethyl phthalate	53	53			1.55 U	2.061 U	6.92 U	2.77 U	2.818 U	0.797 U	0.752 U	0.41 U
Di-n-butyl phthalate	220	1700			1.55 U	2.061 U	6.92 U	2.77 U	2.818 U	0.797 U	**0.489 J**	**0.717**
Di-n-octyl phthalate	58	4500			1.55 U	2.061 U	6.92 U	2.77 U	2.818 U	0.797 U	0.752 U	0.41 U
Hexachlorobenzene	0.38	2.3			0.4806 U	0.651 U	2.0415 U	**6.851**	0.2636 U	0.243 U	0.2293 U	0.123 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			0.4806 U	0.651 U	2.0415 U	0.875 U	0.2636 U	0.243 U	0.2293 U	0.123 U
n-Nitrosodiphenylamine	11	11			0.4806 U	0.651 U	2.0415 U	0.875 U	0.2636 U	0.243 U	0.2293 U	0.123 U
Semivolatile Organics (µg/kg)												
1,2,4-Trichlorobenzene			31	51	6.2 U	6 U	5.9 U	6 U	5.8 U	6.1 U	6.1 U	6 U
1,2-Dichlorobenzene			35	50	6.2 U	6 U	5.9 U	6 U	5.8 U	6.1 U	6.1 U	6 U
1,3-Dichlorobenzene					6.2 U	6 U	5.9 U	6 U	5.8 U	6.1 U	6.1 U	6 U
1,4-Dichlorobenzene			110	110	6.2 U	6 U	5.9 U	6 U	5.8 U	6.1 U	6.1 U	6 U
2,4-Dimethylphenol	29	29	29	29	6.2 U	6 U	5.9 U	6 U	5.8 U	6.1 U	6.1 U	6 U
2-Methylphenol (o-Cresol)	63	63	63	63	6.2 U	6 U	5.9 U	6 U	5.8 U	6.1 U	6.1 U	6 U
4-Methylphenol (p-Cresol)	670	670	670	670	20 U	19 U	20 U	19 U	62 U	20 U	20 U	20 U
Benzoic acid	650	650	650	650	200 U	190 U	200 U	190 U	620 U	200 U	200 U	200 U
Benzyl alcohol	57	73	57	73	20 U	19 U	20 U	19 U	29 U	20 U	20 U	20 U
bis(2-Ethylhexyl)phthalate			1300	1900	**60**	19 U	20 U	19 U	**98**	**140**	**100**	**150**
Butylbenzyl phthalate			63	900	15 U	15 U	15 U	15 U	**17**	15 U	20 U	20 U
Diethyl phthalate			200	1200	20 U	19 U	20 U	19 U	62 U	20 U	20 U	20 U
Dimethyl phthalate			71	160	20 U	19 U	20 U	19 U	62 U	20 U	20 U	20 U
Di-n-butyl phthalate			1400	1400	20 U	19 U	20 U	19 U	62 U	20 U	**13 J**	**35**
Di-n-octyl phthalate			6200	6200	20 U	19 U	20 U	19 U	62 U	20 U	20 U	20 U
Hexachlorobenzene			22	70	6.2 U	6 U	5.9 U	**47**	5.8 U	6.1 U	6.1 U	6 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	6.2 U	6 U	5.9 U	6 U	5.8 U	6.1 U	6.1 U	6 U
Hexachloroethane					20 U	19 U	20 U	19 U	62 U	20 U	20 U	20 U
n-Nitrosodiphenylamine			28	40	6.2 U	6 U	5.9 U	6 U	5.8 U	6.1 U	6.1 U	6 U
Pentachlorophenol	360	690	360	690	31 U	30 U	30 U	30 U	29 U	31 U	30 U	**48 J**
Phenol	420	1200	420	1200	20 U	19 U	20 U	19 U	62 U	20 U	20 U	20 U
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)												
2-Methylnaphthalene	38	64			1.55 U	2.061 U	6.92 U	2.77 U	2.818 U	0.797 U	0.752 U	**0.307 J**
Acenaphthene	16	57			1.55 U	2.061 U	6.92 U	2.77 U	2.818 U	0.797 U	0.752 U	**0.43**
Acenaphthylene	66	66			1.55 U	2.061 U	6.92 U	2.77 U	2.818 U	0.797 U	0.752 U	0.41 U
Anthracene	220	1200			**1.085 J**	2.061 U	6.92 U	2.77 U	2.818 U	0.797 U	**1.053**	**3.689**
Benzo(a)anthracene	110	270			**3.178**	2.061 U	6.92 U	2.77 U	2.818 U	**2.43**	**2.97**	**4.918**
Benzo(a)pyrene	99	210			**2.713**	2.061 U	6.92 U	2.77 U	2.818 U	**1.833**	**2.368**	**6.557**
Benzo(g,h,i)perylene	31	78			**0.93 J**	2.061 U	6.92 U	2.77 U	**2.091 J**	**1.315**	**1.353**	**2.869**
Chrysene	110	460			**6.977**	2.061 U	6.92 U	**1.603 J**	**3.182**	**5.179**	**7.143**	**9.426**

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED5	FS2757-3SED6	FS2757-3SED6	FS2757-3SED6	FS2757-3SED7	FS2757-3SED7	FS2757-3SED7	FS2757-3SED8
Sample ID					3SED5-C	3SED6-A	3SED6-B	3SED6-C	3SED7-A	3SED7-B	3SED7-C	3SED8-A
Sample Date					6/5/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.214718	-122.216064	-122.216064	-122.216064	-122.211212	-122.211212	-122.211212	-122.210042
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	48.016007	48.017134	48.017134	48.017134	48.01625	48.01625	48.01625	48.015442
Analyte												
Dibenzo(a,h)anthracene	12	33			1.55 U	0.651 U	2.0415 U	0.875 U	**0.409**	0.243 U	**0.414 J**	**1.086**
Dibenzofuran	15	58			1.55 U	2.061 U	6.92 U	2.77 U	2.818 U	0.797 U	0.752 U	**0.43**
Fluoranthene	160	1200			**30.233**	2.061 U	6.92 U	**1.458 J**	**4.455**	**6.375**	**7.143**	**10.246**
Fluorene	23	79			1.55 U	2.061 U	6.92 U	2.77 U	2.818 U	0.797 U	0.752 U	**0.758**
Indeno(1,2,3-c,d)pyrene	34	88			1.55 U	2.061 U	6.92 U	2.77 U	2.818 U	**1.036**	**1.165**	**2.664**
Naphthalene	99	170			1.55 U	2.061 U	6.92 U	2.77 U	2.818 U	0.797 U	0.752 U	**0.533**
Phenanthrene	100	480			**7.597**	2.061 U	6.92 U	2.77 U	**4.545**	**2.191**	**2.744**	**5.123**
Pyrene	1000	1400			**17.829**	2.061 U	6.92 U	2.77 U	**3.227**	**4.382**	**5.263**	**8.607**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					**4.17054**	2.06074 U	6.920415 U	**3.98105 J**	**3.78182 J**	**2.757371**	**3.46617 J**	**8.78893**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					**4.0155**	2.06074 U	6.920415 U	**1.99854 J**	**2.09091 J**	**2.745219**	**3.46617 J**	**8.78893**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					**3.86047**	2.06074 U	6.920415 U	**0.01603 J**	**0.4 J**	**2.733068**	**3.46617 J**	**8.78893**
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			**7.597**	2.061 U	6.92 U	2.77 U	**3.273 J**	**5.02**	**5.714**	**12.705**
Total HPAH (SMS) (U = 0)	960	5300			**69.457 J**	2.061 U	6.9204 U	**3.061 J**	**16.636 J**	**27.5697**	**33.534 J**	**59.078**
Total LPAH (SMS) (U = 0)	370	780			**8.682 J**	2.061 U	6.92 U	2.77 U	**4.545**	**2.191**	**3.797**	**10.533**
Polycyclic Aromatic Hydrocarbons (µg/kg)												
1-Methylnaphthalene					20 U	19 U	20 U	19 U	62 U	20 U	20 U	20 U
2-Methylnaphthalene			670	670	20 U	19 U	20 U	19 U	62 U	20 U	20 U	**15 J**
Acenaphthene			500	500	20 U	19 U	20 U	19 U	62 U	20 U	20 U	**21**
Acenaphthylene			1300	1300	20 U	19 U	20 U	19 U	62 U	20 U	20 U	20 U
Anthracene			960	960	**14 J**	19 U	20 U	19 U	62 U	20 U	**28**	**180**
Benzo(a)anthracene			1300	1600	**41**	19 U	20 U	19 U	62 U	**61**	**79**	**240**
Benzo(a)pyrene			1600	1600	**35**	19 U	20 U	19 U	62 U	**46**	**63**	**320**
Benzo(b)fluoranthene					**49**	19 U	20 U	19 U	**36 J**	**63**	**76**	**310**
Benzo(g,h,i)perylene			670	720	**12 J**	19 U	20 U	19 U	**46 J**	**33**	**36**	**140**
Benzo(k)fluoranthene					**49**	19 U	20 U	19 U	**36 J**	**63**	**76**	**310**
Chrysene			1400	2800	**90**	19 U	20 U	**11 J**	**70**	**130**	**190**	**460**
Dibenzo(a,h)anthracene			230	230	20 U	6 U	5.9 U	6 U	**9**	6.1 U	**11 J**	**53**
Dibenzofuran			540	540	20 U	19 U	20 U	19 U	62 U	20 U	20 U	**21**
Fluoranthene			1700	2500	**390**	19 U	20 U	**10 J**	**98**	**160**	**190**	**500**
Fluorene			540	540	20 U	19 U	20 U	19 U	62 U	20 U	20 U	**37**
Indeno(1,2,3-c,d)pyrene			600	690	20 U	19 U	20 U	19 U	62 U	**26**	**31**	**130**
Naphthalene			2100	2100	20 U	19 U	20 U	19 U	62 U	20 U	20 U	**26**
Phenanthrene			1500	1500	**98**	19 U	20 U	19 U	**100**	**55**	**73**	**250**
Pyrene			2600	3300	**230**	19 U	20 U	19 U	**71**	**110**	**140**	**420**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					**53.8**	19 U	20 U	**27.31 J**	**83.2 J**	**69.21**	**92.2 J**	**428.9**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					**51.8**	19 U	20 U	**13.71 J**	**46 J**	**68.905**	**92.2 J**	**428.9**
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	**98**	19 U	20 U	19 U	**72 J**	**126**	**152**	**620**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					**49.8**	19 U	20 U	**0.11 J**	**8.8 J**	**68.6**	**92.2 J**	**428.9**
Total HPAH (SMS) (U = 0)			12000	17000	**896 J**	19 U	20 U	**21 J**	**366 J**	**692**	**892 J**	**2883**
Total LPAH (SMS) (U = 0)			5200	5200	**112 J**	19 U	20 U	19 U	**100**	**55**	**101**	**514**
Dioxin Furans (ng/kg)												
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	0.616 U	**0.582**	**0.683**	**0.737 J**
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	**5.35**	**2.85**	**4.03**	**6.33 J**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	**8.15**	**3.87**	**8.28**	**13.2**

Table H-1
Surface Sediment Results

Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII								
Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED5	FS2757-3SED6	FS2757-3SED6	FS2757-3SED6	FS2757-3SED7	FS2757-3SED7	FS2757-3SED7	FS2757-3SED8
Sample ID					3SED5-C	3SED6-A	3SED6-B	3SED6-C	3SED7-A	3SED7-B	3SED7-C	3SED8-A
Sample Date					6/5/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.214718	-122.216064	-122.216064	-122.216064	-122.211212	-122.211212	-122.211212	-122.210042
Y					48.016007	48.017134	48.017134	48.017134	48.01625	48.01625	48.01625	48.015442
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	**89.5**	**98.2**	**85.4**	**118**
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	**34.4**	**36.6**	**31.1**	**40.7**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	**1400**	**850**	**2060**	**2670**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					--	--	--	--	**9900**	**5230**	**16200**	**21700**
Total Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	--	--	--	--
Total Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	--	--	--	--
Total Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--	--
Total Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					--	--	--	--	**2.58**	**2.23**	**2.65**	**5.89**
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	--	**2.18**	**1.01**	**1.53**	**6.17 J**
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	--	**2.82**	**1.44**	**2.06**	**8.1 J**
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	**9.63**	**4.85**	**9.17**	**29.2**
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	**7.47**	**4.03**	**6.72**	**17.8**
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	**0.532**	**0.251**	**0.411**	**1.31 J**
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	**6.86**	**4.44**	**6.95**	**13.2**
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					--	--	--	--	**201**	**139**	**232**	**476**
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					--	--	--	--	**10.1**	**6.42**	**11.9**	**29.2**
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					--	--	--	--	**304**	**207**	**411**	**1050**
Total Tetrachlorodibenzofuran (TCDF)					--	--	--	--	--	--	--	--
Total Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--	--
Total Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--	--
Total Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	--	--	**23.3071**	**16.2435**	**22.4392**	**43.732 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	--	--	**19.9086**	**11.802**	**19.7422**	**36.055 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	--	--	**41.9618**	**30.9267**	**48.4673**	**72.1891 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	**22.9991**	**16.2435**	**22.4392**	**43.732 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	**19.6006**	**11.802**	**19.7422**	**36.055 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	**41.6538**	**30.9267**	**48.4673**	**72.1891 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	--	--	**22.6911**	**16.2435**	**22.4392**	**43.732 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	--	--	**19.2926**	**11.802**	**19.7422**	**36.055 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	--	--	**41.3458**	**30.9267**	**48.4673**	**72.1891 J**
PCB Aroclors (mg/kg-OC)												
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			0.31 U	0.4121 U	1.3495 U	0.5685 U	0.1773 U	**0.1793**	**0.2406**	**1.2172**
PCB Aroclors (µg/kg)												
Aroclor 1016					4 U	3.8 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	4 U
Aroclor 1221					4 U	3.8 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	4 U
Aroclor 1232					4 U	3.8 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	4 U
Aroclor 1242					4 U	3.8 U	3.9 U	3.9 U	3.9 U	**4.5**	**6.4**	4 U
Aroclor 1248					4 U	3.8 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	**15**
Aroclor 1254					4 U	3.8 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	**35**
Aroclor 1260					4 U	3.8 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	**9.4**
Aroclor 1262					--	--	--	--	--	--	--	--
Aroclor 1268					--	--	--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	4 U	3.8 U	3.9 U	3.9 U	3.9 U	**4.5**	**6.4**	**59.4**

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED5	FS2757-3SED6	FS2757-3SED6	FS2757-3SED6	FS2757-3SED7	FS2757-3SED7	FS2757-3SED7	FS2757-3SED8
Sample ID					3SED5-C	3SED6-A	3SED6-B	3SED6-C	3SED7-A	3SED7-B	3SED7-C	3SED8-A
Sample Date					6/5/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.214718	-122.216064	-122.216064	-122.216064	-122.211212	-122.211212	-122.211212	-122.210042
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	48.016007	48.017134	48.017134	48.017134	48.01625	48.01625	48.01625	48.015442
Analyte												
PCB Congeners (mg/kg-OC)												
Total PCB Congener (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener (U = 0)	12	65			--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--	--
PCB Congeners (ng/kg)												
PCB-001					--	--	--	--	--	--	--	--
PCB-002					--	--	--	--	--	--	--	--
PCB-003					--	--	--	--	--	--	--	--
PCB-004					--	--	--	--	--	--	--	--
PCB-005					--	--	--	--	--	--	--	--
PCB-006					--	--	--	--	--	--	--	--
PCB-007					--	--	--	--	--	--	--	--
PCB-008					--	--	--	--	--	--	--	--
PCB-009					--	--	--	--	--	--	--	--
PCB-010					--	--	--	--	--	--	--	--
PCB-011					--	--	--	--	--	--	--	--
PCB-012/013					--	--	--	--	--	--	--	--
PCB-014					--	--	--	--	--	--	--	--
PCB-015					--	--	--	--	--	--	--	--
PCB-016					--	--	--	--	--	--	--	--
PCB-017					--	--	--	--	--	--	--	--
PCB-018/030					--	--	--	--	--	--	--	--
PCB-019					--	--	--	--	--	--	--	--
PCB-020/028					--	--	--	--	--	--	--	--
PCB-021/033					--	--	--	--	--	--	--	--
PCB-022					--	--	--	--	--	--	--	--
PCB-023					--	--	--	--	--	--	--	--
PCB-024					--	--	--	--	--	--	--	--
PCB-025					--	--	--	--	--	--	--	--
PCB-026/029					--	--	--	--	--	--	--	--
PCB-027					--	--	--	--	--	--	--	--
PCB-031					--	--	--	--	--	--	--	--
PCB-032					--	--	--	--	--	--	--	--
PCB-034					--	--	--	--	--	--	--	--
PCB-035					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED5	FS2757-3SED6	FS2757-3SED6	FS2757-3SED6	FS2757-3SED7	FS2757-3SED7	FS2757-3SED7	FS2757-3SED8
Sample ID					3SED5-C	3SED6-A	3SED6-B	3SED6-C	3SED7-A	3SED7-B	3SED7-C	3SED8-A
Sample Date					6/5/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.214718	-122.216064	-122.216064	-122.216064	-122.211212	-122.211212	-122.211212	-122.210042
Y					48.016007	48.017134	48.017134	48.017134	48.01625	48.01625	48.01625	48.015442
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII								
PCB-036					--	--	--	--	--	--	--	--
PCB-037					--	--	--	--	--	--	--	--
PCB-038					--	--	--	--	--	--	--	--
PCB-039					--	--	--	--	--	--	--	--
PCB-040/071					--	--	--	--	--	--	--	--
PCB-041					--	--	--	--	--	--	--	--
PCB-042					--	--	--	--	--	--	--	--
PCB-043					--	--	--	--	--	--	--	--
PCB-044/047/065					--	--	--	--	--	--	--	--
PCB-045					--	--	--	--	--	--	--	--
PCB-046					--	--	--	--	--	--	--	--
PCB-048					--	--	--	--	--	--	--	--
PCB-049/069					--	--	--	--	--	--	--	--
PCB-050/053					--	--	--	--	--	--	--	--
PCB-051					--	--	--	--	--	--	--	--
PCB-052					--	--	--	--	--	--	--	--
PCB-054					--	--	--	--	--	--	--	--
PCB-055					--	--	--	--	--	--	--	--
PCB-056					--	--	--	--	--	--	--	--
PCB-057					--	--	--	--	--	--	--	--
PCB-058					--	--	--	--	--	--	--	--
PCB-059/062/075					--	--	--	--	--	--	--	--
PCB-060					--	--	--	--	--	--	--	--
PCB-061/070/074/076					--	--	--	--	--	--	--	--
PCB-063					--	--	--	--	--	--	--	--
PCB-064					--	--	--	--	--	--	--	--
PCB-066					--	--	--	--	--	--	--	--
PCB-067					--	--	--	--	--	--	--	--
PCB-068					--	--	--	--	--	--	--	--
PCB-072					--	--	--	--	--	--	--	--
PCB-073					--	--	--	--	--	--	--	--
PCB-077					--	--	--	--	--	--	--	--
PCB-078					--	--	--	--	--	--	--	--
PCB-079					--	--	--	--	--	--	--	--
PCB-080					--	--	--	--	--	--	--	--
PCB-081					--	--	--	--	--	--	--	--
PCB-082					--	--	--	--	--	--	--	--
PCB-083					--	--	--	--	--	--	--	--
PCB-084					--	--	--	--	--	--	--	--
PCB-085/116					--	--	--	--	--	--	--	--
PCB-086/087/097/108/119/125					--	--	--	--	--	--	--	--
PCB-086/087/097/109/119/125					--	--	--	--	--	--	--	--
PCB-088					--	--	--	--	--	--	--	--
PCB-089					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED5	FS2757-3SED6	FS2757-3SED6	FS2757-3SED6	FS2757-3SED7	FS2757-3SED7	FS2757-3SED7	FS2757-3SED8
Sample ID					3SED5-C	3SED6-A	3SED6-B	3SED6-C	3SED7-A	3SED7-B	3SED7-C	3SED8-A
Sample Date					6/5/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.214718	-122.216064	-122.216064	-122.216064	-122.211212	-122.211212	-122.211212	-122.210042
Y					48.016007	48.017134	48.017134	48.017134	48.01625	48.01625	48.01625	48.015442
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII								
PCB-090/101/113					--	--	--	--	--	--	--	--
PCB-091					--	--	--	--	--	--	--	--
PCB-092					--	--	--	--	--	--	--	--
PCB-093/100					--	--	--	--	--	--	--	--
PCB-094					--	--	--	--	--	--	--	--
PCB-095					--	--	--	--	--	--	--	--
PCB-096					--	--	--	--	--	--	--	--
PCB-098					--	--	--	--	--	--	--	--
PCB-099					--	--	--	--	--	--	--	--
PCB-102					--	--	--	--	--	--	--	--
PCB-103					--	--	--	--	--	--	--	--
PCB-104					--	--	--	--	--	--	--	--
PCB-105					--	--	--	--	--	--	--	--
PCB-106					--	--	--	--	--	--	--	--
PCB-107					--	--	--	--	--	--	--	--
PCB-107/124					--	--	--	--	--	--	--	--
PCB-108/124					--	--	--	--	--	--	--	--
PCB-109					--	--	--	--	--	--	--	--
PCB-110					--	--	--	--	--	--	--	--
PCB-111					--	--	--	--	--	--	--	--
PCB-112					--	--	--	--	--	--	--	--
PCB-114					--	--	--	--	--	--	--	--
PCB-115					--	--	--	--	--	--	--	--
PCB-117					--	--	--	--	--	--	--	--
PCB-118					--	--	--	--	--	--	--	--
PCB-120					--	--	--	--	--	--	--	--
PCB-121					--	--	--	--	--	--	--	--
PCB-122					--	--	--	--	--	--	--	--
PCB-123					--	--	--	--	--	--	--	--
PCB-126					--	--	--	--	--	--	--	--
PCB-127					--	--	--	--	--	--	--	--
PCB-128/166					--	--	--	--	--	--	--	--
PCB-129/138/163					--	--	--	--	--	--	--	--
PCB-130					--	--	--	--	--	--	--	--
PCB-131					--	--	--	--	--	--	--	--
PCB-132					--	--	--	--	--	--	--	--
PCB-133					--	--	--	--	--	--	--	--
PCB-134					--	--	--	--	--	--	--	--
PCB-135/151					--	--	--	--	--	--	--	--
PCB-136					--	--	--	--	--	--	--	--
PCB-137					--	--	--	--	--	--	--	--
PCB-139/140					--	--	--	--	--	--	--	--
PCB-141					--	--	--	--	--	--	--	--
PCB-142					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED5	FS2757-3SED6	FS2757-3SED6	FS2757-3SED6	FS2757-3SED7	FS2757-3SED7	FS2757-3SED7	FS2757-3SED8
Sample ID					3SED5-C	3SED6-A	3SED6-B	3SED6-C	3SED7-A	3SED7-B	3SED7-C	3SED8-A
Sample Date					6/5/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.214718	-122.216064	-122.216064	-122.216064	-122.211212	-122.211212	-122.211212	-122.210042
Y					48.016007	48.017134	48.017134	48.017134	48.01625	48.01625	48.01625	48.015442
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII								
PCB-143					--	--	--	--	--	--	--	--
PCB-144					--	--	--	--	--	--	--	--
PCB-145					--	--	--	--	--	--	--	--
PCB-146					--	--	--	--	--	--	--	--
PCB-147/149					--	--	--	--	--	--	--	--
PCB-148					--	--	--	--	--	--	--	--
PCB-150					--	--	--	--	--	--	--	--
PCB-152					--	--	--	--	--	--	--	--
PCB-153/168					--	--	--	--	--	--	--	--
PCB-154					--	--	--	--	--	--	--	--
PCB-155					--	--	--	--	--	--	--	--
PCB-156/157					--	--	--	--	--	--	--	--
PCB-158					--	--	--	--	--	--	--	--
PCB-159					--	--	--	--	--	--	--	--
PCB-160					--	--	--	--	--	--	--	--
PCB-161					--	--	--	--	--	--	--	--
PCB-162					--	--	--	--	--	--	--	--
PCB-164					--	--	--	--	--	--	--	--
PCB-165					--	--	--	--	--	--	--	--
PCB-167					--	--	--	--	--	--	--	--
PCB-169					--	--	--	--	--	--	--	--
PCB-170					--	--	--	--	--	--	--	--
PCB-171/173					--	--	--	--	--	--	--	--
PCB-172					--	--	--	--	--	--	--	--
PCB-174					--	--	--	--	--	--	--	--
PCB-175					--	--	--	--	--	--	--	--
PCB-176					--	--	--	--	--	--	--	--
PCB-177					--	--	--	--	--	--	--	--
PCB-178					--	--	--	--	--	--	--	--
PCB-179					--	--	--	--	--	--	--	--
PCB-180/193					--	--	--	--	--	--	--	--
PCB-181					--	--	--	--	--	--	--	--
PCB-182					--	--	--	--	--	--	--	--
PCB-183					--	--	--	--	--	--	--	--
PCB-184					--	--	--	--	--	--	--	--
PCB-185					--	--	--	--	--	--	--	--
PCB-186					--	--	--	--	--	--	--	--
PCB-187					--	--	--	--	--	--	--	--
PCB-188					--	--	--	--	--	--	--	--
PCB-189					--	--	--	--	--	--	--	--
PCB-190					--	--	--	--	--	--	--	--
PCB-191					--	--	--	--	--	--	--	--
PCB-192					--	--	--	--	--	--	--	--
PCB-194					--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED5	FS2757-3SED6	FS2757-3SED6	FS2757-3SED6	FS2757-3SED7	FS2757-3SED7	FS2757-3SED7	FS2757-3SED8
Sample ID					3SED5-C	3SED6-A	3SED6-B	3SED6-C	3SED7-A	3SED7-B	3SED7-C	3SED8-A
Sample Date					6/5/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.214718	-122.216064	-122.216064	-122.216064	-122.211212	-122.211212	-122.211212	-122.210042
Y					48.016007	48.017134	48.017134	48.017134	48.01625	48.01625	48.01625	48.015442
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII								
PCB-195					--	--	--	--	--	--	--	--
PCB-196					--	--	--	--	--	--	--	--
PCB-197					--	--	--	--	--	--	--	--
PCB-198/199					--	--	--	--	--	--	--	--
PCB-200					--	--	--	--	--	--	--	--
PCB-201					--	--	--	--	--	--	--	--
PCB-202					--	--	--	--	--	--	--	--
PCB-203					--	--	--	--	--	--	--	--
PCB-204					--	--	--	--	--	--	--	--
PCB-205					--	--	--	--	--	--	--	--
PCB-206					--	--	--	--	--	--	--	--
PCB-207					--	--	--	--	--	--	--	--
PCB-208					--	--	--	--	--	--	--	--
PCB-209					--	--	--	--	--	--	--	--
Total PCB Congener (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (mg/kg)												
Diesel range hydrocarbons					--	--	--	--	--	--	--	--
Motor oil range hydrocarbons					--	--	--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)												
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	--	**0.001059414**	**0.000647151**	**0.000843579**	**0.000896147541 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	--	**0.000904936**	**0.000470199**	**0.000742188**	**0.0007388319672 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	--	**0.001907355**	**0.001232139**	**0.001822079**	**0.0014792848361 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	--	**0.001045414**	**0.000647151**	**0.000843579**	**0.000896147541 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	--	**0.000890936**	**0.000470199**	**0.000742188**	**0.0007388319672 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	--	**0.001893355**	**0.001232139**	**0.001822079**	**0.0014792848361 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	--	**0.001031414**	**0.000647151**	**0.000843579**	**0.000896147541 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	--	**0.000876936**	**0.000470199**	**0.000742188**	**0.0007388319672 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	--	**0.001879355**	**0.001232139**	**0.001822079**	**0.0014792848361 J**
Dioxin Furans and PCB Congeners (ng/kg)												
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	--	**23.3071**	**16.2435**	**22.4392**	**43.732 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	--	**19.9086**	**11.802**	**19.7422**	**36.055 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	--	**41.9618**	**30.9267**	**48.4673**	**72.1891 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	--	**22.9991**	**16.2435**	**22.4392**	**43.732 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	--	**19.6006**	**11.802**	**19.7422**	**36.055 J**

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095
Location ID					FS2757-3SED5	FS2757-3SED6	FS2757-3SED6	FS2757-3SED6	FS2757-3SED7	FS2757-3SED7	FS2757-3SED7	FS2757-3SED8
Sample ID					3SED5-C	3SED6-A	3SED6-B	3SED6-C	3SED7-A	3SED7-B	3SED7-C	3SED8-A
Sample Date					6/5/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/4/2009	6/5/2009
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					-122.214718	-122.216064	-122.216064	-122.216064	-122.211212	-122.211212	-122.211212	-122.210042
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	48.016007	48.017134	48.017134	48.017134	48.01625	48.01625	48.01625	48.015442
Analyte												
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	--	41.6538	30.9267	48.4673	72.1891 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	--	22.6911	16.2435	22.4392	43.732 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	--	19.2926	11.802	19.7422	36.055 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	--	41.3458	30.9267	48.4673	72.1891 J

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					FS2757-3SED8	FS2757-3SED8	FS2757-3SED9	FS2757-3SED9	FS2757-3SED9	JW-EA01-Composite	JW-EA01-SS01
Sample ID					3SED8-B	3SED8-C	3SED9-A	3SED9-B	3SED9-C	JW-EA01-COMP-120507	JW-EA01-SS01-120507
Sample Date					6/5/2009	6/5/2009	6/4/2009	6/4/2009	6/4/2009	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					-122.210042	-122.210042	-122.209852	-122.209852	-122.209852	1303385.74	1303506.424
Y					48.015442	48.015442	48.015392	48.015392	48.015392	373575.7223	373444.722
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII							
Conventional Parameters (pct)											
Total organic carbon					**4.14**	**3.98**	**1.37**	**1.24**	**3.98**	**2.8**	**2.9**
Moisture, percent					--	--	--	--	--	**55.9**	**59.3**
Total Solids					**40**	**48.3**	**46.1**	**50.6**	**56**	**47**	**38**
Total solids (preserved)					**38.4**	**48.1**	**43.8**	**56.4**	**47.8**	--	--
Total volatile solids					**10.53**	**8.45**	**9.36**	**7.39**	**6.29**	--	--
Conventional Parameters (mg/kg)											
Ammonia as nitrogen					**10.5**	**7.81**	**11.3**	**6.26**	**6.88**	--	--
Black carbon					--	--	--	--	--	**1700**	**1900**
Sulfide					**97.9**	**221**	**324**	**162**	**328**	--	--
Grain Size (pct)											
Cobbles					--	--	--	--	--	0 U	0 U
Gravel					**0.4**	**2.2**	**0.6**	**20.6**	**2.3**	**12**	**0.9**
Sand					--	--	--	--	--	**9.5**	**3.7**
Sand, very coarse					**0.2**	**3.1**	**1.8**	**2.7**	**2.3**	--	--
Sand, coarse					**0.3**	**6.9**	**1.5**	**3.2**	**5.8**	--	--
Sand, medium					**0.3**	**9.1**	**2.6**	**3.8**	**9.1**	--	--
Sand, fine					**0.3**	**3.7**	**2.3**	**1.9**	**3.1**	--	--
Sand, very fine					**0.5**	**1.2**	**1.6**	**1.3**	**1.4**	--	--
Silt					--	--	--	--	--	**70**	**85**
Silt, coarse					**5.1**	**4.5**	**4.7**	**6.5**	**4.8**	--	--
Silt, medium					**27**	**17.2**	**16.7**	**11.6**	**15.4**	--	--
Silt, fine					**28.8**	**20.8**	**25.6**	**21.1**	**23.3**	--	--
Silt, very fine					**16.4**	**12.6**	**23.6**	**16.5**	**20.6**	--	--
Total fines (Reported, not calculated)					--	--	--	--	--	--	--
Clay					--	--	--	--	--	**9.3**	**10**
Clay, coarse					**5.8**	**5.6**	**7.7**	**4.7**	**6.5**	--	--
Clay, medium					**4.8**	**4.7**	**3.6**	**2.1**	**1.2**	--	--
Clay, fine					**10**	**8.5**	**7.6**	**4**	**4.3**	--	--
Metals (mg/kg)											
Antimony					--	--	--	--	--	--	--
Arsenic	57	93	57	93	**20**	**20**	**30**	**20**	**22**	--	--
Cadmium	5.1	6.7	5.1	6.7	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	--	--
Chromium	260	270	260	270	**55**	**66**	**71**	**62**	**54.6**	--	--
Copper	390	390	390	390	**55.1**	**63.2**	**69.4**	**61.7**	**53**	--	--
Lead	450	530	450	530	**10**	**13**	**16**	**13**	**13**	--	--
Mercury	0.41	0.59	0.41	0.59	**0.1**	**0.11**	**0.11**	**0.1**	**0.09**	--	--
Nickel					--	--	--	--	--	--	--
Silver	6.1	6.1	6.1	6.1	0.7 U	0.6 U	0.6 U	0.6 U	0.5 U	--	--
Zinc	410	960	410	960	**214**	**98**	**120**	**104**	**102**	--	--
Volatile Organics (mg/kg-OC)											
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--	--
Volatile Organics (µg/kg)											
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					FS2757-3SED8	FS2757-3SED8	FS2757-3SED9	FS2757-3SED9	FS2757-3SED9	JW-EA01-Composite	JW-EA01-SS01
Sample ID					3SED8-B	3SED8-C	3SED9-A	3SED9-B	3SED9-C	JW-EA01-COMP-120507	JW-EA01-SS01-120507
Sample Date					6/5/2009	6/5/2009	6/4/2009	6/4/2009	6/4/2009	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					-122.210042	-122.210042	-122.209852	-122.209852	-122.209852	1303385.74	1303506.424
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	48.015442	48.015442	48.015392	48.015392	48.015392	373575.7223	373444.722
Analyte											
Semivolatile Organics (mg/kg-OC)											
1,2,4-Trichlorobenzene	0.81	1.8			0.1473 U	0.1558 U	0.4453 U	0.4919 U	0.1533 U	--	--
1,2-Dichlorobenzene	2.3	2.3			0.1473 U	0.1558 U	0.4453 U	0.4919 U	0.1533 U	--	--
1,4-Dichlorobenzene	3.1	9			0.1473 U	0.1558 U	0.4453 U	0.4919 U	0.1533 U	--	--
bis(2-Ethylhexyl)phthalate	47	78			**1.111**	**1.683**	**11.679**	**9.677**	**1.256**	**--**	**--**
Butylbenzyl phthalate	4.9	64			0.362 U	0.377 U	1.46 U	**3.871 J**	0.503 U	--	--
Diethyl phthalate	61	110			0.483 U	0.503 U	1.46 U	4.758 U	0.503 U	--	--
Dimethyl phthalate	53	53			0.483 U	0.503 U	1.46 U	4.758 U	0.503 U	--	--
Di-n-butyl phthalate	220	1700			0.483 U	0.503 U	1.46 U	4.758 U	0.503 U	--	--
Di-n-octyl phthalate	58	4500			0.483 U	0.503 U	1.46 U	4.758 U	0.503 U	--	--
Hexachlorobenzene	0.38	2.3			0.1473 U	0.1558 U	0.4526 U	0.4919 U	0.1533 U	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			0.1473 U	0.1558 U	0.4526 U	0.4919 U	0.1533 U	--	--
n-Nitrosodiphenylamine	11	11			0.1473 U	0.1558 U	0.4526 U	0.4919 U	0.1533 U	--	--
Semivolatile Organics (µg/kg)											
1,2,4-Trichlorobenzene			31	51	6.1 U	6.2 U	6.1 U	6.1 U	6.1 U	--	--
1,2-Dichlorobenzene			35	50	6.1 U	6.2 U	6.1 U	6.1 U	6.1 U	--	--
1,3-Dichlorobenzene					6.1 U	6.2 U	6.1 U	6.1 U	6.1 U	--	--
1,4-Dichlorobenzene			110	110	6.1 U	6.2 U	6.1 U	6.1 U	6.1 U	--	--
2,4-Dimethylphenol	29	29	29	29	6.1 U	6.2 U	6.1 U	6.1 U	6.1 U	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	6.1 U	6.2 U	6.2 U	6.1 U	6.1 U	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	20 U	20 U	20 U	59 U	20 U	--	--
Benzoic acid	650	650	650	650	200 U	200 U	**820**	590 U	200 U	--	--
Benzyl alcohol	57	73	57	73	20 U	20 U	31 U	30 U	20 U	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	**46**	**67**	**160**	**120**	**50**	**--**	**--**
Butylbenzyl phthalate			63	900	15 U	15 U	20 U	**48 J**	20 U	--	--
Diethyl phthalate			200	1200	20 U	20 U	20 U	59 U	20 U	--	--
Dimethyl phthalate			71	160	20 U	20 U	20 U	59 U	20 U	--	--
Di-n-butyl phthalate			1400	1400	20 U	20 U	20 U	59 U	20 U	--	--
Di-n-octyl phthalate			6200	6200	20 U	20 U	20 U	59 U	20 U	--	--
Hexachlorobenzene			22	70	6.1 U	6.2 U	6.2 U	6.1 U	6.1 U	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	6.1 U	6.2 U	6.2 U	6.1 U	6.1 U	--	--
Hexachloroethane					20 U	20 U	20 U	59 U	20 U	--	--
n-Nitrosodiphenylamine			28	40	6.1 U	6.2 U	6.2 U	6.1 U	6.1 U	--	--
Pentachlorophenol	360	690	360	690	31 U	31 U	31 U	**42**	30 U	--	--
Phenol	420	1200	420	1200	20 U	20 U	20 U	59 U	20 U	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)											
2-Methylnaphthalene	38	64			0.483 U	0.503 U	1.46 U	4.758 U	0.503 U	0.0393 UJ	--
Acenaphthene	16	57			**0.386 J**	**0.302 J**	**1.314 J**	4.758 U	0.503 U	**0.0393 J**	--
Acenaphthylene	66	66			0.483 U	**0.302 J**	**1.387 J**	4.758 U	**0.2437 J**	**0.0464 J**	--
Anthracene	220	1200			**0.918**	**1.658**	**4.453**	**4.919**	**0.528**	**0.1464 J**	--
Benzo(a)anthracene	110	270			**4.831**	**6.281**	**11.679**	**20.968**	**1.985**	**0.35 J**	--
Benzo(a)pyrene	99	210			**3.382**	**4.523**	**6.861**	**10.484**	**1.683**	**0.2321 J**	--
Benzo(g,h,i)perylene	31	78			**1.377**	**1.734**	**3.869**	**5.403**	**0.879**	**0.1107 J**	--
Chrysene	110	460			**9.179**	**11.558**	**19.708**	**31.452**	**3.266**	**0.786 J**	--

Table H-1
Surface Sediment Results

Task					**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenAODE5095**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**
Location ID					**FS2757-3SED8**	**FS2757-3SED8**	**FS2757-3SED9**	**FS2757-3SED9**	**FS2757-3SED9**	**JW-EA01-Composite**	**JW-EA01-SS01**
Sample ID					**3SED8-B**	**3SED8-C**	**3SED9-A**	**3SED9-B**	**3SED9-C**	**JW-EA01-COMP-120507**	**JW-EA01-SS01-120507**
Sample Date					**6/5/2009**	**6/5/2009**	**6/4/2009**	**6/4/2009**	**6/4/2009**	**5/7/2012**	**5/7/2012**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**-122.210042**	**-122.210042**	**-122.209852**	**-122.209852**	**-122.209852**	**1303385.74**	**1303506.424**
Y					**48.015442**	**48.015442**	**48.015392**	**48.015392**	**48.015392**	**373575.7223**	**373444.722**
Analyte	**SMS_Marine_SCO_SCUMII**	**SMS_Marine_CSL_SCUMII**	**AET_Marine_SCO_SCUMII**	**AET_Marine_CSL_SCUMII**							
Dibenzo(a,h)anthracene	12	33			**0.556**	**0.879**	**1.314 J**	1.452 U	**0.1533 J**	**0.03107 J**	--
Dibenzofuran	15	58			0.483 U	**0.302 J**	**1.168 J**	4.758 U	0.503 U	--	--
Fluoranthene	160	1200			**16.667**	**16.08**	**38.686**	**56.452**	**4.774**	**0.536 J**	--
Fluorene	23	79			**0.386 J**	**0.477 J**	**1.825**	4.758 U	0.503 U	**0.0536 J**	--
Indeno(1,2,3-c,d)pyrene	34	88			**1.304**	**1.734**	**3.358**	**4.677 J**	**0.879**	**0.1464 J**	--
Naphthalene	99	170			0.483 U	**0.302 J**	1.46 U	4.758 U	0.503 U	**0.02429 J**	--
Phenanthrene	100	480			**2.343**	**3.518**	**13.139**	**11.29**	**1.03**	**0.1679 J**	--
Pyrene	1000	1400			**10.87**	**11.055**	**23.358**	**37.903**	**3.518**	**0.5 J**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					**5.01208**	**6.63317**	**10.59124 J**	**16.57258 J**	**2.374623 J**	**0.35525 J**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					**5.01208**	**6.63317**	**10.59124 J**	**16.5 J**	**2.374623 J**	**0.35525 J**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					**5.01208**	**6.63317**	**10.59124 J**	**16.42742 J**	**2.374623 J**	**0.35525 J**	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			**8.696**	**11.055**	**18.978**	**30.645**	**3.568**	**0.625 J**	--
Total HPAH (SMS) (U = 0)	960	5300			**56.86**	**64.899**	**127.81 J**	**197.984 J**	**20.706 J**	**3.31679 J**	--
Total LPAH (SMS) (U = 0)	370	780			**4.034 J**	**6.558 J**	**22.117 J**	**16.21**	**1.8015 J**	**0.47786 J**	--
Polycyclic Aromatic Hydrocarbons (µg/kg)											
1-Methylnaphthalene					20 U	20 U	20 U	59 U	20 U	1.1 UJ	--
2-Methylnaphthalene			670	670	20 U	20 U	20 U	59 U	20 U	1.1 UJ	--
Acenaphthene			500	500	**16 J**	**12 J**	**18 J**	59 U	20 U	**1.1 J**	--
Acenaphthylene			1300	1300	20 U	**12 J**	**19 J**	59 U	**9.7 J**	**1.3 J**	--
Anthracene			960	960	**38**	**66**	**61**	**61**	**21**	**4.1 J**	--
Benzo(a)anthracene			1300	1600	**200**	**250**	**160**	**260**	**79**	**9.8 J**	--
Benzo(a)pyrene			1600	1600	**140**	**180**	**94**	**130**	**67**	**6.5 J**	--
Benzo(b)fluoranthene					**180**	**220**	**130**	**190**	**71**	**12 J**	--
Benzo(g,h,i)perylene			670	720	**57**	**69**	**53**	**67**	**35**	**3.1 J**	--
Benzo(k)fluoranthene					**180**	**220**	**130**	**190**	**71**	**5.5 J**	--
Chrysene			1400	2800	**380**	**460**	**270**	**390**	**130**	**22 J**	--
Dibenzo(a,h)anthracene			230	230	**23**	**35**	**18 J**	18 U	**6.1 J**	**0.87 J**	--
Dibenzofuran			540	540	20 U	**12 J**	**16 J**	59 U	20 U	--	--
Fluoranthene			1700	2500	**690**	**640**	**530**	**700**	**190**	**15 J**	--
Fluorene			540	540	**16 J**	**19 J**	**25**	59 U	20 U	**1.5 J**	--
Indeno(1,2,3-c,d)pyrene			600	690	**54**	**69**	**46**	**58 J**	**35**	**4.1 J**	--
Naphthalene			2100	2100	20 U	**12 J**	20 U	59 U	20 U	**0.68 J**	--
Phenanthrene			1500	1500	**97**	**140**	**180**	**140**	**41**	**4.7 J**	--
Pyrene			2600	3300	**450**	**440**	**320**	**470**	**140**	**14 J**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					**207.5**	**264**	**145.1 J**	**205.5 J**	**94.51 J**	**9.947 J**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					**207.5**	**264**	**145.1 J**	**204.6 J**	**94.51 J**	**9.947 J**	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	**360**	**440**	**260**	**380**	**142**	**17.5 J**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					**207.5**	**264**	**145.1 J**	**203.7 J**	**94.51 J**	**9.947 J**	--
Total HPAH (SMS) (U = 0)			12000	17000	**2354**	**2583**	**1751 J**	**2455 J**	**824.1 J**	**92.87 J**	--
Total LPAH (SMS) (U = 0)			5200	5200	**167 J**	**261 J**	**303 J**	**201**	**71.7 J**	**13.38 J**	--
Dioxin Furans (ng/kg)											
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					0.471 U	**0.428 J**	**0.421 J**	**0.354 J**	**0.416 J**	--	0.256 U
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					**5.78 J**	**2.72 J**	**3.21 J**	**2.42 J**	**2.94 J**	--	1.07 U
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**24.3**	**5.72 J**	**7.07 J**	**5.46 J**	**7.63 J**	--	2.18 U

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					FS2757-3SED8	FS2757-3SED8	FS2757-3SED9	FS2757-3SED9	FS2757-3SED9	JW-EA01-Composite	JW-EA01-SS01
Sample ID					3SED8-B	3SED8-C	3SED9-A	3SED9-B	3SED9-C	JW-EA01-COMP-120507	JW-EA01-SS01-120507
Sample Date					6/5/2009	6/5/2009	6/4/2009	6/4/2009	6/4/2009	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					-122.210042	-122.210042	-122.209852	-122.209852	-122.209852	1303385.74	1303506.424
Y Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	48.015442	48.015442	48.015392	48.015392	48.015392	373575.7223	373444.722
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					126	89.9	40.7	43.5	42.9	--	14.4
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					83.8	21.3	19.7	16.5	20.6	--	4.49 J
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					7750	2400	1060	1130	1090	--	246
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					125000	18400	7570	8550	9670	--	2570
Total Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	--	--	6.47 J
Total Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	--	--	4.23 J
Total Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	83.9 J
Total Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	--	--	503
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					2.81	2.51	2.39	2.38	2.21	--	0.709 J
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					3.53 J	2.17 J	1.68 J	1.75 J	1.5 J	--	0.745 U
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					4.21 J	2.82 J	2.36 J	2.7 J	2.08 J	--	1.26 U
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					34.1	15.5	9.1 J	11.3	8.56 J	--	2.14 U
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					29.9	10.8	7.16 J	7.23 J	6.87 J	--	2 U
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					1.05 J	0.649 J	0.352 J	0.381 J	0.349 J	--	0.552 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					21.5	9.64 J	4.84 J	5.26 J	4.25 J	--	3.16 J
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					1500	750	238	297	244 U	--	50.1
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					66.2	36.2	14.4	14.8	13.5	--	3.55 J
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					6230	2680	642	892	680	--	143
Total Tetrachlorodibenzofuran (TCDF)					--	--	--	--	--	--	5.95 J
Total Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	16 J
Total Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	67.1 J
Total Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	147
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					69.669 J	28.0389 J	17.8299 J	17.9963 J	17.3694 J	--	5.9105 J
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					68.111 J	24.7929 J	15.7039 J	15.2698 J	15.7344 J	--	5.1466 J
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					172.4969 J	57.847 J	29.1082 J	30.0882 J	29.9419 J	--	8.49985 J
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					69.4335 J	28.0389 J	17.8299 J	17.9963 J	16.1494 J	--	4.29115 J
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					67.8755 J	24.7929 J	15.7039 J	15.2698 J	14.5144 J	--	3.370375 J
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					172.2614 J	57.847 J	29.1082 J	30.0882 J	28.7219 J	--	7.293075 J
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					69.198 J	28.0389 J	17.8299 J	17.9963 J	14.9294 J	--	2.6718 J
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					67.64 J	24.7929 J	15.7039 J	15.2698 J	13.2944 J	--	1.59415 J
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					172.0259 J	57.847 J	29.1082 J	30.0882 J	27.5019 J	--	6.0863 J
PCB Aroclors (mg/kg-OC)											
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			0.242	0.4975	3.9124	3.0645	0.7839	--	--
PCB Aroclors (µg/kg)											
Aroclor 1016					4 U	3.9 U	3.9 U	3.9 U	3.9 U	--	--
Aroclor 1221					4 U	3.9 U	3.9 U	3.9 U	3.9 U	--	--
Aroclor 1232					4 U	3.9 U	3.9 U	3.9 U	3.9 U	--	--
Aroclor 1242					10	9.8	37	38	26	--	--
Aroclor 1248					4 U	3.9 U	3.9 U	3.9 U	3.9 U	--	--
Aroclor 1254					4 U	10	8.9	3.9 U	5.2	--	--
Aroclor 1260					4 U	3.9 U	7.7	3.9 U	3.9 U	--	--
Aroclor 1262					--	--	--	--	--	--	--
Aroclor 1268					--	--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	10	19.8	53.6	38	31.2	--	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					FS2757-3SED8	FS2757-3SED8	FS2757-3SED9	FS2757-3SED9	FS2757-3SED9	JW-EA01-Composite	JW-EA01-SS01
Sample ID					3SED8-B	3SED8-C	3SED9-A	3SED9-B	3SED9-C	JW-EA01-COMP-120507	JW-EA01-SS01-120507
Sample Date					6/5/2009	6/5/2009	6/4/2009	6/4/2009	6/4/2009	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					-122.210042	-122.210042	-122.209852	-122.209852	-122.209852	1303385.74	1303506.424
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	48.015442	48.015442	48.015392	48.015392	48.015392	373575.7223	373444.722
Analyte											
PCB Congeners (mg/kg-OC)											
Total PCB Congener (U = limit)					--	--	--	--	--	**0.50039775 J**	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	**0.499372554 J**	--
Total PCB Congener (U = 0)	12	65			--	--	--	--	--	**0.498347357 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	**2.657106429E-05 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	**2.56553571E-07 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	**3.99207857E-06 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	**2.321131429E-05 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	**1.985156429E-05 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	**1.82583929E-07 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	**1.08614286E-07 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	**2.22545357E-06 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	**4.5882857E-07 J**	--
PCB Congeners (ng/kg)											
PCB-001					--	--	--	--	--	**7.87 J**	--
PCB-002					--	--	--	--	--	**2.39**	--
PCB-003					--	--	--	--	--	**9.4 J**	--
PCB-004					--	--	--	--	--	**54.7**	--
PCB-005					--	--	--	--	--	1.79 U	--
PCB-006					--	--	--	--	--	**21.5**	--
PCB-007					--	--	--	--	--	**3.65**	--
PCB-008					--	--	--	--	--	**99.3**	--
PCB-009					--	--	--	--	--	**6.21**	--
PCB-010					--	--	--	--	--	**2.77 J**	--
PCB-011					--	--	--	--	--	27.8 U	--
PCB-012/013					--	--	--	--	--	**18.3**	--
PCB-014					--	--	--	--	--	1.5 U	--
PCB-015					--	--	--	--	--	**200**	--
PCB-016					--	--	--	--	--	**194**	--
PCB-017					--	--	--	--	--	**183**	--
PCB-018/030					--	--	--	--	--	**278**	--
PCB-019					--	--	--	--	--	**49.3**	--
PCB-020/028					--	--	--	--	--	**1010**	--
PCB-021/033					--	--	--	--	--	**224**	--
PCB-022					--	--	--	--	--	**327**	--
PCB-023					--	--	--	--	--	1.15 U	--
PCB-024					--	--	--	--	--	**7.39**	--
PCB-025					--	--	--	--	--	**62.6**	--
PCB-026/029					--	--	--	--	--	**119**	--
PCB-027					--	--	--	--	--	**40.8**	--
PCB-031					--	--	--	--	--	**689**	--
PCB-032					--	--	--	--	--	**138**	--
PCB-034					--	--	--	--	--	**2.19**	--
PCB-035					--	--	--	--	--	**12.2**	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					FS2757-3SED8	FS2757-3SED8	FS2757-3SED9	FS2757-3SED9	FS2757-3SED9	JW-EA01-Composite	JW-EA01-SS01
Sample ID					3SED8-B	3SED8-C	3SED9-A	3SED9-B	3SED9-C	JW-EA01-COMP-120507	JW-EA01-SS01-120507
Sample Date					6/5/2009	6/5/2009	6/4/2009	6/4/2009	6/4/2009	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					-122.210042	-122.210042	-122.209852	-122.209852	-122.209852	1303385.74	1303506.424
Y					48.015442	48.015442	48.015392	48.015392	48.015392	373575.7223	373444.722
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
PCB-036					--	--	--	--	--	1.12 U	--
PCB-037					--	--	--	--	--	**307**	--
PCB-038					--	--	--	--	--	1.21 U	--
PCB-039					--	--	--	--	--	**5.4**	--
PCB-040/071					--	--	--	--	--	**424**	--
PCB-041					--	--	--	--	--	**114**	--
PCB-042					--	--	--	--	--	**294**	--
PCB-043					--	--	--	--	--	**45.1**	--
PCB-044/047/065					--	--	--	--	--	**930**	--
PCB-045					--	--	--	--	--	**163**	--
PCB-046					--	--	--	--	--	**58.4**	--
PCB-048					--	--	--	--	--	**218**	--
PCB-049/069					--	--	--	--	--	**540**	--
PCB-050/053					--	--	--	--	--	**130**	--
PCB-051					--	--	--	--	--	**30.3**	--
PCB-052					--	--	--	--	--	**838**	--
PCB-054					--	--	--	--	--	**1.8 J**	--
PCB-055					--	--	--	--	--	1.11 U	--
PCB-056					--	--	--	--	--	**59**	--
PCB-057					--	--	--	--	--	1.12 U	--
PCB-058					--	--	--	--	--	1.09 U	--
PCB-059/062/075					--	--	--	--	--	**102**	--
PCB-060					--	--	--	--	--	**26.6**	--
PCB-061/070/074/076					--	--	--	--	--	**563**	--
PCB-063					--	--	--	--	--	**18.7**	--
PCB-064					--	--	--	--	--	**388**	--
PCB-066					--	--	--	--	--	**283**	--
PCB-067					--	--	--	--	--	**19.9**	--
PCB-068					--	--	--	--	--	**1.96 J**	--
PCB-072					--	--	--	--	--	**4.61**	--
PCB-073					--	--	--	--	--	0.862 U	--
PCB-077					--	--	--	--	--	**10.8**	--
PCB-078					--	--	--	--	--	1.22 U	--
PCB-079					--	--	--	--	--	**2.41**	--
PCB-080					--	--	--	--	--	1 U	--
PCB-081					--	--	--	--	--	1.17 U	--
PCB-082					--	--	--	--	--	**29.8**	--
PCB-083					--	--	--	--	--	**15.8**	--
PCB-084					--	--	--	--	--	**92.3**	--
PCB-085/116					--	--	--	--	--	**47.4**	--
PCB-086/087/097/108/119/125					--	--	--	--	--	--	--
PCB-086/087/097/109/119/125					--	--	--	--	--	**177**	--
PCB-088					--	--	--	--	--	0.968 U	--
PCB-089					--	--	--	--	--	**5.08**	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					FS2757-3SED8	FS2757-3SED8	FS2757-3SED9	FS2757-3SED9	FS2757-3SED9	JW-EA01-Composite	JW-EA01-SS01
Sample ID					3SED8-B	3SED8-C	3SED9-A	3SED9-B	3SED9-C	JW-EA01-COMP-120507	JW-EA01-SS01-120507
Sample Date					6/5/2009	6/5/2009	6/4/2009	6/4/2009	6/4/2009	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					-122.210042	-122.210042	-122.209852	-122.209852	-122.209852	1303385.74	1303506.424
Y					48.015442	48.015442	48.015392	48.015392	48.015392	373575.7223	373444.722
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII							
PCB-090/101/113					--	--	--	--	--	**290**	--
PCB-091					--	--	--	--	--	**70.7**	--
PCB-092					--	--	--	--	--	**67.9**	--
PCB-093/100					--	--	--	--	--	0.896 U	--
PCB-094					--	--	--	--	--	**3.37**	--
PCB-095					--	--	--	--	--	**229**	--
PCB-096					--	--	--	--	--	**8.42**	--
PCB-098					--	--	--	--	--	**25.2**	--
PCB-099					--	--	--	--	--	**175**	--
PCB-102					--	--	--	--	--	**6.37**	--
PCB-103					--	--	--	--	--	**4.18**	--
PCB-104					--	--	--	--	--	0.31 U	--
PCB-105					--	--	--	--	--	**84.2**	--
PCB-106					--	--	--	--	--	0.797 U	--
PCB-107					--	--	--	--	--	**19**	--
PCB-107/124					--	--	--	--	--	--	--
PCB-108/124					--	--	--	--	--	**11.1**	--
PCB-109					--	--	--	--	--	--	--
PCB-110					--	--	--	--	--	**383**	--
PCB-111					--	--	--	--	--	0.705 U	--
PCB-112					--	--	--	--	--	0.676 U	--
PCB-114					--	--	--	--	--	**4.06**	--
PCB-115					--	--	--	--	--	0.692 U	--
PCB-117					--	--	--	--	--	**8.1**	--
PCB-118					--	--	--	--	--	**235**	--
PCB-120					--	--	--	--	--	0.661 U	--
PCB-121					--	--	--	--	--	0.656 U	--
PCB-122					--	--	--	--	--	**3.1**	--
PCB-123					--	--	--	--	--	**5.5**	--
PCB-126					--	--	--	--	--	0.702 U	--
PCB-127					--	--	--	--	--	0.94 U	--
PCB-128/166					--	--	--	--	--	**83.3 J**	--
PCB-129/138/163					--	--	--	--	--	**438 J**	--
PCB-130					--	--	--	--	--	**28.6 J**	--
PCB-131					--	--	--	--	--	**5.34 J**	--
PCB-132					--	--	--	--	--	**119 J**	--
PCB-133					--	--	--	--	--	**7.08 J**	--
PCB-134					--	--	--	--	--	**18.9 J**	--
PCB-135/151					--	--	--	--	--	**115 J**	--
PCB-136					--	--	--	--	--	**42.7 J**	--
PCB-137					--	--	--	--	--	**21 J**	--
PCB-139/140					--	--	--	--	--	**8.38 J**	--
PCB-141					--	--	--	--	--	**52.5 J**	--
PCB-142					--	--	--	--	--	0.469 UJ	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					FS2757-3SED8	FS2757-3SED8	FS2757-3SED9	FS2757-3SED9	FS2757-3SED9	JW-EA01-Composite	JW-EA01-SS01
Sample ID					3SED8-B	3SED8-C	3SED9-A	3SED9-B	3SED9-C	JW-EA01-COMP-120507	JW-EA01-SS01-120507
Sample Date					6/5/2009	6/5/2009	6/4/2009	6/4/2009	6/4/2009	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					-122.210042	-122.210042	-122.209852	-122.209852	-122.209852	1303385.74	1303506.424
Y					48.015442	48.015442	48.015392	48.015392	48.015392	373575.7223	373444.722
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
PCB-143					--	--	--	--	--	0.432 UJ	--
PCB-144					--	--	--	--	--	**15.2 J**	--
PCB-145					--	--	--	--	--	0.299 UJ	--
PCB-146					--	--	--	--	--	**57 J**	--
PCB-147/149					--	--	--	--	--	**271 J**	--
PCB-148					--	--	--	--	--	0.397 UJ	--
PCB-150					--	--	--	--	--	**0.841 J**	--
PCB-152					--	--	--	--	--	0.281 UJ	--
PCB-153/168					--	--	--	--	--	**318 J**	--
PCB-154					--	--	--	--	--	0.357 UJ	--
PCB-155					--	--	--	--	--	0.28 U	--
PCB-156/157					--	--	--	--	--	**44.2**	--
PCB-158					--	--	--	--	--	**42.4 J**	--
PCB-159					--	--	--	--	--	**2.79 J**	--
PCB-160					--	--	--	--	--	0.346 UJ	--
PCB-161					--	--	--	--	--	0.318 UJ	--
PCB-162					--	--	--	--	--	**1.99 J**	--
PCB-164					--	--	--	--	--	**26.6 J**	--
PCB-165					--	--	--	--	--	0.354 UJ	--
PCB-167					--	--	--	--	--	**15.8 J**	--
PCB-169					--	--	--	--	--	0.946 U	--
PCB-170					--	--	--	--	--	**78.3**	--
PCB-171/173					--	--	--	--	--	**26.3**	--
PCB-172					--	--	--	--	--	**13.8**	--
PCB-174					--	--	--	--	--	**72.3**	--
PCB-175					--	--	--	--	--	**3.51**	--
PCB-176					--	--	--	--	--	**9.01**	--
PCB-177					--	--	--	--	--	**56.9**	--
PCB-178					--	--	--	--	--	**19.1**	--
PCB-179					--	--	--	--	--	**34.5**	--
PCB-180/193					--	--	--	--	--	**164**	--
PCB-181					--	--	--	--	--	**0.956 J**	--
PCB-182					--	--	--	--	--	0.593 U	--
PCB-183					--	--	--	--	--	**47.1**	--
PCB-184					--	--	--	--	--	0.342 U	--
PCB-185					--	--	--	--	--	**5.11**	--
PCB-186					--	--	--	--	--	0.331 U	--
PCB-187					--	--	--	--	--	**70**	--
PCB-188					--	--	--	--	--	0.347 U	--
PCB-189					--	--	--	--	--	**3.48**	--
PCB-190					--	--	--	--	--	**14.9**	--
PCB-191					--	--	--	--	--	**3.05**	--
PCB-192					--	--	--	--	--	0.512 U	--
PCB-194					--	--	--	--	--	**44.6**	--

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					FS2757-3SED8	FS2757-3SED8	FS2757-3SED9	FS2757-3SED9	FS2757-3SED9	JW-EA01-Composite	JW-EA01-SS01
Sample ID					3SED8-B	3SED8-C	3SED9-A	3SED9-B	3SED9-C	JW-EA01-COMP-120507	JW-EA01-SS01-120507
Sample Date					6/5/2009	6/5/2009	6/4/2009	6/4/2009	6/4/2009	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					-122.210042	-122.210042	-122.209852	-122.209852	-122.209852	1303385.74	1303506.424
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	48.015442	48.015442	48.015392	48.015392	48.015392	373575.7223	373444.722
Analyte											
PCB-195					--	--	--	--	--	**17.3**	--
PCB-196					--	--	--	--	--	**22**	--
PCB-197					--	--	--	--	--	**0.719 J**	--
PCB-198/199					--	--	--	--	--	**52**	--
PCB-200					--	--	--	--	--	**2.34**	--
PCB-201					--	--	--	--	--	**4.65 J**	--
PCB-202					--	--	--	--	--	**11.7**	--
PCB-203					--	--	--	--	--	**31.3**	--
PCB-204					--	--	--	--	--	0.662 U	--
PCB-205					--	--	--	--	--	**2.04 J**	--
PCB-206					--	--	--	--	--	**28.4**	--
PCB-207					--	--	--	--	--	**2.8**	--
PCB-208					--	--	--	--	--	**7.81**	--
PCB-209					--	--	--	--	--	**26**	--
Total PCB Congener (U = limit)					--	--	--	--	--	**14011.137 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	**0.7439898 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	**0.0071835 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	**0.1117782 J**	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	**13982.431 J**	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	--	**13953.726 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	**0.6499168 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	**0.5558438 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	**0.00511235 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	**0.0030412 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	**0.0623127 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	**0.0128472 J**	--
Total Petroleum Hydrocarbons (mg/kg)											
Diesel range hydrocarbons					--	--	--	--	--	--	--
Motor oil range hydrocarbons					--	--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)											
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**0.001682826087 J**	**0.0007044949749 J**	**0.0013014525547 J**	**0.0014513145161 J**	**0.0004364170854 J**	**2.657106429E-05 J**	**0.0002038103448 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**0.0016451932367 J**	**0.0006229371859 J**	**0.001146270073 J**	**0.0012314354839 J**	**0.0003953366834 J**	**2.56553571E-07 J**	**0.0001774689655 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**0.0041665917874 J**	**0.0014534422111 J**	**0.0021246861314 J**	**0.0024264677419 J**	**0.0007523090452 J**	**3.99207857E-06 J**	**0.0002930982759 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**0.0016771376812 J**	**0.0007044949749 J**	**0.0013014525547 J**	**0.0014513145161 J**	**0.0004057638191 J**	**2.321131429E-05 J**	**0.0001479706897 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**0.0016395048309 J**	**0.0006229371859 J**	**0.001146270073 J**	**0.0012314354839 J**	**0.0003646834171 J**	**1.82583929E-07 J**	**0.0001162198276 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**0.0041609033816 J**	**0.0014534422111 J**	**0.0021246861314 J**	**0.0024264677419 J**	**0.0007216557789 J**	**2.22545357E-06 J**	**0.0002514853448 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**0.0016714492754 J**	**0.0007044949749 J**	**0.0013014525547 J**	**0.0014513145161 J**	**0.0003751105528 J**	**1.985156429E-05 J**	**9.21310345E-05 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**0.0016338164251 J**	**0.0006229371859 J**	**0.001146270073 J**	**0.0012314354839 J**	**0.0003340301508 J**	**1.08614286E-07 J**	**5.49706897E-05 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**0.0041552149758 J**	**0.0014534422111 J**	**0.0021246861314 J**	**0.0024264677419 J**	**0.0006910025126 J**	**4.5882857E-07 J**	**0.0002098724138 J**
Dioxin Furans and PCB Congeners (ng/kg)											
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**69.669 J**	**28.0389 J**	**17.8299 J**	**17.9963 J**	**17.3694 J**	**0.7439898 J**	**5.9105 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**68.111 J**	**24.7929 J**	**15.7039 J**	**15.2698 J**	**15.7344 J**	**0.0071835 J**	**5.1466 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**172.4969 J**	**57.847 J**	**29.1082 J**	**30.0882 J**	**29.9419 J**	**0.1117782 J**	**8.49985 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**69.4335 J**	**28.0389 J**	**17.8299 J**	**17.9963 J**	**16.1494 J**	**0.6499168 J**	**4.29115 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**67.8755 J**	**24.7929 J**	**15.7039 J**	**15.2698 J**	**14.5144 J**	**0.00511235 J**	**3.370375 J**

Table H-1
Surface Sediment Results

Task					JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenAODE5095	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					**FS2757-3SED8**	**FS2757-3SED8**	**FS2757-3SED9**	**FS2757-3SED9**	**FS2757-3SED9**	**JW-EA01-Composite**	**JW-EA01-SS01**
Sample ID					**3SED8-B**	**3SED8-C**	**3SED9-A**	**3SED9-B**	**3SED9-C**	**JW-EA01-COMP-120507**	**JW-EA01-SS01-120507**
Sample Date					**6/5/2009**	**6/5/2009**	**6/4/2009**	**6/4/2009**	**6/4/2009**	**5/7/2012**	**5/7/2012**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**-122.210042**	**-122.210042**	**-122.209852**	**-122.209852**	**-122.209852**	**1303385.74**	**1303506.424**
Y					**48.015442**	**48.015442**	**48.015392**	**48.015392**	**48.015392**	**373575.7223**	**373444.722**
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**							
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**172.2614 J**	**57.847 J**	**29.1082 J**	**30.0882 J**	**28.7219 J**	**0.0623127 J**	**7.293075 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**69.198 J**	**28.0389 J**	**17.8299 J**	**17.9963 J**	**14.9294 J**	**0.5558438 J**	**2.6718 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**67.64 J**	**24.7929 J**	**15.7039 J**	**15.2698 J**	**13.2944 J**	**0.0030412 J**	**1.59415 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**172.0259 J**	**57.847 J**	**29.1082 J**	**30.0882 J**	**27.5019 J**	**0.0128472 J**	**6.0863 J**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA01-SS01	JW-EA01-SS02	JW-EA01-SS03	JW-EA01-SS04	JW-EA02-Composite	JW-EA02-SS05
Sample ID					JW-EA01-SS51-120507	JW-EA01-SS02-120507	JW-EA01-SS03-120507	JW-EA01-SS04-120507	JW-EA02-COMP-120507	JW-EA02-SS05-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					FD	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303506.424	1303409.991	1303319.104	1303273.179	1303152.198	1303192.48
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373444.722	373521.54	373607.887	373706.237	373883.5081	373760.134
Analyte										
Conventional Parameters (pct)										
Total organic carbon					--	**3.9**	**1.9**	**2.7**	**2.8**	**2.6**
Moisture, percent					**59.3**	**57**	**41.7**	**50.9**	**55.2**	--
Total Solids					--	**47**	**59**	**49**	**43**	--
Total solids (preserved)					--	--	--	--	--	--
Total volatile solids					--	--	--	--	--	--
Conventional Parameters (mg/kg)										
Ammonia as nitrogen					--	--	--	--	--	--
Black carbon					--	**1900**	**2100**	**1700**	**1700**	--
Sulfide					--	--	--	--	--	--
Grain Size (pct)										
Cobbles					--	0 U	0 U	0 U	0 U	--
Gravel					--	**6.7**	**33**	**0.3**	**0.5**	--
Sand					--	**14**	**20**	**3**	**7.2**	--
Sand, very coarse					--	--	--	--	--	--
Sand, coarse					--	--	--	--	--	--
Sand, medium					--	--	--	--	--	--
Sand, fine					--	--	--	--	--	--
Sand, very fine					--	--	--	--	--	--
Silt					--	**70**	**39**	**82**	**79**	--
Silt, coarse					--	--	--	--	--	--
Silt, medium					--	--	--	--	--	--
Silt, fine					--	--	--	--	--	--
Silt, very fine					--	--	--	--	--	--
Total fines (Reported, not calculated)					--	--	--	--	--	--
Clay					--	**9**	**8.8**	**15**	**13**	--
Clay, coarse					--	--	--	--	--	--
Clay, medium					--	--	--	--	--	--
Clay, fine					--	--	--	--	--	--
Metals (mg/kg)										
Antimony					--	--	--	--	--	--
Arsenic	57	93	57	93	--	--	--	--	--	--
Cadmium	5.1	6.7	5.1	6.7	--	--	--	--	--	--
Chromium	260	270	260	270	--	--	--	--	--	--
Copper	390	390	390	390	--	--	--	--	--	--
Lead	450	530	450	530	--	--	--	--	--	--
Mercury	0.41	0.59	0.41	0.59	--	--	--	--	--	--
Nickel					--	--	--	--	--	--
Silver	6.1	6.1	6.1	6.1	--	--	--	--	--	--
Zinc	410	960	410	960	--	--	--	--	--	--
Volatile Organics (mg/kg-OC)										
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
Volatile Organics (µg/kg)										
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA01-SS01	JW-EA01-SS02	JW-EA01-SS03	JW-EA01-SS04	JW-EA02-Composite	JW-EA02-SS05
Sample ID					JW-EA01-SS51-120507	JW-EA01-SS02-120507	JW-EA01-SS03-120507	JW-EA01-SS04-120507	JW-EA02-COMP-120507	JW-EA02-SS05-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					FD	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303506.424	1303409.991	1303319.104	1303273.179	1303152.198	1303192.48
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373444.722	373521.54	373607.887	373706.237	373883.5081	373760.134
Analyte										
Semivolatile Organics (mg/kg-OC)										
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--
Semivolatile Organics (µg/kg)										
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--
1,3-Dichlorobenzene					--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)										
2-Methylnaphthalene	38	64			--	--	--	--	--	--
Acenaphthene	16	57			--	--	--	--	--	--
Acenaphthylene	66	66			--	--	--	--	--	--
Anthracene	220	1200			--	--	--	--	--	--
Benzo(a)anthracene	110	270			--	--	--	--	--	--
Benzo(a)pyrene	99	210			--	--	--	--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	--
Chrysene	110	460			--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA01-SS01	JW-EA01-SS02	JW-EA01-SS03	JW-EA01-SS04	JW-EA02-Composite	JW-EA02-SS05
Sample ID					JW-EA01-SS51-120507	JW-EA01-SS02-120507	JW-EA01-SS03-120507	JW-EA01-SS04-120507	JW-EA02-COMP-120507	JW-EA02-SS05-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					FD	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303506.424	1303409.991	1303319.104	1303273.179	1303152.198	1303192.48
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	373444.722	373521.54	373607.887	373706.237	373883.5081	373760.134
Analyte										
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	--
Dibenzofuran	15	58			--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	--
Fluorene	23	79			--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	--
Naphthalene	99	170			--	--	--	--	--	--
Phenanthrene	100	480			--	--	--	--	--	--
Pyrene	1000	1400			--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)										
1-Methylnaphthalene					--	--	--	--	--	--
2-Methylnaphthalene			670	670	--	--	--	--	--	--
Acenaphthene			500	500	--	--	--	--	--	--
Acenaphthylene			1300	1300	--	--	--	--	--	--
Anthracene			960	960	--	--	--	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--	--	--	--
Benzo(b)fluoranthene					--	--	--	--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	--
Benzo(k)fluoranthene					--	--	--	--	--	--
Chrysene			1400	2800	--	--	--	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	--
Dibenzofuran			540	540	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	--
Fluorene			540	540	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	--
Naphthalene			2100	2100	--	--	--	--	--	--
Phenanthrene			1500	1500	--	--	--	--	--	--
Pyrene			2600	3300	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	--
Dioxin Furans (ng/kg)										
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					**0.32 J**	**0.835 J**	**0.341 J**	0.201 U	0.102 U	**0.419 J**
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					1.33 U	1.37 U	1.32 U	0.765 U	**0.586 J**	**1.51 J**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**4.72 J**	**2.8 J**	**2.86 J**	1.73 U	**1.11 J**	**3.1**

Table H-1

Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA01-SS01	JW-EA01-SS02	JW-EA01-SS03	JW-EA01-SS04	JW-EA02-Composite	JW-EA02-SS05
Sample ID					JW-EA01-SS51-120507	JW-EA01-SS02-120507	JW-EA01-SS03-120507	JW-EA01-SS04-120507	JW-EA02-COMP-120507	JW-EA02-SS05-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					FD	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303506.424	1303409.991	1303319.104	1303273.179	1303152.198	1303192.48
Y					373444.722	373521.54	373607.887	373706.237	373883.5081	373760.134
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**16.3 J**	**33.8**	**12.1 J**	**10.6**	**6.37**	**18.5**
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					**8.37 J**	**6.1**	**5.25 J**	**3.98 J**	**2.32 J**	**7.64**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					**341**	**230**	**204**	**121**	**99.7**	**335**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					**3110**	**1970**	**1830**	**1050**	**944**	**3550**
Total Tetrachlorodibenzo-p-dioxin (TCDD)					**13.4 J**	**13.2 J**	**9.52 J**	**12.1 J**	**4.64 J**	**21.4 J**
Total Pentachlorodibenzo-p-dioxin (PeCDD)					**12.3 J**	**14.5 J**	**9.24 J**	**11.2 J**	**5.14 J**	**19.8 J**
Total Hexachlorodibenzo-p-dioxin (HxCDD)					**123 J**	**138 J**	**75.9 J**	**77 J**	**39 J**	**148**
Total Heptachlorodibenzo-p-dioxin (HpCDD)					**728**	**506**	**426**	**286**	**224**	**723**
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					**1.19 J**	**1.44**	**0.921**	**1.47 J**	**0.589 J**	**1.21 J**
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					0.322 U	0.767 U	0.671 U	0.35 U	0.168 U	**0.813 J**
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					1.81 U	**2.22 J**	1.49 U	0.941 U	**1.17 J**	**1.79 J**
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					**3.06 J**	**3.27 J**	**2.53 J**	1.59 U	**1.6 J**	**2.79**
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					**2.6 J**	2.32 U	1.88 U	1.38 U	**1.56 J**	**2.48**
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					1.4 U	0.188 U	0.715 U	0.579 U	0.577 U	0.14 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					**4.1 J**	**3.92 J**	**2.97 J**	1.6 U	**2.4 J**	**3.81**
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					**65.1**	**50**	**40.9**	**25.7**	**27.8**	**62.7**
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					**3.83 J**	2.67 U	2.27 U	1.85 U	**1.46 J**	**3.37**
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					**194**	**119**	**104**	**60.7**	**58.7**	**150**
Total Tetrachlorodibenzofuran (TCDF)					**17.8 J**	**19.4 J**	**13.9 J**	**12.5 J**	**7.39 J**	**18.8 J**
Total Pentachlorodibenzofuran (PeCDF)					**24.6 J**	**30.6 J**	**22.6 J**	**11.8 J**	**16**	**25.6**
Total Hexachlorodibenzofuran (HxCDF)					**93.5**	**91.4 J**	**69 J**	**42.7 J**	**49.6**	**87.1 J**
Total Heptachlorodibenzofuran (HpCDF)					**196**	**141 J**	**115 J**	**73.4 J**	**76.3 J**	**201**
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					**8.3949 J**	**8.9651 J**	**6.5667 J**	**5.02497 J**	**3.92127 J**	**8.402 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					**7.714 J**	**7.15975 J**	**5.7277 J**	**3.56077 J**	**3.05902 J**	**7.02425 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					**11.46716 J**	**11.73121 J**	**8.10263 J**	**5.37041 J**	**4.28705 J**	**11.57809 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					**6.7388 J**	**8.103 J**	**4.98705 J**	**3.74402 J**	**3.83302 J**	**8.395 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					**6.51845 J**	**6.316825 J**	**4.537325 J**	**2.13457 J**	**2.97497 J**	**7.01725 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					**10.45583 J**	**10.895955 J**	**7.067965 J**	**4.38781 J**	**4.20468 J**	**11.57109 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					**5.0827 J**	**7.2409 J**	**3.4074 J**	**2.46307 J**	**3.74477 J**	**8.388 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					**5.3229 J**	**5.4739 J**	**3.34695 J**	**0.70837 J**	**2.89092 J**	**7.01025 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					**9.4445 J**	**10.0607 J**	**6.0333 J**	**3.40521 J**	**4.12231 J**	**11.56409 J**
PCB Aroclors (mg/kg-OC)										
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--
PCB Aroclors (µg/kg)										
Aroclor 1016					--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--
Aroclor 1262					--	--	--	--	--	--
Aroclor 1268					--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA01-SS01	JW-EA01-SS02	JW-EA01-SS03	JW-EA01-SS04	JW-EA02-Composite	JW-EA02-SS05
Sample ID					JW-EA01-SS51-120507	JW-EA01-SS02-120507	JW-EA01-SS03-120507	JW-EA01-SS04-120507	JW-EA02-COMP-120507	JW-EA02-SS05-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					FD	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303506.424	1303409.991	1303319.104	1303273.179	1303152.198	1303192.48
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373444.722	373521.54	373607.887	373706.237	373883.5081	373760.134
Analyte										
PCB Congeners (mg/kg-OC)										
Total PCB Congener (U = limit)					--	--	--	--	**0.264403571 J**	--
Total PCB Congener (U = 1/2)					--	--	--	--	**0.263207768 J**	--
Total PCB Congener (U = 0)	12	65			--	--	--	--	**0.262011964 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	**2.102848214E-05 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	**3.07453571E-07 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	--	**5.15662143E-06 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	**2.002869643E-05 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	**1.902891071E-05 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	**3.01821429E-07 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	**2.96189286E-07 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	**4.73152143E-06 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	**4.30642143E-06 J**	--
PCB Congeners (ng/kg)										
PCB-001					--	--	--	--	**6.31**	--
PCB-002					--	--	--	--	**5.83**	--
PCB-003					--	--	--	--	**7.82**	--
PCB-004					--	--	--	--	**20.5 J**	--
PCB-005					--	--	--	--	**1.12 J**	--
PCB-006					--	--	--	--	**10.8 J**	--
PCB-007					--	--	--	--	**1.83 J**	--
PCB-008					--	--	--	--	**55.1 J**	--
PCB-009					--	--	--	--	**3.21 J**	--
PCB-010					--	--	--	--	**1.37 J**	--
PCB-011					--	--	--	--	40.7 UJ	--
PCB-012/013					--	--	--	--	**9.44 J**	--
PCB-014					--	--	--	--	2.21 UJ	--
PCB-015					--	--	--	--	**97.5 J**	--
PCB-016					--	--	--	--	**82.8**	--
PCB-017					--	--	--	--	**80.8**	--
PCB-018/030					--	--	--	--	**125**	--
PCB-019					--	--	--	--	**15.4**	--
PCB-020/028					--	--	--	--	**418**	--
PCB-021/033					--	--	--	--	**98.6**	--
PCB-022					--	--	--	--	**135**	--
PCB-023					--	--	--	--	1.28 U	--
PCB-024					--	--	--	--	**3.34**	--
PCB-025					--	--	--	--	**24.8**	--
PCB-026/029					--	--	--	--	**47**	--
PCB-027					--	--	--	--	**15.8**	--
PCB-031					--	--	--	--	**280**	--
PCB-032					--	--	--	--	**56.7**	--
PCB-034					--	--	--	--	1.34 U	--
PCB-035					--	--	--	--	**6.23 J**	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA01-SS01	JW-EA01-SS02	JW-EA01-SS03	JW-EA01-SS04	JW-EA02-Composite	JW-EA02-SS05
Sample ID					JW-EA01-SS51-120507	JW-EA01-SS02-120507	JW-EA01-SS03-120507	JW-EA01-SS04-120507	JW-EA02-COMP-120507	JW-EA02-SS05-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					FD	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303506.424	1303409.991	1303319.104	1303273.179	1303152.198	1303192.48
Y					373444.722	373521.54	373607.887	373706.237	373883.5081	373760.134
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-036					--	--	--	--	1.33 U	--
PCB-037					--	--	--	--	**129**	--
PCB-038					--	--	--	--	1.43 U	--
PCB-039					--	--	--	--	1.28 U	--
PCB-040/071					--	--	--	--	**109 J**	--
PCB-041					--	--	--	--	**28.9 J**	--
PCB-042					--	--	--	--	**71.9 J**	--
PCB-043					--	--	--	--	**10.9 J**	--
PCB-044/047/065					--	--	--	--	**259 J**	--
PCB-045					--	--	--	--	**36.8 J**	--
PCB-046					--	--	--	--	**14.8 J**	--
PCB-048					--	--	--	--	**56.6 J**	--
PCB-049/069					--	--	--	--	**150 J**	--
PCB-050/053					--	--	--	--	**30.7 J**	--
PCB-051					--	--	--	--	**9.75 J**	--
PCB-052					--	--	--	--	**277 J**	--
PCB-054					--	--	--	--	**0.827 J**	--
PCB-055					--	--	--	--	**2.13 J**	--
PCB-056					--	--	--	--	**39.9 J**	--
PCB-057					--	--	--	--	**1.69 J**	--
PCB-058					--	--	--	--	0.627 UJ	--
PCB-059/062/075					--	--	--	--	**24.9 J**	--
PCB-060					--	--	--	--	**17.9 J**	--
PCB-061/070/074/076					--	--	--	--	**304 J**	--
PCB-063					--	--	--	--	**7.83 J**	--
PCB-064					--	--	--	--	**106 J**	--
PCB-066					--	--	--	--	**148 J**	--
PCB-067					--	--	--	--	**9.25 J**	--
PCB-068					--	--	--	--	**1.53 J**	--
PCB-072					--	--	--	--	**2.64 J**	--
PCB-073					--	--	--	--	**0.695 J**	--
PCB-077					--	--	--	--	**8.16 J**	--
PCB-078					--	--	--	--	0.656 UJ	--
PCB-079					--	--	--	--	**2.72 J**	--
PCB-080					--	--	--	--	0.559 UJ	--
PCB-081					--	--	--	--	0.552 UJ	--
PCB-082					--	--	--	--	**28.5**	--
PCB-083					--	--	--	--	**15.7**	--
PCB-084					--	--	--	--	**64**	--
PCB-085/116					--	--	--	--	**37.9**	--
PCB-086/087/097/108/119/125					--	--	--	--	--	--
PCB-086/087/097/109/119/125					--	--	--	--	**163**	--
PCB-088					--	--	--	--	0.805 U	--
PCB-089					--	--	--	--	**2.48 J**	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA01-SS01	JW-EA01-SS02	JW-EA01-SS03	JW-EA01-SS04	JW-EA02-Composite	JW-EA02-SS05
Sample ID					JW-EA01-SS51-120507	JW-EA01-SS02-120507	JW-EA01-SS03-120507	JW-EA01-SS04-120507	JW-EA02-COMP-120507	JW-EA02-SS05-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					FD	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303506.424	1303409.991	1303319.104	1303273.179	1303152.198	1303192.48
Y					373444.722	373521.54	373607.887	373706.237	373883.5081	373760.134
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-090/101/113					--	--	--	--	**254**	--
PCB-091					--	--	--	--	**36.4**	--
PCB-092					--	--	--	--	**48.6**	--
PCB-093/100					--	--	--	--	**3.37**	--
PCB-094					--	--	--	--	**1.66 J**	--
PCB-095					--	--	--	--	**233**	--
PCB-096					--	--	--	--	**3.83**	--
PCB-098					--	--	--	--	0.802 U	--
PCB-099					--	--	--	--	**135**	--
PCB-102					--	--	--	--	**8.36**	--
PCB-103					--	--	--	--	**2.28 J**	--
PCB-104					--	--	--	--	0.491 U	--
PCB-105					--	--	--	--	**99.2**	--
PCB-106					--	--	--	--	0.579 U	--
PCB-107					--	--	--	--	**19.7**	--
PCB-107/124					--	--	--	--	--	--
PCB-108/124					--	--	--	--	**10.9**	--
PCB-109					--	--	--	--	--	--
PCB-110					--	--	--	--	**326**	--
PCB-111					--	--	--	--	0.537 U	--
PCB-112					--	--	--	--	0.566 U	--
PCB-114					--	--	--	--	**5.51**	--
PCB-115					--	--	--	--	**7.46**	--
PCB-117					--	--	--	--	**6.5**	--
PCB-118					--	--	--	--	**253**	--
PCB-120					--	--	--	--	0.544 U	--
PCB-121					--	--	--	--	0.539 U	--
PCB-122					--	--	--	--	**3.52**	--
PCB-123					--	--	--	--	**5.42**	--
PCB-126					--	--	--	--	**1.07 J**	--
PCB-127					--	--	--	--	0.584 U	--
PCB-128/166					--	--	--	--	**60.2**	--
PCB-129/138/163					--	--	--	--	**408**	--
PCB-130					--	--	--	--	**27.7**	--
PCB-131					--	--	--	--	**5.29 J**	--
PCB-132					--	--	--	--	**117**	--
PCB-133					--	--	--	--	**5.87**	--
PCB-134					--	--	--	--	**22.2**	--
PCB-135/151					--	--	--	--	**90.8**	--
PCB-136					--	--	--	--	**36.4**	--
PCB-137					--	--	--	--	**19**	--
PCB-139/140					--	--	--	--	**7.34**	--
PCB-141					--	--	--	--	**51.3**	--
PCB-142					--	--	--	--	0.556 U	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA01-SS01	JW-EA01-SS02	JW-EA01-SS03	JW-EA01-SS04	JW-EA02-Composite	JW-EA02-SS05
Sample ID					JW-EA01-SS51-120507	JW-EA01-SS02-120507	JW-EA01-SS03-120507	JW-EA01-SS04-120507	JW-EA02-COMP-120507	JW-EA02-SS05-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					FD	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303506.424	1303409.991	1303319.104	1303273.179	1303152.198	1303192.48
Y					373444.722	373521.54	373607.887	373706.237	373883.5081	373760.134
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
PCB-143					--	--	--	--	0.531 U	--
PCB-144					--	--	--	--	**12.1**	--
PCB-145					--	--	--	--	0.399 U	--
PCB-146					--	--	--	--	**56.1**	--
PCB-147/149					--	--	--	--	**234**	--
PCB-148					--	--	--	--	0.518 U	--
PCB-150					--	--	--	--	0.378 U	--
PCB-152					--	--	--	--	0.383 U	--
PCB-153/168					--	--	--	--	**281**	--
PCB-154					--	--	--	--	**4.67**	--
PCB-155					--	--	--	--	0.36 U	--
PCB-156/157					--	--	--	--	**45.9**	--
PCB-158					--	--	--	--	**38.4**	--
PCB-159					--	--	--	--	0.616 U	--
PCB-160					--	--	--	--	0.436 U	--
PCB-161					--	--	--	--	0.41 U	--
PCB-162					--	--	--	--	**1.28 J**	--
PCB-164					--	--	--	--	**23.9**	--
PCB-165					--	--	--	--	0.447 U	--
PCB-167					--	--	--	--	**14.2**	--
PCB-169					--	--	--	--	0.788 U	--
PCB-170					--	--	--	--	**36.4 J**	--
PCB-171/173					--	--	--	--	**18.8 J**	--
PCB-172					--	--	--	--	**5.75 J**	--
PCB-174					--	--	--	--	**49.6 J**	--
PCB-175					--	--	--	--	**2.71 J**	--
PCB-176					--	--	--	--	**5.41 J**	--
PCB-177					--	--	--	--	**38.7 J**	--
PCB-178					--	--	--	--	**9.97 J**	--
PCB-179					--	--	--	--	**21.1 J**	--
PCB-180/193					--	--	--	--	**70.6 J**	--
PCB-181					--	--	--	--	0.917 UJ	--
PCB-182					--	--	--	--	0.844 UJ	--
PCB-183					--	--	--	--	**32.2 J**	--
PCB-184					--	--	--	--	0.297 UJ	--
PCB-185					--	--	--	--	**2.72 J**	--
PCB-186					--	--	--	--	0.281 UJ	--
PCB-187					--	--	--	--	**73.9 J**	--
PCB-188					--	--	--	--	0.289 U	--
PCB-189					--	--	--	--	**2.23 J**	--
PCB-190					--	--	--	--	**9.58 J**	--
PCB-191					--	--	--	--	**2.05 J**	--
PCB-192					--	--	--	--	0.667 UJ	--
PCB-194					--	--	--	--	**21.9**	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA01-SS01	JW-EA01-SS02	JW-EA01-SS03	JW-EA01-SS04	JW-EA02-Composite	JW-EA02-SS05
Sample ID					JW-EA01-SS51-120507	JW-EA01-SS02-120507	JW-EA01-SS03-120507	JW-EA01-SS04-120507	JW-EA02-COMP-120507	JW-EA02-SS05-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					FD	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303506.424	1303409.991	1303319.104	1303273.179	1303152.198	1303192.48
Y					373444.722	373521.54	373607.887	373706.237	373883.5081	373760.134
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
PCB-195					--	--	--	--	8.87	--
PCB-196					--	--	--	--	13.3	--
PCB-197					--	--	--	--	0.673 J	--
PCB-198/199					--	--	--	--	32.6	--
PCB-200					--	--	--	--	2.26 J	--
PCB-201					--	--	--	--	3.62	--
PCB-202					--	--	--	--	7.61	--
PCB-203					--	--	--	--	19.5	--
PCB-204					--	--	--	--	0.437 U	--
PCB-205					--	--	--	--	1.02 J	--
PCB-206					--	--	--	--	16.3	--
PCB-207					--	--	--	--	1.83	--
PCB-208					--	--	--	--	3.88 J	--
PCB-209					--	--	--	--	9.42	--
Total PCB Congener (U = limit)					--	--	--	--	7403.3 J	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	0.5887975 J	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	0.0086087 J	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	--	0.1443854 J	--
Total PCB Congener (U = 1/2)					--	--	--	--	7369.817 J	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	7336.335 J	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	0.5608035 J	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	0.5328095 J	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	0.008451 J	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	0.0082933 J	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	0.1324826 J	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	0.1205798 J	--
Total Petroleum Hydrocarbons (mg/kg)										
Diesel range hydrocarbons					--	--	--	--	--	--
Motor oil range hydrocarbons					--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	0.000229874359 J	0.0003456157895 J	0.00018611 J	0.00016107383929 J	0.0003231538462 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	0.0001835833333 J	0.0003014578947 J	0.0001318803704 J	0.000109558167857 J	0.0002701634615 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	0.0003008002564 J	0.0004264542105 J	0.0001989040741 J	0.00015826555 J	0.0004453111538 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	0.0002077692308 J	0.0002624763158 J	0.0001386674074 J	0.00015692226786 J	0.0003228846154 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	0.0001619698718 J	0.0002388065789 J	7.90581481E-05 J	0.00010655075 J	0.0002698942308 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	0.0002793834615 J	0.0003719981579 J	0.0001625114815 J	0.00015489866429 J	0.0004450419231 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	0.0001856641026 J	0.0001793368421 J	9.12248148E-05 J	0.00015277069643 J	0.0003226153846 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	0.0001403564103 J	0.0001761552632 J	2.62359259E-05 J	0.000103543332143 J	0.000269625 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	0.0002579666667 J	0.0003175421053 J	0.0001261188889 J	0.00015153177857 J	0.0004447726923 J
Dioxin Furans and PCB Congeners (ng/kg)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					8.3949 J	8.9651 J	6.5667 J	5.02497 J	4.5100675 J	8.402 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					7.714 J	7.15975 J	5.7277 J	3.56077 J	3.0676287 J	7.02425 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					11.46716 J	11.73121 J	8.10263 J	5.37041 J	4.4314354 J	11.57809 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					6.7388 J	8.103 J	4.98705 J	3.74402 J	4.3938235 J	8.395 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					6.51845 J	6.316825 J	4.537325 J	2.13457 J	2.983421 J	7.01725 J

Table H-1

Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA01-SS01	JW-EA01-SS02	JW-EA01-SS03	JW-EA01-SS04	JW-EA02-Composite	JW-EA02-SS05
Sample ID					JW-EA01-SS51-120507	JW-EA01-SS02-120507	JW-EA01-SS03-120507	JW-EA01-SS04-120507	JW-EA02-COMP-120507	JW-EA02-SS05-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					FD	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303506.424	1303409.991	1303319.104	1303273.179	1303152.198	1303192.48
Y					373444.722	373521.54	373607.887	373706.237	373883.5081	373760.134
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					10.45583 J	10.895955 J	7.067965 J	4.38781 J	4.3371626 J	11.57109 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					5.0827 J	7.2409 J	3.4074 J	2.46307 J	4.2775795 J	8.388 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					5.3229 J	5.4739 J	3.34695 J	0.70837 J	2.8992133 J	7.01025 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					9.4445 J	10.0607 J	6.0333 J	3.40521 J	4.2428898 J	11.56409 J

Table H-1
Surface Sediment Results

Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA02-SS06	JW-EA02-SS07	JW-EA03-Composite	JW-EA03-SS11	JW-EA03-SS12	JW-EA04-Composite
Sample ID					JW-EA02-SS06-120507	JW-EA02-SS07-120507	JW-EA03-COMP-120507	JW-EA03-SS11-120507	JW-EA03-SS12-120507	JW-EA04-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303249.289	1303062.26	1302934.298	1302837.626	1302909.704	1302713.435
Y					373823.672	373892.073	374111.0185	374136.978	374200.801	374337.4266
Conventional Parameters (pct)										
Total organic carbon					**2.6**	**2.1 J**	**2.5**	**2.1 J**	**2.2 J**	**1.7**
Moisture, percent					--	--	**55.4**	--	--	**39.9**
Total Solids					--	**46 J**	**43**	**47 J**	**45 J**	**65**
Total solids (preserved)					--	--	--	--	--	--
Total volatile solids					--	--	--	--	--	--
Conventional Parameters (mg/kg)										
Ammonia as nitrogen					--	--	--	--	--	--
Black carbon					--	--	**1500**	--	--	**1300**
Sulfide					--	--	--	--	--	--
Grain Size (pct)										
Cobbles					--	--	0 U	--	--	0 U
Gravel					--	--	**0.4**	--	--	**3.9**
Sand					--	--	**12**	--	--	**52**
Sand, very coarse					--	--	--	--	--	--
Sand, coarse					--	--	--	--	--	--
Sand, medium					--	--	--	--	--	--
Sand, fine					--	--	--	--	--	--
Sand, very fine					--	--	--	--	--	--
Silt					--	--	**73**	--	--	**35**
Silt, coarse					--	--	--	--	--	--
Silt, medium					--	--	--	--	--	--
Silt, fine					--	--	--	--	--	--
Silt, very fine					--	--	--	--	--	--
Total fines (Reported, not calculated)					--	--	--	--	--	--
Clay					--	--	**14**	--	--	**9.3**
Clay, coarse					--	--	--	--	--	--
Clay, medium					--	--	--	--	--	--
Clay, fine					--	--	--	--	--	--
Metals (mg/kg)										
Antimony					--	--	--	--	--	--
Arsenic	57	93	57	93	--	--	--	--	--	--
Cadmium	5.1	6.7	5.1	6.7	--	--	--	--	--	--
Chromium	260	270	260	270	--	--	--	--	--	--
Copper	390	390	390	390	--	--	--	--	--	--
Lead	450	530	450	530	--	--	--	--	--	--
Mercury	0.41	0.59	0.41	0.59	--	--	--	--	--	--
Nickel					--	--	--	--	--	--
Silver	6.1	6.1	6.1	6.1	--	--	--	--	--	--
Zinc	410	960	410	960	--	--	--	--	--	--
Volatile Organics (mg/kg-OC)										
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
Volatile Organics (µg/kg)										
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA02-SS06	JW-EA02-SS07	JW-EA03-Composite	JW-EA03-SS11	JW-EA03-SS12	JW-EA04-Composite
Sample ID					JW-EA02-SS06-120507	JW-EA02-SS07-120507	JW-EA03-COMP-120507	JW-EA03-SS11-120507	JW-EA03-SS12-120507	JW-EA04-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303249.289	1303062.26	1302934.298	1302837.626	1302909.704	1302713.435
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	373823.672	373892.073	374111.0185	374136.978	374200.801	374337.4266
Analyte										
Semivolatile Organics (mg/kg-OC)										
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--
Semivolatile Organics (µg/kg)										
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--
1,3-Dichlorobenzene					--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)										
2-Methylnaphthalene	38	64			--	--	--	--	--	--
Acenaphthene	16	57			--	--	--	--	--	--
Acenaphthylene	66	66			--	--	--	--	--	--
Anthracene	220	1200			--	--	--	--	--	--
Benzo(a)anthracene	110	270			--	--	--	--	--	--
Benzo(a)pyrene	99	210			--	--	--	--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	--
Chrysene	110	460			--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA02-SS06	JW-EA02-SS07	JW-EA03-Composite	JW-EA03-SS11	JW-EA03-SS12	JW-EA04-Composite
Sample ID					JW-EA02-SS06-120507	JW-EA02-SS07-120507	JW-EA03-COMP-120507	JW-EA03-SS11-120507	JW-EA03-SS12-120507	JW-EA04-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303249.289	1303062.26	1302934.298	1302837.626	1302909.704	1302713.435
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373823.672	373892.073	374111.0185	374136.978	374200.801	374337.4266
Analyte										
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	--
Dibenzofuran	15	58			--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	--
Fluorene	23	79			--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	--
Naphthalene	99	170			--	--	--	--	--	--
Phenanthrene	100	480			--	--	--	--	--	--
Pyrene	1000	1400			--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)										
1-Methylnaphthalene					--	--	--	--	--	--
2-Methylnaphthalene			670	670	--	--	--	--	--	--
Acenaphthene			500	500	--	--	--	--	--	--
Acenaphthylene			1300	1300	--	--	--	--	--	--
Anthracene			960	960	--	--	--	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--	--	--	--
Benzo(b)fluoranthene					--	--	--	--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	--
Benzo(k)fluoranthene					--	--	--	--	--	--
Chrysene			1400	2800	--	--	--	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	--
Dibenzofuran			540	540	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	--
Fluorene			540	540	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	--
Naphthalene			2100	2100	--	--	--	--	--	--
Phenanthrene			1500	1500	--	--	--	--	--	--
Pyrene			2600	3300	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	--
Dioxin Furans (ng/kg)										
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					**0.205 J**	0.234 U	0.251 U	0.2738 U	0.3413 U	0.0734 U
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					**0.76 J**	**1.2 J**	0.168 U	**1.04 J**	**0.762 J**	**0.674 J**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**1.51 J**	**2.69 J**	0.451 U	**1.85 J**	**0.824 J**	**0.932 J**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA02-SS06	JW-EA02-SS07	JW-EA03-Composite	JW-EA03-SS11	JW-EA03-SS12	JW-EA04-Composite
Sample ID					JW-EA02-SS06-120507	JW-EA02-SS07-120507	JW-EA03-COMP-120507	JW-EA03-SS11-120507	JW-EA03-SS12-120507	JW-EA04-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303249.289	1303062.26	1302934.298	1302837.626	1302909.704	1302713.435
Y					373823.672	373892.073	374111.0185	374136.978	374200.801	374337.4266
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**7.4**	**30.4**	**1.59 J**	**9.89**	**3.91 J**	**7.63**
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					**3.65**	**7.15**	0.92 U	**4.08**	**2.44 J**	**2.82 J**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					**106**	**482**	**22.6**	**113**	**71.4**	**78.6**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					**899**	**3610**	**160**	**823**	**609**	**665**
Total Tetrachlorodibenzo-p-dioxin (TCDD)					**15.4 J**	**19.6 J**	**1.18 J**	**12.6 J**	**11.7**	**3.34 J**
Total Pentachlorodibenzo-p-dioxin (PeCDD)					**12.4 J**	**15.1 J**	0.168 U	**14.5 J**	**11.8 J**	**4.34 J**
Total Hexachlorodibenzo-p-dioxin (HxCDD)					**65**	**148**	**11.5**	**103**	**45.5 J**	**37.9 J**
Total Heptachlorodibenzo-p-dioxin (HpCDD)					**246**	**861**	**68.3**	**242**	**188**	**153**
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					**1.22 J**	**1.32**	**0.177 J**	**1.04**	**0.974**	**0.441 J**
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					**0.44 J**	**0.924 J**	0.234 U	**0.595 J**	**0.367 J**	**0.455 J**
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					**0.924 J**	**5.55**	0.347 U	**1.39 J**	**0.733 J**	**0.865 J**
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					**1.34 J**	**11.2**	0.677 U	**1.48 J**	**0.879 J**	**1.26 J**
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					**1.19 J**	**5.19**	0.596 U	**1.91 J**	**0.742 J**	**1.38 J**
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					0.0996 U	0.4716 U	0.201 U	0.3159 U	0.2098 U	0.539 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					**1.62 J**	**7.39**	0.628 U	**3.11 J**	**1.03 J**	**2.48 J**
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					**30.5**	**99.3**	**7.48**	**35.2**	**12.6**	**29.4**
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					**1.25 J**	**6.6**	0.214 U	**2.13 J**	**0.841 J**	**1.48 J**
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					**54.6**	**230**	**13.3**	**52.6**	**36.6**	**65.5**
Total Tetrachlorodibenzofuran (TCDF)					**13.3 J**	**14.9 J**	**0.654 J**	**13 J**	**8.94 J**	**6.36 J**
Total Pentachlorodibenzofuran (PeCDF)					**13.4 J**	**46.1 J**	**3.04 J**	**23.4 J**	**8.71 J**	**15.8 J**
Total Hexachlorodibenzofuran (HxCDF)					**35**	**155 J**	**14 J**	**59.6 J**	**19.3 J**	**48.9**
Total Heptachlorodibenzofuran (HpCDF)					**77.3**	**321**	**17.4**	**94.3**	**42**	**73.6**
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					**4.61132 J**	**13.90006 J**	**1.42392 J**	**5.65815 J**	**3.72775 J**	**3.53015 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					**3.31932 J**	**10.39186 J**	**1.19072 J**	**4.4107 J**	**2.5688 J**	**2.82155 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					**4.72194 J**	**16.73888 J**	**1.40905 J**	**5.88222 J**	**3.47718 J**	**4.0827 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					**4.60634 J**	**13.75948 J**	**0.865775 J**	**5.505455 J**	**3.54661 J**	**3.4665 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					**3.31434 J**	**10.25128 J**	**0.6651 J**	**4.258005 J**	**2.38766 J**	**2.7579 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					**4.71696 J**	**16.5983 J**	**0.96927 J**	**5.729525 J**	**3.29604 J**	**4.01905 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					**4.60136 J**	**13.6189 J**	**0.30763 J**	**5.35276 J**	**3.36547 J**	**3.40285 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					**3.30936 J**	**10.1107 J**	**0.13948 J**	**4.10531 J**	**2.20652 J**	**2.69425 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					**4.71198 J**	**16.45772 J**	**0.52949 J**	**5.57683 J**	**3.1149 J**	**3.9554 J**
PCB Aroclors (mg/kg-OC)										
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--
PCB Aroclors (µg/kg)										
Aroclor 1016					--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--
Aroclor 1262					--	--	--	--	--	--
Aroclor 1268					--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**
Location ID					**JW-EA02-SS06**	**JW-EA02-SS07**	**JW-EA03-Composite**	**JW-EA03-SS11**	**JW-EA03-SS12**	**JW-EA04-Composite**
Sample ID					**JW-EA02-SS06-120507**	**JW-EA02-SS07-120507**	**JW-EA03-COMP-120507**	**JW-EA03-SS11-120507**	**JW-EA03-SS12-120507**	**JW-EA04-COMP-120507**
Sample Date					**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1303249.289**	**1303062.26**	**1302934.298**	**1302837.626**	**1302909.704**	**1302713.435**
Y					**373823.672**	**373892.073**	**374111.0185**	**374136.978**	**374200.801**	**374337.4266**
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**						
PCB Congeners (mg/kg-OC)										
Total PCB Congener (U = limit)					--	--	**0.06018744 J**	--	--	**0.259357647 J**
Total PCB Congener (U = 1/2)					--	--	**0.05902618 J**	--	--	**0.258001588 J**
Total PCB Congener (U = 0)	12	65			--	--	**0.05786492 J**	--	--	**0.256645529 J**
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	**7.2017912E-06 J**	--	--	**3.062398824E-05 J**
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	**9.85276E-08 J**	--	--	**3.0535E-07 J**
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	**2.0203176E-06 J**	--	--	**5.20720588E-06 J**
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	**5.5648912E-06 J**	--	--	**2.961725294E-05 J**
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	**3.9279912E-06 J**	--	--	**2.861051765E-05 J**
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	**6.17726E-08 J**	--	--	**2.99351471E-07 J**
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	**2.50176E-08 J**	--	--	**2.93352941E-07 J**
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	**1.0663116E-06 J**	--	--	**4.56101471E-06 J**
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	**1.123056E-07 J**	--	--	**3.91482353E-06 J**
PCB Congeners (ng/kg)										
PCB-001					--	--	2.08 UJ	--	--	**6.12**
PCB-002					--	--	**1.6 J**	--	--	**3.36**
PCB-003					--	--	**2.49**	--	--	**6.19**
PCB-004					--	--	**5.24 J**	--	--	**13.7 J**
PCB-005					--	--	2.14 UJ	--	--	1.83 UJ
PCB-006					--	--	**2.13 J**	--	--	**8.01 J**
PCB-007					--	--	2.03 UJ	--	--	**1.19 J**
PCB-008					--	--	**11.3 J**	--	--	**37.8 J**
PCB-009					--	--	2.29 UJ	--	--	**2.17 J**
PCB-010					--	--	2.39 UJ	--	--	2.39 UJ
PCB-011					--	--	20.9 UJ	--	--	23.7 UJ
PCB-012/013					--	--	**2.03 J**	--	--	**4.49 J**
PCB-014					--	--	1.84 UJ	--	--	1.55 UJ
PCB-015					--	--	**12.5 J**	--	--	**43.7 J**
PCB-016					--	--	**12.4**	--	--	**46.1**
PCB-017					--	--	**12.2**	--	--	**43.6**
PCB-018/030					--	--	**20.3**	--	--	**78.1**
PCB-019					--	--	**1.94**	--	--	**7.77**
PCB-020/028					--	--	**42.5**	--	--	**185**
PCB-021/033					--	--	**14.5**	--	--	**64.1**
PCB-022					--	--	**14.5**	--	--	**62.6**
PCB-023					--	--	0.764 U	--	--	1.2 U
PCB-024					--	--	0.88 U	--	--	0.839 U
PCB-025					--	--	**2.82**	--	--	**11.7**
PCB-026/029					--	--	**5.94**	--	--	**23.1**
PCB-027					--	--	**2.1 J**	--	--	**7.87**
PCB-031					--	--	**31.7**	--	--	**134**
PCB-032					--	--	**8.26**	--	--	**32.2**
PCB-034					--	--	0.8 U	--	--	1.26 U
PCB-035					--	--	0.854 U	--	--	**3.3**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA02-SS06	JW-EA02-SS07	JW-EA03-Composite	JW-EA03-SS11	JW-EA03-SS12	JW-EA04-Composite
Sample ID					JW-EA02-SS06-120507	JW-EA02-SS07-120507	JW-EA03-COMP-120507	JW-EA03-SS11-120507	JW-EA03-SS12-120507	JW-EA04-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303249.289	1303062.26	1302934.298	1302837.626	1302909.704	1302713.435
Y					373823.672	373892.073	374111.0185	374136.978	374200.801	374337.4266
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
PCB-036					--	--	0.785 U	--	--	1.25 U
PCB-037					--	--	**14.3**	--	--	**54.4**
PCB-038					--	--	0.851 U	--	--	1.34 U
PCB-039					--	--	0.758 U	--	--	1.21 U
PCB-040/071					--	--	**11.8 J**	--	--	**60.4 J**
PCB-041					--	--	**2.92 J**	--	--	**15.4 J**
PCB-042					--	--	**7.38 J**	--	--	**38.4 J**
PCB-043					--	--	**0.8 J**	--	--	**5.24 J**
PCB-044/047/065					--	--	**27 J**	--	--	**136 J**
PCB-045					--	--	**3.71 J**	--	--	**19.4 J**
PCB-046					--	--	**1.61 J**	--	--	**7.64 J**
PCB-048					--	--	**5.45 J**	--	--	**30 J**
PCB-049/069					--	--	**15.6 J**	--	--	**81.9 J**
PCB-050/053					--	--	**3.03 J**	--	--	**17 J**
PCB-051					--	--	**0.989 J**	--	--	**4.47 J**
PCB-052					--	--	**30.6 J**	--	--	**152 J**
PCB-054					--	--	0.208 U	--	--	0.276 U
PCB-055					--	--	0.531 UJ	--	--	**1.68 J**
PCB-056					--	--	**7.89 J**	--	--	**36.1 J**
PCB-057					--	--	0.521 UJ	--	--	**0.854 J**
PCB-058					--	--	0.522 UJ	--	--	**0.518 J**
PCB-059/062/075					--	--	**2.53 J**	--	--	**12.9 J**
PCB-060					--	--	**3.41 J**	--	--	**14.4 J**
PCB-061/070/074/076					--	--	**45.3 J**	--	--	**190 J**
PCB-063					--	--	**1 J**	--	--	**4.77 J**
PCB-064					--	--	**11.2 J**	--	--	**54.9 J**
PCB-066					--	--	**22.6 J**	--	--	**103 J**
PCB-067					--	--	**1.42 J**	--	--	**5.64 J**
PCB-068					--	--	0.468 UJ	--	--	**1.01 J**
PCB-072					--	--	0.488 UJ	--	--	**1.74 J**
PCB-073					--	--	0.143 UJ	--	--	**0.422 J**
PCB-077					--	--	**1.89 J**	--	--	**8.36 J**
PCB-078					--	--	0.601 UJ	--	--	0.398 UJ
PCB-079					--	--	0.496 UJ	--	--	**1.63 J**
PCB-080					--	--	0.465 UJ	--	--	0.339 UJ
PCB-081					--	--	0.501 UJ	--	--	0.335 UJ
PCB-082					--	--	**5.68**	--	--	**18.6**
PCB-083					--	--	**3.29**	--	--	**9.32**
PCB-084					--	--	**12.3**	--	--	**38.7**
PCB-085/116					--	--	**7.09**	--	--	**24.3**
PCB-086/087/097/108/119/125					--	--	--	--	--	--
PCB-086/087/097/109/119/125					--	--	**33.6**	--	--	**102**
PCB-088					--	--	0.4 U	--	--	0.378 U
PCB-089					--	--	0.399 U	--	--	**1.65 J**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA02-SS06	JW-EA02-SS07	JW-EA03-Composite	JW-EA03-SS11	JW-EA03-SS12	JW-EA04-Composite
Sample ID					JW-EA02-SS06-120507	JW-EA02-SS07-120507	JW-EA03-COMP-120507	JW-EA03-SS11-120507	JW-EA03-SS12-120507	JW-EA04-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303249.289	1303062.26	1302934.298	1302837.626	1302909.704	1302713.435
Y					373823.672	373892.073	374111.0185	374136.978	374200.801	374337.4266
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-090/101/113					--	--	**52.5**	--	--	**160**
PCB-091					--	--	**5.9**	--	--	**20.9**
PCB-092					--	--	**10.5**	--	--	**32.4**
PCB-093/100					--	--	0.356 U	--	--	**1.92 J**
PCB-094					--	--	0.39 U	--	--	**1.1**
PCB-095					--	--	**37.3**	--	--	**131**
PCB-096					--	--	0.231 U	--	--	**1.99**
PCB-098					--	--	0.411 U	--	--	0.377 U
PCB-099					--	--	**28.1**	--	--	**95.4**
PCB-102					--	--	**1.43 J**	--	--	**5.06**
PCB-103					--	--	**0.616 J**	--	--	**1.69 J**
PCB-104					--	--	0.235 U	--	--	0.256 U
PCB-105					--	--	**20.5**	--	--	**59.8**
PCB-106					--	--	0.315 U	--	--	0.272 U
PCB-107					--	--	**4.14**	--	--	**14.2**
PCB-107/124					--	--	--	--	--	--
PCB-108/124					--	--	**2.06 J**	--	--	**5.82**
PCB-109					--	--	--	--	--	--
PCB-110					--	--	**62.2**	--	--	**209**
PCB-111					--	--	0.284 U	--	--	0.252 U
PCB-112					--	--	0.285 U	--	--	0.266 U
PCB-114					--	--	**1.02 J**	--	--	**3.12**
PCB-115					--	--	**1.09 J**	--	--	**2.03**
PCB-117					--	--	**2.69**	--	--	**3.6**
PCB-118					--	--	**51.5**	--	--	**151**
PCB-120					--	--	0.283 U	--	--	**1.31**
PCB-121					--	--	0.277 U	--	--	0.253 U
PCB-122					--	--	0.343 U	--	--	**2.04**
PCB-123					--	--	**0.9 J**	--	--	**2.81**
PCB-126					--	--	0.312 UJ	--	--	**0.583 J**
PCB-127					--	--	0.33 U	--	--	0.272 U
PCB-128/166					--	--	**12.5 J**	--	--	**29.8**
PCB-129/138/163					--	--	**106 J**	--	--	**230**
PCB-130					--	--	**7.84 J**	--	--	**15.7**
PCB-131					--	--	**1.32 J**	--	--	**2.72 J**
PCB-132					--	--	**30.8 J**	--	--	**66.3**
PCB-133					--	--	**1.86 J**	--	--	**5.01**
PCB-134					--	--	**5.32 J**	--	--	**12.4**
PCB-135/151					--	--	**26 J**	--	--	**64.8**
PCB-136					--	--	**9.45 J**	--	--	**21.2**
PCB-137					--	--	**5.32 J**	--	--	**8.32**
PCB-139/140					--	--	**1.83 J**	--	--	**4.48**
PCB-141					--	--	**15.4 J**	--	--	**31.4**
PCB-142					--	--	0.36 UJ	--	--	0.282 U

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA02-SS06	JW-EA02-SS07	JW-EA03-Composite	JW-EA03-SS11	JW-EA03-SS12	JW-EA04-Composite
Sample ID					JW-EA02-SS06-120507	JW-EA02-SS07-120507	JW-EA03-COMP-120507	JW-EA03-SS11-120507	JW-EA03-SS12-120507	JW-EA04-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303249.289	1303062.26	1302934.298	1302837.626	1302909.704	1302713.435
Y					373823.672	373892.073	374111.0185	374136.978	374200.801	374337.4266
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-143					--	--	0.336 UJ	--	--	**0.391 J**
PCB-144					--	--	**3.75 J**	--	--	**8.17**
PCB-145					--	--	0.234 UJ	--	--	0.202 U
PCB-146					--	--	**17.4 J**	--	--	**42.4**
PCB-147/149					--	--	**64.4 J**	--	--	**157**
PCB-148					--	--	0.309 UJ	--	--	**0.955 J**
PCB-150					--	--	0.218 UJ	--	--	0.191 U
PCB-152					--	--	0.224 UJ	--	--	0.194 U
PCB-153/168					--	--	**74.1 J**	--	--	**181**
PCB-154					--	--	**1.16 J**	--	--	**4.19 J**
PCB-155					--	--	0.211 U	--	--	0.182 U
PCB-156/157					--	--	**9.89**	--	--	**21.6**
PCB-158					--	--	**10.3 J**	--	--	**20.7**
PCB-159					--	--	0.47 UJ	--	--	0.409 U
PCB-160					--	--	0.26 UJ	--	--	0.221 U
PCB-161					--	--	0.254 UJ	--	--	0.208 U
PCB-162					--	--	0.442 UJ	--	--	**0.799 J**
PCB-164					--	--	**6.45 J**	--	--	**15**
PCB-165					--	--	0.284 UJ	--	--	0.227 U
PCB-167					--	--	**2.97 J**	--	--	**7.28**
PCB-169					--	--	0.545 U	--	--	0.729 U
PCB-170					--	--	**10.4 J**	--	--	**23.6 J**
PCB-171/173					--	--	**4.83 J**	--	--	**13 J**
PCB-172					--	--	**1.73 J**	--	--	**4.54 J**
PCB-174					--	--	**17 J**	--	--	**41.3 J**
PCB-175					--	--	0.549 UJ	--	--	**1.61 J**
PCB-176					--	--	**1.89 J**	--	--	**5.03 J**
PCB-177					--	--	**10 J**	--	--	**30.5 J**
PCB-178					--	--	**4.62 J**	--	--	**10.2 J**
PCB-179					--	--	**8.28 J**	--	--	**17.5 J**
PCB-180/193					--	--	**26.6 J**	--	--	**55.2 J**
PCB-181					--	--	0.564 UJ	--	--	0.67 UJ
PCB-182					--	--	0.518 UJ	--	--	0.617 UJ
PCB-183					--	--	**9.09 J**	--	--	**25.7 J**
PCB-184					--	--	0.215 UJ	--	--	0.262 UJ
PCB-185					--	--	**1.22 J**	--	--	**3.98 J**
PCB-186					--	--	0.207 UJ	--	--	0.247 UJ
PCB-187					--	--	**24.4 J**	--	--	**62.6 J**
PCB-188					--	--	0.203 U	--	--	0.255 U
PCB-189					--	--	**0.508 J**	--	--	**1.59 J**
PCB-190					--	--	**2.57 J**	--	--	**6.87 J**
PCB-191					--	--	0.392 UJ	--	--	**1.47 J**
PCB-192					--	--	0.396 UJ	--	--	0.526 UJ
PCB-194					--	--	**17.7**	--	--	**17.8**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA02-SS06	JW-EA02-SS07	JW-EA03-Composite	JW-EA03-SS11	JW-EA03-SS12	JW-EA04-Composite
Sample ID					JW-EA02-SS06-120507	JW-EA02-SS07-120507	JW-EA03-COMP-120507	JW-EA03-SS11-120507	JW-EA03-SS12-120507	JW-EA04-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303249.289	1303062.26	1302934.298	1302837.626	1302909.704	1302713.435
Y					373823.672	373892.073	374111.0185	374136.978	374200.801	374337.4266
Analyte	**SMS_Marine_SCO_SCUMII**	**SMS_Marine_CSL_SCUMII**	**AET_Marine_SCO_SCUMII**	**AET_Marine_CSL_SCUMII**						
PCB-195					--	--	**4.61**	--	--	**6.95**
PCB-196					--	--	**6.53 J**	--	--	**10.8**
PCB-197					--	--	0.473 U	--	--	**0.437 J**
PCB-198/199					--	--	**27.1**	--	--	**27.6**
PCB-200					--	--	**1.65**	--	--	**2.67**
PCB-201					--	--	**2.2 J**	--	--	**2.58 J**
PCB-202					--	--	**6.42**	--	--	**5.7**
PCB-203					--	--	**16**	--	--	**16.6**
PCB-204					--	--	0.55 U	--	--	0.441 U
PCB-205					--	--	0.692 U	--	--	**0.755 J**
PCB-206					--	--	**29**	--	--	**13.3**
PCB-207					--	--	**2.36**	--	--	**1.54**
PCB-208					--	--	**7.47**	--	--	**4.24**
PCB-209					--	--	**15.1**	--	--	**8.01**
Total PCB Congener (U = limit)					--	--	**1504.686 J**	--	--	**4409.08 J**
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	**0.18004478 J**	--	--	**0.5206078 J**
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	**0.00246319 J**	--	--	**0.00519095 J**
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	**0.05050794 J**	--	--	**0.0885225 J**
Total PCB Congener (U = 1/2)					--	--	**1475.654 J**	--	--	**4386.027 J**
Total PCB Congener (U = 0)			130000	1000000	--	--	**1446.623 J**	--	--	**4362.974 J**
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	**0.13912228 J**	--	--	**0.5034933 J**
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	**0.09819978 J**	--	--	**0.4863788 J**
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	**0.001544315 J**	--	--	**0.005088975 J**
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	**0.00062544 J**	--	--	**0.004987 J**
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	**0.02665779 J**	--	--	**0.07753725 J**
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	**0.00280764 J**	--	--	**0.066552 J**
Total Petroleum Hydrocarbons (mg/kg)										
Diesel range hydrocarbons					--	--	--	--	--	--
Motor oil range hydrocarbons					--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**0.00017735846154 J**	**0.00066190761905 J**	**6.41585912E-05 J**	**0.00026943571429 J**	**0.00016944318182 J**	**0.000238279870588 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**0.00012766615385 J**	**0.00049485047619 J**	**4.77273276E-05 J**	**0.00021003333333 J**	**0.00011676363636 J**	**0.0001662788794118 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**0.00018161307692 J**	**0.00079708952381 J**	**5.83823176E-05 J**	**0.00028010571429 J**	**0.00015805363636 J**	**0.000245366029412 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**0.00017716692308 J**	**0.00065521333333 J**	**4.01958912E-05 J**	**0.00026216452381 J**	**0.00016120954545 J**	**0.000233529017647 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**0.00012747461538 J**	**0.00048815619048 J**	**2.66657726E-05 J**	**0.00020276214286 J**	**0.00010853 J**	**0.0001625287632353 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**0.00018142153846 J**	**0.0007903952381 J**	**3.98371116E-05 J**	**0.00027283452381 J**	**0.00014982 J**	**0.000240975720588 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**0.00017697538462 J**	**0.00064851904762 J**	**1.62331912E-05 J**	**0.00025489333333 J**	**0.00015297590909 J**	**0.000228778164706 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**0.00012728307692 J**	**0.00048146190476 J**	**5.6042176E-06 J**	**0.00019549095238 J**	**0.00010029636364 J**	**0.0001587786470588 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**0.00018123 J**	**0.00078370095238 J**	**2.12919056E-05 J**	**0.00026556333333 J**	**0.00014158636364 J**	**0.000236585411765 J**
Dioxin Furans and PCB Congeners (ng/kg)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**4.61132 J**	**13.90006 J**	**1.60396478 J**	**5.65815 J**	**3.72775 J**	**4.0507578 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**3.31932 J**	**10.39186 J**	**1.19318319 J**	**4.4107 J**	**2.5688 J**	**2.82674095 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**4.72194 J**	**16.73888 J**	**1.45955794 J**	**5.88222 J**	**3.47718 J**	**4.1712225 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**4.60634 J**	**13.75948 J**	**1.00489728 J**	**5.505455 J**	**3.54661 J**	**3.9699933 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**3.31434 J**	**10.25128 J**	**0.666644315 J**	**4.258005 J**	**2.38766 J**	**2.762988975 J**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA02-SS06	JW-EA02-SS07	JW-EA03-Composite	JW-EA03-SS11	JW-EA03-SS12	JW-EA04-Composite
Sample ID					JW-EA02-SS06-120507	JW-EA02-SS07-120507	JW-EA03-COMP-120507	JW-EA03-SS11-120507	JW-EA03-SS12-120507	JW-EA04-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1303249.289	1303062.26	1302934.298	1302837.626	1302909.704	1302713.435
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	373823.672	373892.073	374111.0185	374136.978	374200.801	374337.4266
Analyte										
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**4.71696 J**	**16.5983 J**	**0.99592779 J**	**5.729525 J**	**3.29604 J**	**4.09658725 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**4.60136 J**	**13.6189 J**	**0.40582978 J**	**5.35276 J**	**3.36547 J**	**3.8892288 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**3.30936 J**	**10.1107 J**	**0.14010544 J**	**4.10531 J**	**2.20652 J**	**2.699237 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**4.71198 J**	**16.45772 J**	**0.53229764 J**	**5.57683 J**	**3.1149 J**	**4.021952 J**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA04-SS13	JW-EA04-SS14	JW-EA04-SS15	JW-EA04-SS16	JW-EA05-Composite	JW-EA06-Composite
Sample ID					JW-EA04-SS13-120507	JW-EA04-SS14-120507	JW-EA04-SS15-120507	JW-EA04-SS16-120507	JW-EA05-COMP-120509	JW-EA06-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/9/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302745.312	1302814.858	1302600.971	1302680.315	1301980.701	1302273.819
Y					374232.964	374304.79	374376.376	374451.6	374112.4298	373506.9506
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
Conventional Parameters (pct)										
Total organic carbon					**1.9**	**1.9**	**1.3**	**1.8**	**0.74**	**1.9**
Moisture, percent					--	--	--	--	**33.7**	**41.8**
Total Solids					--	--	--	--	**67**	**54**
Total solids (preserved)					--	--	--	--	--	--
Total volatile solids					--	--	--	--	--	--
Conventional Parameters (mg/kg)										
Ammonia as nitrogen					--	--	--	--	--	--
Black carbon					--	--	--	--	**1500**	**1200**
Sulfide					--	--	--	--	--	--
Grain Size (pct)										
Cobbles					--	--	--	--	0 U	0 U
Gravel					--	--	--	--	**13**	**0.1**
Sand					--	--	--	--	**77**	**51**
Sand, very coarse					--	--	--	--	--	--
Sand, coarse					--	--	--	--	--	--
Sand, medium					--	--	--	--	--	--
Sand, fine					--	--	--	--	--	--
Sand, very fine					--	--	--	--	--	--
Silt					--	--	--	--	**7.5**	**42**
Silt, coarse					--	--	--	--	--	--
Silt, medium					--	--	--	--	--	--
Silt, fine					--	--	--	--	--	--
Silt, very fine					--	--	--	--	--	--
Total fines (Reported, not calculated)					--	--	--	--	--	--
Clay					--	--	--	--	**2.6**	**7.4**
Clay, coarse					--	--	--	--	--	--
Clay, medium					--	--	--	--	--	--
Clay, fine					--	--	--	--	--	--
Metals (mg/kg)										
Antimony					--	--	--	--	--	--
Arsenic	57	93	57	93	--	--	--	--	--	--
Cadmium	5.1	6.7	5.1	6.7	--	--	--	--	--	--
Chromium	260	270	260	270	--	--	--	--	--	--
Copper	390	390	390	390	--	--	--	--	--	--
Lead	450	530	450	530	--	--	--	--	--	--
Mercury	0.41	0.59	0.41	0.59	--	--	--	--	--	--
Nickel					--	--	--	--	--	--
Silver	6.1	6.1	6.1	6.1	--	--	--	--	--	--
Zinc	410	960	410	960	--	--	--	--	--	--
Volatile Organics (mg/kg-OC)										
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
Volatile Organics (µg/kg)										
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA04-SS13	JW-EA04-SS14	JW-EA04-SS15	JW-EA04-SS16	JW-EA05-Composite	JW-EA06-Composite
Sample ID					JW-EA04-SS13-120507	JW-EA04-SS14-120507	JW-EA04-SS15-120507	JW-EA04-SS16-120507	JW-EA05-COMP-120509	JW-EA06-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/9/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302745.312	1302814.858	1302600.971	1302680.315	1301980.701	1302273.819
Y					374232.964	374304.79	374376.376	374451.6	374112.4298	373506.9506
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**						
Semivolatile Organics (mg/kg-OC)										
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--
Semivolatile Organics (µg/kg)										
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--
1,3-Dichlorobenzene					--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)										
2-Methylnaphthalene	38	64			--	--	--	--	--	--
Acenaphthene	16	57			--	--	--	--	--	--
Acenaphthylene	66	66			--	--	--	--	--	--
Anthracene	220	1200			--	--	--	--	--	--
Benzo(a)anthracene	110	270			--	--	--	--	--	--
Benzo(a)pyrene	99	210			--	--	--	--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	--
Chrysene	110	460			--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA04-SS13	JW-EA04-SS14	JW-EA04-SS15	JW-EA04-SS16	JW-EA05-Composite	JW-EA06-Composite
Sample ID					JW-EA04-SS13-120507	JW-EA04-SS14-120507	JW-EA04-SS15-120507	JW-EA04-SS16-120507	JW-EA05-COMP-120509	JW-EA06-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/9/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302745.312	1302814.858	1302600.971	1302680.315	1301980.701	1302273.819
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	374232.964	374304.79	374376.376	374451.6	374112.4298	373506.9506
Analyte										
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	--
Dibenzofuran	15	58			--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	--
Fluorene	23	79			--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	--
Naphthalene	99	170			--	--	--	--	--	--
Phenanthrene	100	480			--	--	--	--	--	--
Pyrene	1000	1400			--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)										
1-Methylnaphthalene					--	--	--	--	--	--
2-Methylnaphthalene			670	670	--	--	--	--	--	--
Acenaphthene			500	500	--	--	--	--	--	--
Acenaphthylene			1300	1300	--	--	--	--	--	--
Anthracene			960	960	--	--	--	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--	--	--	--
Benzo(b)fluoranthene					--	--	--	--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	--
Benzo(k)fluoranthene					--	--	--	--	--	--
Chrysene			1400	2800	--	--	--	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	--
Dibenzofuran			540	540	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	--
Fluorene			540	540	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	--
Naphthalene			2100	2100	--	--	--	--	--	--
Phenanthrene			1500	1500	--	--	--	--	--	--
Pyrene			2600	3300	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	--
Dioxin Furans (ng/kg)										
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					**0.257 J**	**0.137 J**	**0.121 J**	**0.133 J**	0.122 U	0.0753 U
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					**2.61**	**0.431 J**	**0.708 J**	**0.318 J**	0.0648 U	**0.499 J**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**4.82**	**0.714 J**	**1.2 J**	**0.66 J**	0.139 U	0.174 U

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA04-SS13	JW-EA04-SS14	JW-EA04-SS15	JW-EA04-SS16	JW-EA05-Composite	JW-EA06-Composite
Sample ID					JW-EA04-SS13-120507	JW-EA04-SS14-120507	JW-EA04-SS15-120507	JW-EA04-SS16-120507	JW-EA05-COMP-120509	JW-EA06-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/9/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302745.312	1302814.858	1302600.971	1302680.315	1301980.701	1302273.819
Y					374232.964	374304.79	374376.376	374451.6	374112.4298	373506.9506
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**33.8**	**2.93**	**6.78**	**2.28 J**	0.569 UJ	**42**
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					**12**	**1.62 J**	**3**	**1.48 J**	0.462 UJ	**13.6**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					**359**	**38.2**	**85**	**37.4**	**12**	**279**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					**2820**	**333**	**704**	**356**	**122**	**778**
Total Tetrachlorodibenzo-p-dioxin (TCDD)					**10.6 J**	**8.42 J**	**7.61 J**	**10.5 J**	**2.02 J**	**5.25 J**
Total Pentachlorodibenzo-p-dioxin (PeCDD)					**17.3 J**	**6.79**	**8.16 J**	**7.82 J**	0.0648 U	**6.51 J**
Total Hexachlorodibenzo-p-dioxin (HxCDD)					**169**	**28.9**	**47.2 J**	**28.5**	4.77 UJ	**255 J**
Total Heptachlorodibenzo-p-dioxin (HpCDD)					**666**	**103**	**178**	**110**	**26**	**594**
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					**1.68 J**	**0.732 J**	**0.904 J**	**1.1 J**	0.0773 U	**0.471 J**
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					**1.15 J**	**0.214 J**	**0.292 J**	**0.206 J**	0.101 U	**0.373 J**
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					**3.25**	**0.536 J**	**0.935 J**	**0.535 J**	0.058 U	**0.86 J**
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					**5.57**	**0.612 J**	**1.24 J**	**0.439 J**	0.206 U	**2.3 J**
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					**6.47**	**0.44 J**	**1.02 J**	**0.307 J**	0.155 U	**1.48 J**
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					0.23 U	0.052 U	0.152 U	0.0452 U	0.0952 U	**1.13 J**
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					**9.74**	**0.623 J**	**1.92 J**	**0.5 J**	0.182 U	**3.76**
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					**137**	**8.43**	**26.3**	**6.49**	**2.22 J**	**106**
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					**6.63**	**0.549 J**	**1.34 J**	**0.385 J**	0.153 U	**2.81**
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					**268**	**17.4**	**49.9**	**17.5**	**10.7**	**84**
Total Tetrachlorodibenzofuran (TCDF)					**23.2 J**	**8.84 J**	**9.87 J**	**7.49 J**	0.0773 U	**6.87 J**
Total Pentachlorodibenzofuran (PeCDF)					**66.3**	**6.28 J**	**14.5 J**	**5.69 J**	0.788 U	**13.4 J**
Total Hexachlorodibenzofuran (HxCDF)					**224 J**	**14 J**	**44.7**	**9.61 J**	3.14 U	**104 J**
Total Heptachlorodibenzofuran (HpCDF)					**395**	**24.1 J**	**75.9**	**19.4**	**7.01**	**292**
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					**13.9961 J**	**2.42013 J**	**3.99499 J**	**2.58302 J**	**0.50386 J**	**6.0516 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					**11.8066 J**	**1.62153 J**	**2.92409 J**	**1.42402 J**	**0.417345 J**	**4.0098 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					**17.2602 J**	**2.08443 J**	**4.09243 J**	**1.8536 J**	**0.57932 J**	**11.47169 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					**13.9846 J**	**2.41753 J**	**3.98739 J**	**2.58076 J**	**0.275665 J**	**6.0096 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					**11.7951 J**	**1.61893 J**	**2.91649 J**	**1.42176 J**	**0.2324075 J**	**3.92865 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					**17.2487 J**	**2.08183 J**	**4.08483 J**	**1.85134 J**	**0.380665 J**	**11.42534 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					**13.9731 J**	**2.41493 J**	**3.97979 J**	**2.5785 J**	**0.04747 J**	**5.9676 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					**11.7836 J**	**1.61633 J**	**2.90889 J**	**1.4195 J**	**0.04747 J**	**3.8475 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					**17.2372 J**	**2.07923 J**	**4.07723 J**	**1.84908 J**	**0.18201 J**	**11.37899 J**
PCB Aroclors (mg/kg-OC)										
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--
PCB Aroclors (µg/kg)										
Aroclor 1016					--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--
Aroclor 1262					--	--	--	--	--	--
Aroclor 1268					--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**
Location ID					**JW-EA04-SS13**	**JW-EA04-SS14**	**JW-EA04-SS15**	**JW-EA04-SS16**	**JW-EA05-Composite**	**JW-EA06-Composite**
Sample ID					**JW-EA04-SS13-120507**	**JW-EA04-SS14-120507**	**JW-EA04-SS15-120507**	**JW-EA04-SS16-120507**	**JW-EA05-COMP-120509**	**JW-EA06-COMP-120507**
Sample Date					**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/9/2012**	**5/7/2012**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302745.312**	**1302814.858**	**1302600.971**	**1302680.315**	**1301980.701**	**1302273.819**
Y					**374232.964**	**374304.79**	**374376.376**	**374451.6**	**374112.4298**	**373506.9506**
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**						
PCB Congeners (mg/kg-OC)										
Total PCB Congener (U = limit)					--	--	--	--	**0.087229054 J**	**0.1643423947 J**
Total PCB Congener (U = 1/2)					--	--	--	--	**0.084215 J**	**0.1631081447 J**
Total PCB Congener (U = 0)	12	65			--	--	--	--	**0.081200946 J**	**0.1618738947 J**
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	**2.257912703E-05 J**	**3.355841053E-05 J**
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	**2.41954054E-07 J**	**2.74389474E-07 J**
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	--	**4.47371081E-06 J**	**3.90998947E-06 J**
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	**1.686022162E-05 J**	**3.355043684E-05 J**
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	**1.114131622E-05 J**	**3.354246316E-05 J**
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	**1.44522297E-07 J**	**2.7399079E-07 J**
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	**4.7090541E-08 J**	**2.73592105E-07 J**
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	**2.3233973E-06 J**	**3.67077895E-06 J**
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	**1.7308378E-07 J**	**3.43156842E-06 J**
PCB Congeners (ng/kg)										
PCB-001					--	--	--	--	**2.63 J**	**10.2**
PCB-002					--	--	--	--	**0.63 J**	**4.78**
PCB-003					--	--	--	--	**2.02 J**	**9.67**
PCB-004					--	--	--	--	**3.33**	**9.49 J**
PCB-005					--	--	--	--	1.47 U	0.783 UJ
PCB-006					--	--	--	--	**1.24 J**	**5.11 J**
PCB-007					--	--	--	--	1.39 U	**1 J**
PCB-008					--	--	--	--	**5.26**	**25.4 J**
PCB-009					--	--	--	--	1.61 U	**1.31 J**
PCB-010					--	--	--	--	1.8 U	0.821 UJ
PCB-011					--	--	--	--	6.56 U	39.3 UJ
PCB-012/013					--	--	--	--	1.42 U	**3.37 J**
PCB-014					--	--	--	--	1.23 U	0.674 UJ
PCB-015					--	--	--	--	**5.44**	**21.6 J**
PCB-016					--	--	--	--	**4.11**	**20.4**
PCB-017					--	--	--	--	**4.65**	**22.1**
PCB-018/030					--	--	--	--	**7.71**	**45.4**
PCB-019					--	--	--	--	1.16 U	**3.17**
PCB-020/028					--	--	--	--	**16.3**	**91.5**
PCB-021/033					--	--	--	--	**5.95**	**36**
PCB-022					--	--	--	--	**5.09**	**26.9**
PCB-023					--	--	--	--	0.739 U	0.353 U
PCB-024					--	--	--	--	0.759 U	**0.721 J**
PCB-025					--	--	--	--	**1.52**	**5.95**
PCB-026/029					--	--	--	--	**2.49 J**	**11.5**
PCB-027					--	--	--	--	**0.753 J**	**3.68**
PCB-031					--	--	--	--	**11.4**	**70.3**
PCB-032					--	--	--	--	**3.7**	**16.4**
PCB-034					--	--	--	--	0.764 U	0.37 U
PCB-035					--	--	--	--	0.782 U	**1.94 J**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					**JW-EA04-SS13**	**JW-EA04-SS14**	**JW-EA04-SS15**	**JW-EA04-SS16**	**JW-EA05-Composite**	**JW-EA06-Composite**
Sample ID					**JW-EA04-SS13-120507**	**JW-EA04-SS14-120507**	**JW-EA04-SS15-120507**	**JW-EA04-SS16-120507**	**JW-EA05-COMP-120509**	**JW-EA06-COMP-120507**
Sample Date					**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/9/2012**	**5/7/2012**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302745.312**	**1302814.858**	**1302600.971**	**1302680.315**	**1301980.701**	**1302273.819**
Y					**374232.964**	**374304.79**	**374376.376**	**374451.6**	**374112.4298**	**373506.9506**
Analyte	**SMS_Marine_SCO_SCUMII**	**SMS_Marine_CSL_SCUMII**	**AET_Marine_SCO_SCUMII**	**AET_Marine_CSL_SCUMII**						
PCB-036					--	--	--	--	0.716 U	0.363 U
PCB-037					--	--	--	--	**7.11**	**30.8**
PCB-038					--	--	--	--	0.773 U	0.394 U
PCB-039					--	--	--	--	0.691 U	0.35 U
PCB-040/071					--	--	--	--	**6.92 J**	**25.6 J**
PCB-041					--	--	--	--	**1.32 J**	**4.49 J**
PCB-042					--	--	--	--	**4.19 J**	**15.1 J**
PCB-043					--	--	--	--	0.62 UJ	**1.69 J**
PCB-044/047/065					--	--	--	--	**15 J**	**59.4 J**
PCB-045					--	--	--	--	**1.81 J**	**5.8 J**
PCB-046					--	--	--	--	**0.663 J**	**2.41 J**
PCB-048					--	--	--	--	**2.53 J**	**10.2 J**
PCB-049/069					--	--	--	--	**10.1 J**	**37 J**
PCB-050/053					--	--	--	--	**2.23 J**	**5.55 J**
PCB-051					--	--	--	--	**0.776 J**	**1.76 J**
PCB-052					--	--	--	--	**18.1 J**	**77.7 J**
PCB-054					--	--	--	--	0.463 U	0.0717 U
PCB-055					--	--	--	--	0.591 UJ	**1.46 J**
PCB-056					--	--	--	--	**7.12 J**	**44.3 J**
PCB-057					--	--	--	--	0.594 UJ	**0.336 J**
PCB-058					--	--	--	--	0.578 UJ	**0.374 J**
PCB-059/062/075					--	--	--	--	**1.24 J**	**4.38 J**
PCB-060					--	--	--	--	**3.06 J**	**20.9 J**
PCB-061/070/074/076					--	--	--	--	**26.9 J**	**175 J**
PCB-063					--	--	--	--	0.548 UJ	**3.54 J**
PCB-064					--	--	--	--	**6.27 J**	**22.9 J**
PCB-066					--	--	--	--	**16.2 J**	**105 J**
PCB-067					--	--	--	--	0.555 UJ	**3.52 J**
PCB-068					--	--	--	--	0.533 UJ	**0.82 J**
PCB-072					--	--	--	--	0.565 UJ	**1.33 J**
PCB-073					--	--	--	--	0.43 UJ	**0.122 J**
PCB-077					--	--	--	--	**1.62 J**	**10.8 J**
PCB-078					--	--	--	--	0.646 UJ	0.148 UJ
PCB-079					--	--	--	--	0.522 UJ	**1.17 J**
PCB-080					--	--	--	--	0.531 UJ	0.115 UJ
PCB-081					--	--	--	--	0.62 UJ	**0.311 J**
PCB-082					--	--	--	--	**2.83**	**15.3**
PCB-083					--	--	--	--	**1.48**	**7.01**
PCB-084					--	--	--	--	**6.19**	**27.4**
PCB-085/116					--	--	--	--	**4.71**	**19.5**
PCB-086/087/097/108/119/125					--	--	--	--	--	--
PCB-086/087/097/109/119/125					--	--	--	--	**15.9**	**82.8**
PCB-088					--	--	--	--	0.456 U	0.127 U
PCB-089					--	--	--	--	0.469 U	**1.24**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA04-SS13	JW-EA04-SS14	JW-EA04-SS15	JW-EA04-SS16	JW-EA05-Composite	JW-EA06-Composite
Sample ID					JW-EA04-SS13-120507	JW-EA04-SS14-120507	JW-EA04-SS15-120507	JW-EA04-SS16-120507	JW-EA05-COMP-120509	JW-EA06-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/9/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302745.312	1302814.858	1302600.971	1302680.315	1301980.701	1302273.819
Y					374232.964	374304.79	374376.376	374451.6	374112.4298	373506.9506
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-090/101/113					--	--	--	--	**24.5**	**132**
PCB-091					--	--	--	--	**3.06**	**13.7**
PCB-092					--	--	--	--	**4.82**	**23.7**
PCB-093/100					--	--	--	--	0.423 U	**1.11 J**
PCB-094					--	--	--	--	0.452 U	**0.464 J**
PCB-095					--	--	--	--	**11.8**	**74.4**
PCB-096					--	--	--	--	0.222 U	**0.795 J**
PCB-098					--	--	--	--	**0.828 J**	0.13 U
PCB-099					--	--	--	--	**14.4**	**76.6**
PCB-102					--	--	--	--	**0.286 J**	**2.81**
PCB-103					--	--	--	--	0.392 U	**1.28**
PCB-104					--	--	--	--	0.212 U	0.0742 U
PCB-105					--	--	--	--	**9.2**	**52.9**
PCB-106					--	--	--	--	0.376 U	0.0998 U
PCB-107					--	--	--	--	**2.16**	**10.8**
PCB-107/124					--	--	--	--	--	--
PCB-108/124					--	--	--	--	**1.08 J**	**4.62**
PCB-109					--	--	--	--	--	--
PCB-110					--	--	--	--	**30.9**	**153**
PCB-111					--	--	--	--	0.333 U	0.09 U
PCB-112					--	--	--	--	0.319 U	**0.128 J**
PCB-114					--	--	--	--	0.288 U	**2.47**
PCB-115					--	--	--	--	0.327 U	**1.7**
PCB-117					--	--	--	--	0.345 U	**3.33**
PCB-118					--	--	--	--	**23.7**	**136**
PCB-120					--	--	--	--	0.312 U	**0.745 J**
PCB-121					--	--	--	--	0.31 U	0.0875 U
PCB-122					--	--	--	--	0.329 U	**1.67**
PCB-123					--	--	--	--	**0.423 J**	**2.18**
PCB-126					--	--	--	--	0.223 U	**0.575 J**
PCB-127					--	--	--	--	0.455 U	0.113 U
PCB-128/166					--	--	--	--	**4.62 J**	**22.2 J**
PCB-129/138/163					--	--	--	--	**32.2 J**	**197 J**
PCB-130					--	--	--	--	**2.42 J**	**12.5 J**
PCB-131					--	--	--	--	0.342 UJ	**1.97 J**
PCB-132					--	--	--	--	**10.6 J**	**49.1 J**
PCB-133					--	--	--	--	**0.811 J**	**3.53 J**
PCB-134					--	--	--	--	**1.52 J**	**8.4 J**
PCB-135/151					--	--	--	--	**10.7 J**	**47.2 J**
PCB-136					--	--	--	--	**3.36 J**	**16.4 J**
PCB-137					--	--	--	--	**1.8 J**	**6.89 J**
PCB-139/140					--	--	--	--	0.301 UJ	**2.94 J**
PCB-141					--	--	--	--	**5.37 J**	**26.3 J**
PCB-142					--	--	--	--	0.342 UJ	0.11 UJ

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA04-SS13	JW-EA04-SS14	JW-EA04-SS15	JW-EA04-SS16	JW-EA05-Composite	JW-EA06-Composite
Sample ID					JW-EA04-SS13-120507	JW-EA04-SS14-120507	JW-EA04-SS15-120507	JW-EA04-SS16-120507	JW-EA05-COMP-120509	JW-EA06-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/9/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302745.312	1302814.858	1302600.971	1302680.315	1301980.701	1302273.819
Y					374232.964	374304.79	374376.376	374451.6	374112.4298	373506.9506
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-143					--	--	--	--	0.314 UJ	**0.437 J**
PCB-144					--	--	--	--	**1.51 J**	**6.39 J**
PCB-145					--	--	--	--	0.217 UJ	0.0717 UJ
PCB-146					--	--	--	--	**7.04 J**	**32.4 J**
PCB-147/149					--	--	--	--	**25.2 J**	**122 J**
PCB-148					--	--	--	--	0.289 UJ	**0.456 J**
PCB-150					--	--	--	--	0.21 UJ	0.0669 UJ
PCB-152					--	--	--	--	0.205 UJ	0.0686 UJ
PCB-153/168					--	--	--	--	**30.8 J**	**146 J**
PCB-154					--	--	--	--	0.26 UJ	**3.24 J**
PCB-155					--	--	--	--	0.204 U	0.0646 U
PCB-156/157					--	--	--	--	**2.72 J**	**17.2 J**
PCB-158					--	--	--	--	**3.46 J**	**16.2 J**
PCB-159					--	--	--	--	0.239 UJ	0.249 UJ
PCB-160					--	--	--	--	0.252 UJ	0.0797 UJ
PCB-161					--	--	--	--	0.232 UJ	0.0779 UJ
PCB-162					--	--	--	--	0.255 UJ	**0.482 J**
PCB-164					--	--	--	--	**2.27 J**	**10.8 J**
PCB-165					--	--	--	--	0.258 UJ	0.0868 UJ
PCB-167					--	--	--	--	**1.03 J**	**5.6 J**
PCB-169					--	--	--	--	0.311 U	0.303 U
PCB-170					--	--	--	--	**5.27**	**20.5 J**
PCB-171/173					--	--	--	--	**1.65 J**	**9.97 J**
PCB-172					--	--	--	--	**1.03 J**	**1.73 J**
PCB-174					--	--	--	--	**6.66**	**33.4 J**
PCB-175					--	--	--	--	0.372 U	**1.33 J**
PCB-176					--	--	--	--	**0.867 J**	**3.97 J**
PCB-177					--	--	--	--	**4.47**	**23.2 J**
PCB-178					--	--	--	--	**1.78**	**8.63 J**
PCB-179					--	--	--	--	**3.27**	**15.4 J**
PCB-180/193					--	--	--	--	**14.1**	**50 J**
PCB-181					--	--	--	--	0.351 U	0.218 UJ
PCB-182					--	--	--	--	0.336 U	0.201 UJ
PCB-183					--	--	--	--	**3.92**	**21.1 J**
PCB-184					--	--	--	--	0.161 U	0.0996 UJ
PCB-185					--	--	--	--	**0.558 J**	0.22 UJ
PCB-186					--	--	--	--	0.156 U	0.0956 UJ
PCB-187					--	--	--	--	**8.18**	**47.5 J**
PCB-188					--	--	--	--	0.163 U	0.0939 U
PCB-189					--	--	--	--	**0.221 J**	**1.2 J**
PCB-190					--	--	--	--	**1.02 J**	**4.8 J**
PCB-191					--	--	--	--	0.291 U	**1 J**
PCB-192					--	--	--	--	0.295 U	0.154 UJ
PCB-194					--	--	--	--	**4.11**	**18.8**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA04-SS13	JW-EA04-SS14	JW-EA04-SS15	JW-EA04-SS16	JW-EA05-Composite	JW-EA06-Composite
Sample ID					JW-EA04-SS13-120507	JW-EA04-SS14-120507	JW-EA04-SS15-120507	JW-EA04-SS16-120507	JW-EA05-COMP-120509	JW-EA06-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/9/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302745.312	1302814.858	1302600.971	1302680.315	1301980.701	1302273.819
Y					374232.964	374304.79	374376.376	374451.6	374112.4298	373506.9506
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**						
PCB-195					--	--	--	--	**1.4 J**	**6.83**
PCB-196					--	--	--	--	**1.64 J**	**8.36**
PCB-197					--	--	--	--	0.31 U	**0.429 J**
PCB-198/199					--	--	--	--	**5.34**	**21.9**
PCB-200					--	--	--	--	0.341 U	**2.31**
PCB-201					--	--	--	--	**0.441 J**	**2.49**
PCB-202					--	--	--	--	**1.31 J**	**5.52**
PCB-203					--	--	--	--	**3.11**	**12.5**
PCB-204					--	--	--	--	0.353 U	0.177 U
PCB-205					--	--	--	--	0.59 U	**0.669 J**
PCB-206					--	--	--	--	**3.98**	**11.7**
PCB-207					--	--	--	--	0.755 U	**1.34**
PCB-208					--	--	--	--	**1.17 J**	**3.51**
PCB-209					--	--	--	--	**2.31**	**8**
Total PCB Congener (U = limit)					--	--	--	--	**645.495 J**	**3122.5055 J**
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	**0.16708554 J**	**0.6376098 J**
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	**0.00179046 J**	**0.0052134 J**
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	--	**0.03310546 J**	**0.0742898 J**
Total PCB Congener (U = 1/2)					--	--	--	--	**623.191 J**	**3099.0548 J**
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	**600.887 J**	**3075.604 J**
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	**0.12476564 J**	**0.6374583 J**
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	**0.08244574 J**	**0.6373068 J**
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	**0.001069465 J**	**0.005205825 J**
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	**0.00034847 J**	**0.00519825 J**
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	**0.01719314 J**	**0.0697448 J**
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	**0.00128082 J**	**0.0651998 J**
Total Petroleum Hydrocarbons (mg/kg)										
Diesel range hydrocarbons					--	--	--	--	--	--
Motor oil range hydrocarbons					--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**0.0007366368421 J**	**0.00012737526316 J**	**0.0003073069231 J**	**0.00014350111111 J**	**9.0668316216E-05 J**	**0.000352063673684 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**0.0006214 J**	**8.534368421E-05 J**	**0.00022493 J**	**7.911222222E-05 J**	**5.6639927027E-05 J**	**0.0002113164947368 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**0.0009084315789 J**	**0.00010970684211 J**	**0.0003148023077 J**	**0.00010297777778 J**	**8.2760197297E-05 J**	**0.000607683147368 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**0.0007360315789 J**	**0.00012723842105 J**	**0.0003067223077 J**	**0.00014337555556 J**	**5.4112248649E-05 J**	**0.000349845173684 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**0.0006207947368 J**	**8.520684211E-05 J**	**0.0002243453846 J**	**7.898666667E-05 J**	**3.15509412162E-05 J**	**0.0002070450434211 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**0.0009078263158 J**	**0.00010957 J**	**0.0003142176923 J**	**0.00010285222222 J**	**5.3764613514E-05 J**	**0.000605004463158 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**0.0007354263158 J**	**0.00012710157895 J**	**0.0003061376923 J**	**0.00014325 J**	**1.7556181081E-05 J**	**0.000347626673684 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**0.0006201894737 J**	**8.507E-05 J**	**0.0002237607692 J**	**7.886111111E-05 J**	**6.4619554054E-06 J**	**0.0002027735921053 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**0.0009072210526 J**	**0.00010943315789 J**	**0.0003136330769 J**	**0.00010272666667 J**	**2.476902973E-05 J**	**0.000602325778947 J**
Dioxin Furans and PCB Congeners (ng/kg)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**13.9961 J**	**2.42013 J**	**3.99499 J**	**2.58302 J**	**0.67094554 J**	**6.6892098 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**11.8066 J**	**1.62153 J**	**2.92409 J**	**1.42402 J**	**0.41913546 J**	**4.0150134 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**17.2602 J**	**2.08443 J**	**4.09243 J**	**1.8536 J**	**0.61242546 J**	**11.5459798 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**13.9846 J**	**2.41753 J**	**3.98739 J**	**2.58076 J**	**0.40043064 J**	**6.6470583 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**11.7951 J**	**1.61893 J**	**2.91649 J**	**1.42176 J**	**0.233476965 J**	**3.933855825 J**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA04-SS13	JW-EA04-SS14	JW-EA04-SS15	JW-EA04-SS16	JW-EA05-Composite	JW-EA06-Composite
Sample ID					JW-EA04-SS13-120507	JW-EA04-SS14-120507	JW-EA04-SS15-120507	JW-EA04-SS16-120507	JW-EA05-COMP-120509	JW-EA06-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/9/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302745.312	1302814.858	1302600.971	1302680.315	1301980.701	1302273.819
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	374232.964	374304.79	374376.376	374451.6	374112.4298	373506.9506
Analyte										
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**17.2487 J**	**2.08183 J**	**4.08483 J**	**1.85134 J**	**0.39785814 J**	**11.4950848 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**13.9731 J**	**2.41493 J**	**3.97979 J**	**2.5785 J**	**0.12991574 J**	**6.6049068 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**11.7836 J**	**1.61633 J**	**2.90889 J**	**1.4195 J**	**0.04781847 J**	**3.85269825 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**17.2372 J**	**2.07923 J**	**4.07723 J**	**1.84908 J**	**0.18329082 J**	**11.4441898 J**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA06-SS21	JW-EA06-SS22	JW-EA06-SS23	JW-EA06-SS24	JW-EA07-Composite	JW-EA07-SS25
Sample ID					JW-EA06-SS21-120507	JW-EA06-SS22-120507	JW-EA06-SS23-120507	JW-EA06-SS24-120507	JW-EA07-COMP-120507	JW-EA07-SS25-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302291.162	1302142.585	1302394.161	1302257.349	1302472.205	1302470.095
Y					373634.381	373480.992	373524.961	373379.028	373308.1375	373436.105
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
Conventional Parameters (pct)										
Total organic carbon					**2.9**	**1.3**	**2.6**	**1.1**	**3.1**	**2.1**
Moisture, percent					--	--	--	--	**41.7**	--
Total Solids					--	--	--	--	**59**	--
Total solids (preserved)					--	--	--	--	--	--
Total volatile solids					--	--	--	--	--	--
Conventional Parameters (mg/kg)										
Ammonia as nitrogen					--	--	--	--	--	--
Black carbon					--	--	--	--	**1600**	--
Sulfide					--	--	--	--	--	--
Grain Size (pct)										
Cobbles					--	--	--	--	0 U	--
Gravel					--	--	--	--	**8.2**	--
Sand					--	--	--	--	**29**	--
Sand, very coarse					--	--	--	--	--	--
Sand, coarse					--	--	--	--	--	--
Sand, medium					--	--	--	--	--	--
Sand, fine					--	--	--	--	--	--
Sand, very fine					--	--	--	--	--	--
Silt					--	--	--	--	**51**	--
Silt, coarse					--	--	--	--	--	--
Silt, medium					--	--	--	--	--	--
Silt, fine					--	--	--	--	--	--
Silt, very fine					--	--	--	--	--	--
Total fines (Reported, not calculated)					--	--	--	--	--	--
Clay					--	--	--	--	**12**	--
Clay, coarse					--	--	--	--	--	--
Clay, medium					--	--	--	--	--	--
Clay, fine					--	--	--	--	--	--
Metals (mg/kg)										
Antimony					--	--	--	--	--	--
Arsenic	57	93	57	93	--	--	--	--	--	--
Cadmium	5.1	6.7	5.1	6.7	--	--	--	--	--	--
Chromium	260	270	260	270	--	--	--	--	--	--
Copper	390	390	390	390	--	--	--	--	--	--
Lead	450	530	450	530	--	--	--	--	--	--
Mercury	0.41	0.59	0.41	0.59	--	--	--	--	--	--
Nickel					--	--	--	--	--	--
Silver	6.1	6.1	6.1	6.1	--	--	--	--	--	--
Zinc	410	960	410	960	--	--	--	--	--	--
Volatile Organics (mg/kg-OC)										
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
Volatile Organics (µg/kg)										
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA06-SS21	JW-EA06-SS22	JW-EA06-SS23	JW-EA06-SS24	JW-EA07-Composite	JW-EA07-SS25
Sample ID					JW-EA06-SS21-120507	JW-EA06-SS22-120507	JW-EA06-SS23-120507	JW-EA06-SS24-120507	JW-EA07-COMP-120507	JW-EA07-SS25-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302291.162	1302142.585	1302394.161	1302257.349	1302472.205	1302470.095
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	373634.381	373480.992	373524.961	373379.028	373308.1375	373436.105
Analyte										
Semivolatile Organics (mg/kg-OC)										
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--
Semivolatile Organics (µg/kg)										
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--
1,3-Dichlorobenzene					--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)										
2-Methylnaphthalene	38	64			--	--	--	--	--	--
Acenaphthene	16	57			--	--	--	--	--	--
Acenaphthylene	66	66			--	--	--	--	--	--
Anthracene	220	1200			--	--	--	--	--	--
Benzo(a)anthracene	110	270			--	--	--	--	--	--
Benzo(a)pyrene	99	210			--	--	--	--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	--
Chrysene	110	460			--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA06-SS21	JW-EA06-SS22	JW-EA06-SS23	JW-EA06-SS24	JW-EA07-Composite	JW-EA07-SS25
Sample ID					JW-EA06-SS21-120507	JW-EA06-SS22-120507	JW-EA06-SS23-120507	JW-EA06-SS24-120507	JW-EA07-COMP-120507	JW-EA07-SS25-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302291.162	1302142.585	1302394.161	1302257.349	1302472.205	1302470.095
Y					373634.381	373480.992	373524.961	373379.028	373308.1375	373436.105
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	--
Dibenzofuran	15	58			--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	--
Fluorene	23	79			--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	--
Naphthalene	99	170			--	--	--	--	--	--
Phenanthrene	100	480			--	--	--	--	--	--
Pyrene	1000	1400			--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)										
1-Methylnaphthalene					--	--	--	--	--	--
2-Methylnaphthalene			670	670	--	--	--	--	--	--
Acenaphthene			500	500	--	--	--	--	--	--
Acenaphthylene			1300	1300	--	--	--	--	--	--
Anthracene			960	960	--	--	--	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--	--	--	--
Benzo(b)fluoranthene					--	--	--	--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	--
Benzo(k)fluoranthene					--	--	--	--	--	--
Chrysene			1400	2800	--	--	--	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	--
Dibenzofuran			540	540	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	--
Fluorene			540	540	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	--
Naphthalene			2100	2100	--	--	--	--	--	--
Phenanthrene			1500	1500	--	--	--	--	--	--
Pyrene			2600	3300	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	--
Dioxin Furans (ng/kg)										
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					**0.522**	**0.136 J**	**0.299 J**	**0.101 J**	**0.31 J**	**0.287 J**
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					**1.91 J**	**0.245 J**	**1.83 J**	**0.394 J**	0.865 U	**0.841 J**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**2.88**	**0.541 J**	**5.35**	**0.605 J**	0.375 U	**1.66 J**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA06-SS21	JW-EA06-SS22	JW-EA06-SS23	JW-EA06-SS24	JW-EA07-Composite	JW-EA07-SS25
Sample ID					JW-EA06-SS21-120507	JW-EA06-SS22-120507	JW-EA06-SS23-120507	JW-EA06-SS24-120507	JW-EA07-COMP-120507	JW-EA07-SS25-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302291.162	1302142.585	1302394.161	1302257.349	1302472.205	1302470.095
Y					373634.381	373480.992	373524.961	373379.028	373308.1375	373436.105
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**20.9**	**2.22 J**	**401**	**3.11**	**73.6 J**	**32.7**
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					**14.2**	**1.31 J**	**124**	**1.42 J**	**27.1 J**	**12.4**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					**226**	**42.3**	**2650 J**	**50.5**	**584**	**231**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					**2340**	**488**	**5940 J**	**329**	**1350**	**883**
Total Tetrachlorodibenzo-p-dioxin (TCDD)					**24.3**	**7.96 J**	**19.9 J**	**5.95 J**	**18.9 J**	**29.1 J**
Total Pentachlorodibenzo-p-dioxin (PeCDD)					**22.8**	**6.22 J**	**30.6**	**6.01 J**	**19.5 J**	**20 J**
Total Hexachlorodibenzo-p-dioxin (HxCDD)					**173**	**23.7**	**2760**	**39.9**	**546 J**	**238**
Total Heptachlorodibenzo-p-dioxin (HpCDD)					**546**	**98.7**	**5760**	**152**	**1260**	**515**
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					**1.75 J**	**1.01 J**	**1.47 J**	**1.29 J**	**1.43**	**1.63 J**
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					**0.468 J**	**0.176 J**	**0.981 J**	**0.248 J**	0.908 U	**0.633 J**
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					**1.14 J**	**0.455 J**	**3.22**	**0.513 J**	1.61 U	**1.26 J**
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					**1.59 J**	**0.46 J**	**6.5**	**0.453 J**	1.8 U	**1.5 J**
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					**1.15 J**	**0.428 J**	**4.93**	**0.3 J**	1.29 U	**1.34 J**
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					0.117 U	0.139 U	0.219 U	0.0794 U	1.09 U	0.121 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					**1.72 J**	**0.517 J**	**13.5**	**0.538 J**	**3.44**	**2.3 J**
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					**29.4**	**7**	**334**	**7.27**	**71.3**	**40.7**
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					**1.2 J**	**0.511 J**	**10.3**	**0.29 J**	2.3 U	**1.52 J**
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					**43.9**	**18.1**	**302**	**10.6**	**92.4**	**50.4**
Total Tetrachlorodibenzofuran (TCDF)					**15.7 J**	**8.55 J**	**19.2**	**9.62 J**	**25.8 J**	**21.1 J**
Total Pentachlorodibenzofuran (PeCDF)					**14.6 J**	**4.83 J**	**44.1**	**5.82 J**	**25.3 J**	**16.7 J**
Total Hexachlorodibenzofuran (HxCDF)					**40.7 J**	**10.5 J**	**347 J**	**11.5 J**	**91.1 J**	**52.1 J**
Total Heptachlorodibenzofuran (HpCDF)					**84.8**	**21.7 J**	**996**	**21.2 J**	**198**	**112**
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					**8.36989 J**	**2.36627 J**	**32.8267 J**	**2.82325 J**	**9.99679 J**	**7.00394 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					**6.13199 J**	**1.29602 J**	**21.01865 J**	**1.4733 J**	**5.51764 J**	**4.42479 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					**10.49991 J**	**1.83522 J**	**90.63693 J**	**2.11836 J**	**19.70646 J**	**9.90231 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					**8.36404 J**	**2.35932 J**	**32.81575 J**	**2.81928 J**	**8.484015 J**	**6.99789 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					**6.12614 J**	**1.28907 J**	**21.0077 J**	**1.46933 J**	**4.34569 J**	**4.41874 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					**10.49406 J**	**1.82827 J**	**90.62598 J**	**2.11439 J**	**18.77959 J**	**9.89626 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					**8.35819 J**	**2.35237 J**	**32.8048 J**	**2.81531 J**	**6.97124 J**	**6.99184 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					**6.12029 J**	**1.28212 J**	**20.99675 J**	**1.46536 J**	**3.17374 J**	**4.41269 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					**10.48821 J**	**1.82132 J**	**90.61503 J**	**2.11042 J**	**17.85272 J**	**9.89021 J**
PCB Aroclors (mg/kg-OC)										
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--
PCB Aroclors (µg/kg)										
Aroclor 1016					--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--
Aroclor 1262					--	--	--	--	--	--
Aroclor 1268					--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA06-SS21	JW-EA06-SS22	JW-EA06-SS23	JW-EA06-SS24	JW-EA07-Composite	JW-EA07-SS25
Sample ID					JW-EA06-SS21-120507	JW-EA06-SS22-120507	JW-EA06-SS23-120507	JW-EA06-SS24-120507	JW-EA07-COMP-120507	JW-EA07-SS25-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302291.162	1302142.585	1302394.161	1302257.349	1302472.205	1302470.095
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	373634.381	373480.992	373524.961	373379.028	373308.1375	373436.105
Analyte										
PCB Congeners (mg/kg-OC)										
Total PCB Congener (U = limit)					--	--	--	--	**0.426948516 J**	--
Total PCB Congener (U = 1/2)					--	--	--	--	**0.426214581 J**	--
Total PCB Congener (U = 0)	12	65			--	--	--	--	**0.425480645 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	**5.33450774E-05 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	**6.4603871E-07 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	--	**9.1956194E-06 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	**5.06826581E-05 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	**4.80202387E-05 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	**6.3195E-07 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	**6.1786129E-07 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	**8.6699419E-06 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	**8.1442645E-06 J**	--
PCB Congeners (ng/kg)										
PCB-001					--	--	--	--	**15.4 J**	--
PCB-002					--	--	--	--	**5.3**	--
PCB-003					--	--	--	--	**15.7 J**	--
PCB-004					--	--	--	--	**12.7**	--
PCB-005					--	--	--	--	2.23 U	--
PCB-006					--	--	--	--	**7.11 J**	--
PCB-007					--	--	--	--	2.1 U	--
PCB-008					--	--	--	--	**33.1**	--
PCB-009					--	--	--	--	2.43 U	--
PCB-010					--	--	--	--	2.47 U	--
PCB-011					--	--	--	--	**51.3**	--
PCB-012/013					--	--	--	--	**5.39**	--
PCB-014					--	--	--	--	1.86 U	--
PCB-015					--	--	--	--	**32.2**	--
PCB-016					--	--	--	--	**28.4**	--
PCB-017					--	--	--	--	**31.4**	--
PCB-018/030					--	--	--	--	**61.3**	--
PCB-019					--	--	--	--	**4.66**	--
PCB-020/028					--	--	--	--	**152**	--
PCB-021/033					--	--	--	--	**61.5**	--
PCB-022					--	--	--	--	**46.6**	--
PCB-023					--	--	--	--	1.23 U	--
PCB-024					--	--	--	--	1.35 U	--
PCB-025					--	--	--	--	**10**	--
PCB-026/029					--	--	--	--	**19.6**	--
PCB-027					--	--	--	--	**4.49**	--
PCB-031					--	--	--	--	**120**	--
PCB-032					--	--	--	--	**26.7**	--
PCB-034					--	--	--	--	1.27 U	--
PCB-035					--	--	--	--	1.3 U	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA06-SS21	JW-EA06-SS22	JW-EA06-SS23	JW-EA06-SS24	JW-EA07-Composite	JW-EA07-SS25
Sample ID					JW-EA06-SS21-120507	JW-EA06-SS22-120507	JW-EA06-SS23-120507	JW-EA06-SS24-120507	JW-EA07-COMP-120507	JW-EA07-SS25-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302291.162	1302142.585	1302394.161	1302257.349	1302472.205	1302470.095
Y					373634.381	373480.992	373524.961	373379.028	373308.1375	373436.105
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
PCB-036					--	--	--	--	1.19 U	--
PCB-037					--	--	--	--	**61.6**	--
PCB-038					--	--	--	--	1.28 U	--
PCB-039					--	--	--	--	1.15 U	--
PCB-040/071					--	--	--	--	**103 J**	--
PCB-041					--	--	--	--	**13.9 J**	--
PCB-042					--	--	--	--	**53.3 J**	--
PCB-043					--	--	--	--	**5.76 J**	--
PCB-044/047/065					--	--	--	--	**279 J**	--
PCB-045					--	--	--	--	**18.9 J**	--
PCB-046					--	--	--	--	**7.52 J**	--
PCB-048					--	--	--	--	**33.5 J**	--
PCB-049/069					--	--	--	--	**161 J**	--
PCB-050/053					--	--	--	--	**22.5 J**	--
PCB-051					--	--	--	--	**4.52 J**	--
PCB-052					--	--	--	--	**510 J**	--
PCB-054					--	--	--	--	0.736 U	--
PCB-055					--	--	--	--	1.57 UJ	--
PCB-056					--	--	--	--	**116 J**	--
PCB-057					--	--	--	--	1.57 UJ	--
PCB-058					--	--	--	--	**13.9 J**	--
PCB-059/062/075					--	--	--	--	**15.1 J**	--
PCB-060					--	--	--	--	**52.6 J**	--
PCB-061/070/074/076					--	--	--	--	**626 J**	--
PCB-063					--	--	--	--	**10.4 J**	--
PCB-064					--	--	--	--	**102 J**	--
PCB-066					--	--	--	--	**283 J**	--
PCB-067					--	--	--	--	**7.98 J**	--
PCB-068					--	--	--	--	1.41 UJ	--
PCB-072					--	--	--	--	**2.17 J**	--
PCB-073					--	--	--	--	**0.41 J**	--
PCB-077					--	--	--	--	**24.5 J**	--
PCB-078					--	--	--	--	1.71 UJ	--
PCB-079					--	--	--	--	**7.54 J**	--
PCB-080					--	--	--	--	1.41 UJ	--
PCB-081					--	--	--	--	1.64 UJ	--
PCB-082					--	--	--	--	**98.7**	--
PCB-083					--	--	--	--	**45.9**	--
PCB-084					--	--	--	--	**219**	--
PCB-085/116					--	--	--	--	**126**	--
PCB-086/087/097/108/119/125					--	--	--	--	--	--
PCB-086/087/097/109/119/125					--	--	--	--	**586**	--
PCB-088					--	--	--	--	0.779 U	--
PCB-089					--	--	--	--	**6.51**	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA06-SS21	JW-EA06-SS22	JW-EA06-SS23	JW-EA06-SS24	JW-EA07-Composite	JW-EA07-SS25
Sample ID					JW-EA06-SS21-120507	JW-EA06-SS22-120507	JW-EA06-SS23-120507	JW-EA06-SS24-120507	JW-EA07-COMP-120507	JW-EA07-SS25-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302291.162	1302142.585	1302394.161	1302257.349	1302472.205	1302470.095
Y					373634.381	373480.992	373524.961	373379.028	373308.1375	373436.105
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-090/101/113					--	--	--	--	**856**	--
PCB-091					--	--	--	--	**92.8**	--
PCB-092					--	--	--	--	**157**	--
PCB-093/100					--	--	--	--	0.722 U	--
PCB-094					--	--	--	--	**1.92**	--
PCB-095					--	--	--	--	0.725 U	--
PCB-096					--	--	--	--	**3.71**	--
PCB-098					--	--	--	--	**487**	--
PCB-099					--	--	--	--	**415**	--
PCB-102					--	--	--	--	**3.45 J**	--
PCB-103					--	--	--	--	**3.72**	--
PCB-104					--	--	--	--	0.402 U	--
PCB-105					--	--	--	--	**297**	--
PCB-106					--	--	--	--	0.642 U	--
PCB-107					--	--	--	--	**51.6**	--
PCB-107/124					--	--	--	--	--	--
PCB-108/124					--	--	--	--	**31.6**	--
PCB-109					--	--	--	--	--	--
PCB-110					--	--	--	--	**1040**	--
PCB-111					--	--	--	--	0.568 U	--
PCB-112					--	--	--	--	0.544 U	--
PCB-114					--	--	--	--	**14**	--
PCB-115					--	--	--	--	0.558 U	--
PCB-117					--	--	--	--	**17.2**	--
PCB-118					--	--	--	--	**737**	--
PCB-120					--	--	--	--	0.532 U	--
PCB-121					--	--	--	--	0.529 U	--
PCB-122					--	--	--	--	**7.82**	--
PCB-123					--	--	--	--	**11**	--
PCB-126					--	--	--	--	**2.14**	--
PCB-127					--	--	--	--	0.795 U	--
PCB-128/166					--	--	--	--	**149**	--
PCB-129/138/163					--	--	--	--	**860**	--
PCB-130					--	--	--	--	**54.6**	--
PCB-131					--	--	--	--	**12**	--
PCB-132					--	--	--	--	**264**	--
PCB-133					--	--	--	--	**10.3**	--
PCB-134					--	--	--	--	**43.5**	--
PCB-135/151					--	--	--	--	**198**	--
PCB-136					--	--	--	--	**85.3**	--
PCB-137					--	--	--	--	**48.2**	--
PCB-139/140					--	--	--	--	**16.8**	--
PCB-141					--	--	--	--	**109**	--
PCB-142					--	--	--	--	0.47 U	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA06-SS21	JW-EA06-SS22	JW-EA06-SS23	JW-EA06-SS24	JW-EA07-Composite	JW-EA07-SS25
Sample ID					JW-EA06-SS21-120507	JW-EA06-SS22-120507	JW-EA06-SS23-120507	JW-EA06-SS24-120507	JW-EA07-COMP-120507	JW-EA07-SS25-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302291.162	1302142.585	1302394.161	1302257.349	1302472.205	1302470.095
Y					373634.381	373480.992	373524.961	373379.028	373308.1375	373436.105
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
PCB-143					--	--	--	--	0.433 U	--
PCB-144					--	--	--	--	**31.4**	--
PCB-145					--	--	--	--	0.299 U	--
PCB-146					--	--	--	--	**106**	--
PCB-147/149					--	--	--	--	**516**	--
PCB-148					--	--	--	--	0.398 U	--
PCB-150					--	--	--	--	0.289 U	--
PCB-152					--	--	--	--	0.282 U	--
PCB-153/168					--	--	--	--	**567**	--
PCB-154					--	--	--	--	**9.28**	--
PCB-155					--	--	--	--	0.281 U	--
PCB-156/157					--	--	--	--	**107**	--
PCB-158					--	--	--	--	**87.4**	--
PCB-159					--	--	--	--	**4.37**	--
PCB-160					--	--	--	--	0.347 U	--
PCB-161					--	--	--	--	0.319 U	--
PCB-162					--	--	--	--	**2.95**	--
PCB-164					--	--	--	--	**48.7**	--
PCB-165					--	--	--	--	0.355 U	--
PCB-167					--	--	--	--	**29.5**	--
PCB-169					--	--	--	--	1.07 U	--
PCB-170					--	--	--	--	**104**	--
PCB-171/173					--	--	--	--	**35.6**	--
PCB-172					--	--	--	--	**18.8**	--
PCB-174					--	--	--	--	**99.9**	--
PCB-175					--	--	--	--	**4.78**	--
PCB-176					--	--	--	--	**12.7**	--
PCB-177					--	--	--	--	**70.8**	--
PCB-178					--	--	--	--	**23.6**	--
PCB-179					--	--	--	--	**50.8**	--
PCB-180/193					--	--	--	--	**228**	--
PCB-181					--	--	--	--	0.706 U	--
PCB-182					--	--	--	--	0.677 U	--
PCB-183					--	--	--	--	**73.4**	--
PCB-184					--	--	--	--	0.32 U	--
PCB-185					--	--	--	--	0.712 U	--
PCB-186					--	--	--	--	0.31 U	--
PCB-187					--	--	--	--	**130**	--
PCB-188					--	--	--	--	0.325 U	--
PCB-189					--	--	--	--	**5.24**	--
PCB-190					--	--	--	--	**19.5**	--
PCB-191					--	--	--	--	**4.32**	--
PCB-192					--	--	--	--	0.627 U	--
PCB-194					--	--	--	--	**66.7**	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA06-SS21	JW-EA06-SS22	JW-EA06-SS23	JW-EA06-SS24	JW-EA07-Composite	JW-EA07-SS25
Sample ID					JW-EA06-SS21-120507	JW-EA06-SS22-120507	JW-EA06-SS23-120507	JW-EA06-SS24-120507	JW-EA07-COMP-120507	JW-EA07-SS25-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302291.162	1302142.585	1302394.161	1302257.349	1302472.205	1302470.095
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	373634.381	373480.992	373524.961	373379.028	373308.1375	373436.105
Analyte										
PCB-195					--	--	--	--	21.4	--
PCB-196					--	--	--	--	31.1	--
PCB-197					--	--	--	--	1.42 J	--
PCB-198/199					--	--	--	--	73	--
PCB-200					--	--	--	--	6.35 J	--
PCB-201					--	--	--	--	8.51	--
PCB-202					--	--	--	--	17	--
PCB-203					--	--	--	--	44.6	--
PCB-204					--	--	--	--	0.582 U	--
PCB-205					--	--	--	--	2.3 J	--
PCB-206					--	--	--	--	44.2	--
PCB-207					--	--	--	--	5.26	--
PCB-208					--	--	--	--	11.6	--
PCB-209					--	--	--	--	21.7	--
Total PCB Congener (U = limit)					--	--	--	--	13235.404 J	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	1.6536974 J	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	0.0200272 J	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	--	0.2850642 J	--
Total PCB Congener (U = 1/2)					--	--	--	--	13212.652 J	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	13189.9 J	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	1.5711624 J	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	1.4886274 J	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	0.01959045 J	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	0.0191537 J	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	0.2687682 J	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	0.2524722 J	--
Total Petroleum Hydrocarbons (mg/kg)										
Diesel range hydrocarbons					--	--	--	--	--	--
Motor oil range hydrocarbons					--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					0.0002886168966 J	0.0001820207692 J	0.0012625653846 J	0.00025665909091 J	0.00037582217419 J	0.0003335209524 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					0.000211447931 J	9.96938462E-05 J	0.0008084096154 J	0.00013393636364 J	0.000178634425807 J	0.0002107042857 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					0.0003620658621 J	0.0001411707692 J	0.0034860357692 J	0.00019257818182 J	0.00064488787742 J	0.0004715385714 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					0.0002884151724 J	0.0001814861538 J	0.0012621442308 J	0.00025629818182 J	0.00032436056129 J	0.0003332328571 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					0.0002112462069 J	9.91592308E-05 J	0.0008079884615 J	0.00013357545455 J	0.000140815498387 J	0.0002104161905 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					0.0003618641379 J	0.0001406361538 J	0.0034856146154 J	0.00019221727273 J	0.00061446316774 J	0.0004712504762 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					0.0002882134483 J	0.0001809515385 J	0.0012617230769 J	0.00025593727273 J	0.00027289894839 J	0.0003329447619 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					0.0002110444828 J	9.86246154E-05 J	0.0008075673077 J	0.00013321454545 J	0.000102996570968 J	0.0002101280952 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					0.0003616624138 J	0.0001401015385 J	0.0034851934615 J	0.00019185636364 J	0.00058403845806 J	0.000470962381 J
Dioxin Furans and PCB Congeners (ng/kg)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					8.36989 J	2.36627 J	32.8267 J	2.82325 J	11.6504874 J	7.00394 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					6.13199 J	1.29602 J	21.01865 J	1.4733 J	5.5376672 J	4.42479 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					10.49991 J	1.83522 J	90.63693 J	2.11836 J	19.9915242 J	9.90231 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					8.36404 J	2.35932 J	32.81575 J	2.81928 J	10.0551774 J	6.99789 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					6.12614 J	1.28907 J	21.0077 J	1.46933 J	4.36528045 J	4.41874 J

Table H-1
Surface Sediment Results

Task					**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**
Location ID					**JW-EA06-SS21**	**JW-EA06-SS22**	**JW-EA06-SS23**	**JW-EA06-SS24**	**JW-EA07-Composite**	**JW-EA07-SS25**
Sample ID					**JW-EA06-SS21-120507**	**JW-EA06-SS22-120507**	**JW-EA06-SS23-120507**	**JW-EA06-SS24-120507**	**JW-EA07-COMP-120507**	**JW-EA07-SS25-120507**
Sample Date					**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302291.162**	**1302142.585**	**1302394.161**	**1302257.349**	**1302472.205**	**1302470.095**
Y	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**	**373634.381**	**373480.992**	**373524.961**	**373379.028**	**373308.1375**	**373436.105**
Analyte										
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**10.49406 J**	**1.82827 J**	**90.62598 J**	**2.11439 J**	**19.0483582 J**	**9.89626 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**8.35819 J**	**2.35237 J**	**32.8048 J**	**2.81531 J**	**8.4598674 J**	**6.99184 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**6.12029 J**	**1.28212 J**	**20.99675 J**	**1.46536 J**	**3.1928937 J**	**4.41269 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**10.48821 J**	**1.82132 J**	**90.61503 J**	**2.11042 J**	**18.1051922 J**	**9.89021 J**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA07-SS26	JW-EA07-SS27	JW-EA07-SS28	JW-EA08-Composite	JW-EA08-Composite	JW-EA08-SS29
Sample ID					JW-EA07-SS26-120507	JW-EA07-SS27-120507	JW-EA07-SS28-120507	JW-EA08-COMP-120507	JW-EA58-COMP-120507	JW-EA08-SS29-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	FD	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302348.204	1302623.687	1302468.267	1302653.144	1302653.144	1302661.047
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	373299.779	373317.46	373173.809	373112.3013	373112.3013	373224.526
Analyte										
Conventional Parameters (pct)										
Total organic carbon					**2.7**	**3.2**	**3.5**	**2.9**	**2.8**	**3.4**
Moisture, percent					--	--	--	**48.4**	**49.6**	--
Total Solids					--	--	--	**49**	**49**	--
Total solids (preserved)					--	--	--	--	--	--
Total volatile solids					--	--	--	--	--	--
Conventional Parameters (mg/kg)										
Ammonia as nitrogen					--	--	--	--	--	--
Black carbon					--	--	--	**1600**	**1800**	--
Sulfide					--	--	--	--	--	--
Grain Size (pct)										
Cobbles					--	--	--	0 U	0 U	--
Gravel					--	--	--	**3.4**	**2**	--
Sand					--	--	--	**25**	**25**	--
Sand, very coarse					--	--	--	--	--	--
Sand, coarse					--	--	--	--	--	--
Sand, medium					--	--	--	--	--	--
Sand, fine					--	--	--	--	--	--
Sand, very fine					--	--	--	--	--	--
Silt					--	--	--	**60**	**61**	--
Silt, coarse					--	--	--	--	--	--
Silt, medium					--	--	--	--	--	--
Silt, fine					--	--	--	--	--	--
Silt, very fine					--	--	--	--	--	--
Total fines (Reported, not calculated)					--	--	--	--	--	--
Clay					--	--	--	**12**	**13**	--
Clay, coarse					--	--	--	--	--	--
Clay, medium					--	--	--	--	--	--
Clay, fine					--	--	--	--	--	--
Metals (mg/kg)										
Antimony					--	--	--	--	--	--
Arsenic	57	93	57	93	--	--	--	--	--	--
Cadmium	5.1	6.7	5.1	6.7	--	--	--	--	--	--
Chromium	260	270	260	270	--	--	--	--	--	--
Copper	390	390	390	390	--	--	--	--	--	--
Lead	450	530	450	530	--	--	--	--	--	--
Mercury	0.41	0.59	0.41	0.59	--	--	--	--	--	--
Nickel					--	--	--	--	--	--
Silver	6.1	6.1	6.1	6.1	--	--	--	--	--	--
Zinc	410	960	410	960	--	--	--	--	--	--
Volatile Organics (mg/kg-OC)										
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
Volatile Organics (µg/kg)										
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA07-SS26	JW-EA07-SS27	JW-EA07-SS28	JW-EA08-Composite	JW-EA08-Composite	JW-EA08-SS29
Sample ID					JW-EA07-SS26-120507	JW-EA07-SS27-120507	JW-EA07-SS28-120507	JW-EA08-COMP-120507	JW-EA58-COMP-120507	JW-EA08-SS29-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	FD	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302348.204	1302623.687	1302468.267	1302653.144	1302653.144	1302661.047
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373299.779	373317.46	373173.809	373112.3013	373112.3013	373224.526
Analyte										
Semivolatile Organics (mg/kg-OC)										
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--
Semivolatile Organics (µg/kg)										
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--
1,3-Dichlorobenzene					--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)										
2-Methylnaphthalene	38	64			--	--	--	**0.01931 J**	0.0357 U	--
Acenaphthene	16	57			--	--	--	**0.03414**	**0.03429 J**	--
Acenaphthylene	66	66			--	--	--	**0.0862**	**0.0464**	--
Anthracene	220	1200			--	--	--	**0.2862**	**0.125**	--
Benzo(a)anthracene	110	270			--	--	--	**0.3414**	**0.2393**	--
Benzo(a)pyrene	99	210			--	--	--	**0.3069**	**0.2607**	--
Benzo(g,h,i)perylene	31	78			--	--	--	**0.1759**	**0.1643**	--
Chrysene	110	460			--	--	--	**0.586**	**0.429**	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA07-SS26	JW-EA07-SS27	JW-EA07-SS28	JW-EA08-Composite	JW-EA08-Composite	JW-EA08-SS29
Sample ID					JW-EA07-SS26-120507	JW-EA07-SS27-120507	JW-EA07-SS28-120507	JW-EA08-COMP-120507	JW-EA58-COMP-120507	JW-EA08-SS29-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	FD	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302348.204	1302623.687	1302468.267	1302653.144	1302653.144	1302661.047
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373299.779	373317.46	373173.809	373112.3013	373112.3013	373224.526
Analyte										
Dibenzo(a,h)anthracene	12	33			--	--	--	**0.0414**	**0.0357**	--
Dibenzofuran	15	58			--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	**0.69**	**0.571**	--
Fluorene	23	79			--	--	--	**0.0552**	**0.0429**	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	**0.1966**	**0.1929**	--
Naphthalene	99	170			--	--	--	**0.03069 J**	**0.02393 J**	--
Phenanthrene	100	480			--	--	--	**0.3241**	**0.3143**	--
Pyrene	1000	1400			--	--	--	**0.655**	**0.607**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	**0.427931**	**0.3575**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	**0.427931**	**0.3575**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	**0.427931**	**0.3575**	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	**0.5724**	**0.4571**	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	**3.5655**	**2.9571**	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	**0.81655 J**	**0.58679 J**	--
Polycyclic Aromatic Hydrocarbons (µg/kg)										
1-Methylnaphthalene					--	--	--	**0.3 J**	**0.32 J**	--
2-Methylnaphthalene			670	670	--	--	--	**0.56 J**	1 U	--
Acenaphthene			500	500	--	--	--	**0.99**	**0.96 J**	--
Acenaphthylene			1300	1300	--	--	--	**2.5**	**1.3**	--
Anthracene			960	960	--	--	--	**8.3**	**3.5**	--
Benzo(a)anthracene			1300	1600	--	--	--	**9.9**	**6.7**	--
Benzo(a)pyrene			1600	1600	--	--	--	**8.9**	**7.3**	--
Benzo(b)fluoranthene					--	--	--	**12**	**9.3**	--
Benzo(g,h,i)perylene			670	720	--	--	--	**5.1**	**4.6**	--
Benzo(k)fluoranthene					--	--	--	**4.6**	**3.5**	--
Chrysene			1400	2800	--	--	--	**17**	**12**	--
Dibenzo(a,h)anthracene			230	230	--	--	--	**1.2**	**1**	--
Dibenzofuran			540	540	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	**20**	**16**	--
Fluorene			540	540	--	--	--	**1.6**	**1.2**	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	**5.7**	**5.4**	--
Naphthalene			2100	2100	--	--	--	**0.89 J**	**0.67 J**	--
Phenanthrene			1500	1500	--	--	--	**9.4**	**8.8**	--
Pyrene			2600	3300	--	--	--	**19**	**17**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	**12.41**	**10.01**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	**12.41**	**10.01**	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	**16.6**	**12.8**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	**12.41**	**10.01**	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	**103.4**	**82.8**	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	**23.68 J**	**16.43 J**	--
Dioxin Furans (ng/kg)										
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					**0.293 J**	**0.49 J**	**0.48 J**	0.0819 U	**0.412 J**	**0.551**
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					**0.749 J**	**2.69**	**0.962 J**	**0.464 J**	**0.941 J**	**1.64 J**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**1.08 J**	**4.88**	**1.36 J**	0.677 U	**1.24 J**	**3.2**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA07-SS26	JW-EA07-SS27	JW-EA07-SS28	JW-EA08-Composite	JW-EA08-Composite	JW-EA08-SS29
Sample ID					JW-EA07-SS26-120507	JW-EA07-SS27-120507	JW-EA07-SS28-120507	JW-EA08-COMP-120507	JW-EA58-COMP-120507	JW-EA08-SS29-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	FD	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302348.204	1302623.687	1302468.267	1302653.144	1302653.144	1302661.047
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373299.779	373317.46	373173.809	373112.3013	373112.3013	373224.526
Analyte										
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**5.02**	**210**	**8.43**	**7.51**	**16.3**	**35.2**
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					**2.69**	**65.8**	**3.84**	**2.5 J**	**6.73**	**14.3**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					**69.4**	**1130**	**82.6**	**95**	**174**	**327**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					**569**	**2810**	**550**	**770**	**1330**	**1880**
Total Tetrachlorodibenzo-p-dioxin (TCDD)					**16.9 J**	**27.3 J**	**42.7 J**	**9.67 J**	**12.1 J**	**46 J**
Total Pentachlorodibenzo-p-dioxin (PeCDD)					**14.8 J**	**37.4**	**22.6 J**	**8.34**	**11.5 J**	**34.1 J**
Total Hexachlorodibenzo-p-dioxin (HxCDD)					**54.7**	**1490**	**77.1**	**55.9 J**	**110**	**278 J**
Total Heptachlorodibenzo-p-dioxin (HpCDD)					**220**	**2240**	**192**	**188**	**359**	**693**
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					**1.64 J**	**3.1**	**2.41**	**0.601 J**	**1.36**	**3.54**
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					**0.588 J**	**1.66 J**	**0.823 J**	**0.383 J**	**0.866 J**	**1.29 J**
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					**1.04 J**	**4.04**	**1.43 J**	0.684 U	**1.58 J**	**2.4 J**
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					**0.824 J**	**6.4**	**1.19 J**	0.952 U	**2.12 J**	**3.04**
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					**0.659 J**	**4.84**	**0.954 J**	0.729 U	**1.42 J**	**2.78**
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					0.0847 U	0.195 U	0.0861 U	0.316 U	0.607 U	0.127 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					**0.826 J**	**9.82**	**1.35 J**	**1.18 J**	**2.41 J**	**4.18**
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					**10.2**	**186**	**16.6**	**16.2**	**34**	**62.3**
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					**0.615 J**	**6.19**	**0.627 J**	**0.991 J**	**1.85 J**	**2.93**
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					**22.6**	**152**	**27.3**	**36.7**	**66.3**	**92.5**
Total Tetrachlorodibenzofuran (TCDF)					**22.3 J**	**43.7**	**33.4 J**	**6.89 J**	**21 J**	**37.7 J**
Total Pentachlorodibenzofuran (PeCDF)					**12.6 J**	**67.4 J**	**17.9 J**	**7.97 J**	**18.7 J**	**35 J**
Total Hexachlorodibenzofuran (HxCDF)					**16.1 J**	**313**	**31.8 J**	**24.4 J**	**51.5 J**	**86.1**
Total Heptachlorodibenzofuran (HpCDF)					**29.3**	**555**	**46.6 J**	**46.6 J**	**91.4 J**	**173**
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					**4.63008 J**	**24.8836 J**	**6.57121 J**	**2.89343 J**	**6.60543 J**	**12.39125 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					**2.76658 J**	**16.1096 J**	**3.79196 J**	**2.04098 J**	**4.43243 J**	**7.91675 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					**3.63364 J**	**49.0558 J**	**5.02916 J**	**3.57301 J**	**7.58907 J**	**14.10045 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					**4.625845 J**	**24.87385 J**	**6.566905 J**	**2.393705 J**	**6.57508 J**	**12.3849 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					**2.762345 J**	**16.09985 J**	**3.787655 J**	**1.55993 J**	**4.40208 J**	**7.9104 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					**3.629405 J**	**49.04605 J**	**5.024855 J**	**3.29576 J**	**7.55872 J**	**14.0941 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					**4.62161 J**	**24.8641 J**	**6.5626 J**	**1.89398 J**	**6.54473 J**	**12.37855 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					**2.75811 J**	**16.0901 J**	**3.78335 J**	**1.07888 J**	**4.37173 J**	**7.90405 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					**3.62517 J**	**49.0363 J**	**5.02055 J**	**3.01851 J**	**7.52837 J**	**14.08775 J**
PCB Aroclors (mg/kg-OC)										
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--
PCB Aroclors (µg/kg)										
Aroclor 1016					--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--
Aroclor 1262					--	--	--	--	--	--
Aroclor 1268					--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA07-SS26	JW-EA07-SS27	JW-EA07-SS28	JW-EA08-Composite	JW-EA08-Composite	JW-EA08-SS29
Sample ID					JW-EA07-SS26-120507	JW-EA07-SS27-120507	JW-EA07-SS28-120507	JW-EA08-COMP-120507	JW-EA58-COMP-120507	JW-EA08-SS29-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	FD	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302348.204	1302623.687	1302468.267	1302653.144	1302653.144	1302661.047
Y					373299.779	373317.46	373173.809	373112.3013	373112.3013	373224.526
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB Congeners (mg/kg-OC)										
Total PCB Congener (U = limit)					--	--	--	**0.160306207 J**	**0.46636875 J**	--
Total PCB Congener (U = 1/2)					--	--	--	**0.158619138 J**	**0.464285107 J**	--
Total PCB Congener (U = 0)	12	65			--	--	--	**0.156932069 J**	**0.462201464 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	**3.03315E-05 J**	**6.280443929E-05 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	**2.49889655E-07 J**	**7.28291071E-07 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	**3.43447931E-06 J**	**9.711125E-06 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	**2.964886207E-05 J**	**6.2786225E-05 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	**2.896622414E-05 J**	**6.276801071E-05 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	**2.46016379E-07 J**	**7.27380357E-07 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	**2.42143103E-07 J**	**7.26469643E-07 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	**3.12573793E-06 J**	**9.16469643E-06 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	**2.81699655E-06 J**	**8.61826786E-06 J**	--
PCB Congeners (ng/kg)										
PCB-001					--	--	--	**13.6**	**20**	--
PCB-002					--	--	--	**6.64**	**14.1**	--
PCB-003					--	--	--	**13.7**	**24.7**	--
PCB-004					--	--	--	**7.37 J**	**11 J**	--
PCB-005					--	--	--	**0.878 J**	**0.895 J**	--
PCB-006					--	--	--	**7.69 J**	**8 J**	--
PCB-007					--	--	--	1.93 UJ	**1.94 J**	--
PCB-008					--	--	--	**33.8 J**	**40.4 J**	--
PCB-009					--	--	--	**1.76 J**	**2.24 J**	--
PCB-010					--	--	--	2.05 UJ	**0.579 J**	--
PCB-011					--	--	--	70.7 UJ	108 UJ	--
PCB-012/013					--	--	--	**6.74 J**	**8.51 J**	--
PCB-014					--	--	--	1.75 UJ	**0.373 J**	--
PCB-015					--	--	--	**37.5 J**	**46.6 J**	--
PCB-016					--	--	--	**20 J**	**29.1**	--
PCB-017					--	--	--	**20.4 J**	**32.4**	--
PCB-018/030					--	--	--	**40.4 J**	**64.6**	--
PCB-019					--	--	--	**2.31 J**	**3.89**	--
PCB-020/028					--	--	--	**107 J**	**174**	--
PCB-021/033					--	--	--	**42.3 J**	**68.5**	--
PCB-022					--	--	--	**31 J**	**51.5**	--
PCB-023					--	--	--	0.931 UJ	0.396 U	--
PCB-024					--	--	--	0.636 UJ	**0.784 J**	--
PCB-025					--	--	--	**6.65 J**	**10.9**	--
PCB-026/029					--	--	--	**13.1 J**	**21**	--
PCB-027					--	--	--	**3.78 J**	**5.39**	--
PCB-031					--	--	--	**79.9 J**	**131**	--
PCB-032					--	--	--	**16.9 J**	**23.5**	--
PCB-034					--	--	--	0.975 UJ	0.414 U	--
PCB-035					--	--	--	**2.98 J**	**6.18**	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA07-SS26	JW-EA07-SS27	JW-EA07-SS28	JW-EA08-Composite	JW-EA08-Composite	JW-EA08-SS29
Sample ID					JW-EA07-SS26-120507	JW-EA07-SS27-120507	JW-EA07-SS28-120507	JW-EA08-COMP-120507	JW-EA58-COMP-120507	JW-EA08-SS29-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	FD	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302348.204	1302623.687	1302468.267	1302653.144	1302653.144	1302661.047
Y					373299.779	373317.46	373173.809	373112.3013	373112.3013	373224.526
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
PCB-036					--	--	--	0.957 UJ	**1.33 J**	--
PCB-037					--	--	--	**44.6 J**	**77.1**	--
PCB-038					--	--	--	1.04 UJ	0.441 U	--
PCB-039					--	--	--	0.924 UJ	0.393 U	--
PCB-040/071					--	--	--	**30.8 J**	**53.9 J**	--
PCB-041					--	--	--	**4.07 J**	**8.49 J**	--
PCB-042					--	--	--	**16.2 J**	**29.2 J**	--
PCB-043					--	--	--	**2.03 J**	**3.4 J**	--
PCB-044/047/065					--	--	--	**69 J**	**143 J**	--
PCB-045					--	--	--	**5.41 J**	**9.29 J**	--
PCB-046					--	--	--	**2.18 J**	**4.09 J**	--
PCB-048					--	--	--	**11.2 J**	**18.8 J**	--
PCB-049/069					--	--	--	**43 J**	**82.7 J**	--
PCB-050/053					--	--	--	**5.38 J**	**10.2 J**	--
PCB-051					--	--	--	**1.31 J**	**3.03 J**	--
PCB-052					--	--	--	**105 J**	**257 J**	--
PCB-054					--	--	--	0.17 U	**0.272 J**	--
PCB-055					--	--	--	**1.87 J**	**4.6 J**	--
PCB-056					--	--	--	**58 J**	**111 J**	--
PCB-057					--	--	--	0.405 UJ	**0.672 J**	--
PCB-058					--	--	--	**3.39 J**	**0.823 J**	--
PCB-059/062/075					--	--	--	**5.01 J**	**8.42 J**	--
PCB-060					--	--	--	**29.4 J**	**55.1 J**	--
PCB-061/070/074/076					--	--	--	**253 J**	**536 J**	--
PCB-063					--	--	--	**4.42 J**	**8.18 J**	--
PCB-064					--	--	--	**26.7 J**	**53 J**	--
PCB-066					--	--	--	**143 J**	**268 J**	--
PCB-067					--	--	--	**3.6 J**	**6.69 J**	--
PCB-068					--	--	--	**0.839 J**	**1.54 J**	--
PCB-072					--	--	--	**1.57 J**	**2.58 J**	--
PCB-073					--	--	--	0.135 UJ	**0.366 J**	--
PCB-077					--	--	--	**15.1 J**	**28.2 J**	--
PCB-078					--	--	--	0.467 UJ	0.498 UJ	--
PCB-079					--	--	--	**1.54 J**	**5.66 J**	--
PCB-080					--	--	--	0.362 UJ	0.386 UJ	--
PCB-081					--	--	--	0.39 UJ	**0.902 J**	--
PCB-082					--	--	--	**27.7**	**91**	--
PCB-083					--	--	--	**10.7**	**37.4**	--
PCB-084					--	--	--	**45.4**	**166**	--
PCB-085/116					--	--	--	**33.7**	**106**	--
PCB-086/087/097/108/119/125					--	--	--	--	--	--
PCB-086/087/097/109/119/125					--	--	--	**152**	**532**	--
PCB-088					--	--	--	0.576 U	0.346 U	--
PCB-089					--	--	--	**1.63 J**	**4.68**	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA07-SS26	JW-EA07-SS27	JW-EA07-SS28	JW-EA08-Composite	JW-EA08-Composite	JW-EA08-SS29
Sample ID					JW-EA07-SS26-120507	JW-EA07-SS27-120507	JW-EA07-SS28-120507	JW-EA08-COMP-120507	JW-EA58-COMP-120507	JW-EA08-SS29-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	FD	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302348.204	1302623.687	1302468.267	1302653.144	1302653.144	1302661.047
Y					373299.779	373317.46	373173.809	373112.3013	373112.3013	373224.526
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-090/101/113					--	--	--	**224**	**751**	--
PCB-091					--	--	--	**20.7**	**69.5**	--
PCB-092					--	--	--	**39.6**	**132**	--
PCB-093/100					--	--	--	0.512 U	**2.8**	--
PCB-094					--	--	--	0.562 U	**1.69 J**	--
PCB-095					--	--	--	**129**	**423**	--
PCB-096					--	--	--	0.241 U	**2.76**	--
PCB-098					--	--	--	0.592 U	0.355 U	--
PCB-099					--	--	--	**122**	**387**	--
PCB-102					--	--	--	**4.01**	**10.6**	--
PCB-103					--	--	--	**1.23 J**	**3.04**	--
PCB-104					--	--	--	0.245 U	0.172 U	--
PCB-105					--	--	--	**109**	**373**	--
PCB-106					--	--	--	0.454 U	0.272 U	--
PCB-107					--	--	--	**18.6**	**57.4**	--
PCB-107/124					--	--	--	--	--	--
PCB-108/124					--	--	--	**9.5**	**32.1**	--
PCB-109					--	--	--	--	--	--
PCB-110					--	--	--	**280**	**910**	--
PCB-111					--	--	--	0.409 U	0.246 U	--
PCB-112					--	--	--	0.411 U	0.246 U	--
PCB-114					--	--	--	**4.88**	**17.6**	--
PCB-115					--	--	--	**4.57**	**25.2**	--
PCB-117					--	--	--	**7.29**	**23.3**	--
PCB-118					--	--	--	**264**	**874**	--
PCB-120					--	--	--	0.408 U	**1.9**	--
PCB-121					--	--	--	0.398 U	0.239 U	--
PCB-122					--	--	--	**2.83**	**10.9**	--
PCB-123					--	--	--	**4.32**	**13.8**	--
PCB-126					--	--	--	**0.673 J**	**1.94 J**	--
PCB-127					--	--	--	0.46 U	0.3 U	--
PCB-128/166					--	--	--	**42.3 J**	**172 J**	--
PCB-129/138/163					--	--	--	**327 J**	**1120 J**	--
PCB-130					--	--	--	**20.5 J**	**71.9 J**	--
PCB-131					--	--	--	**3.31 J**	**13.7 J**	--
PCB-132					--	--	--	**83.9 J**	**308 J**	--
PCB-133					--	--	--	**4.79 J**	**12.7 J**	--
PCB-134					--	--	--	**14.7 J**	**51.3 J**	--
PCB-135/151					--	--	--	**68.8 J**	**206 J**	--
PCB-136					--	--	--	**23.3 J**	**84.6 J**	--
PCB-137					--	--	--	**16.1 J**	**61.8 J**	--
PCB-139/140					--	--	--	**5.44 J**	**17.4 J**	--
PCB-141					--	--	--	**42.5 J**	**148 J**	--
PCB-142					--	--	--	0.345 UJ	0.208 UJ	--

Table H-1
Surface Sediment Results

Task					**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**
Location ID					**JW-EA07-SS26**	**JW-EA07-SS27**	**JW-EA07-SS28**	**JW-EA08-Composite**	**JW-EA08-Composite**	**JW-EA08-SS29**
Sample ID					**JW-EA07-SS26-120507**	**JW-EA07-SS27-120507**	**JW-EA07-SS28-120507**	**JW-EA08-COMP-120507**	**JW-EA58-COMP-120507**	**JW-EA08-SS29-120507**
Sample Date					**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**FD**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302348.204**	**1302623.687**	**1302468.267**	**1302653.144**	**1302653.144**	**1302661.047**
Y					**373299.779**	**373317.46**	**373173.809**	**373112.3013**	**373112.3013**	**373224.526**
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**						
PCB-143					--	--	--	0.321 UJ	**1.84 J**	--
PCB-144					--	--	--	**10.1 J**	**32.6 J**	--
PCB-145					--	--	--	0.224 UJ	0.135 UJ	--
PCB-146					--	--	--	**46.3 J**	**135 J**	--
PCB-147/149					--	--	--	**179 J**	**591 J**	--
PCB-148					--	--	--	0.296 UJ	0.178 UJ	--
PCB-150					--	--	--	0.209 UJ	0.126 UJ	--
PCB-152					--	--	--	0.214 UJ	0.129 UJ	--
PCB-153/168					--	--	--	**216 J**	**675 J**	--
PCB-154					--	--	--	**3.19 J**	**8.28 J**	--
PCB-155					--	--	--	0.202 U	0.122 U	--
PCB-156/157					--	--	--	**35.3**	**149 J**	--
PCB-158					--	--	--	**30.2 J**	**107 J**	--
PCB-159					--	--	--	0.492 UJ	0.736 UJ	--
PCB-160					--	--	--	0.249 UJ	0.15 UJ	--
PCB-161					--	--	--	0.244 UJ	0.146 UJ	--
PCB-162					--	--	--	**1 J**	**3.51 J**	--
PCB-164					--	--	--	**17.9 J**	**58.4 J**	--
PCB-165					--	--	--	0.272 UJ	0.163 UJ	--
PCB-167					--	--	--	**10.2 J**	**40.5 J**	--
PCB-169					--	--	--	0.593 U	1.02 U	--
PCB-170					--	--	--	**28.6 J**	**91.6 J**	--
PCB-171/173					--	--	--	**13.3 J**	**43.9 J**	--
PCB-172					--	--	--	**4.41 J**	**10.9 J**	--
PCB-174					--	--	--	**38.4 J**	**123 J**	--
PCB-175					--	--	--	**1.65 J**	**5.29 J**	--
PCB-176					--	--	--	**4.15 J**	**12.4 J**	--
PCB-177					--	--	--	**26 J**	**79.7 J**	--
PCB-178					--	--	--	**10.6 J**	**23.2 J**	--
PCB-179					--	--	--	**17.4 J**	**44.7 J**	--
PCB-180/193					--	--	--	**62.7 J**	**182 J**	--
PCB-181					--	--	--	0.746 UJ	**1.84 J**	--
PCB-182					--	--	--	0.686 UJ	**0.894 J**	--
PCB-183					--	--	--	**23.5 J**	**69 J**	--
PCB-184					--	--	--	0.313 UJ	0.156 UJ	--
PCB-185					--	--	--	**1.58 J**	**8.01 J**	--
PCB-186					--	--	--	0.301 UJ	0.15 UJ	--
PCB-187					--	--	--	**53.1 J**	**145 J**	--
PCB-188					--	--	--	0.295 U	0.148 U	--
PCB-189					--	--	--	**1.73 J**	**6.13 J**	--
PCB-190					--	--	--	**6.51 J**	**19.1 J**	--
PCB-191					--	--	--	**1.27 J**	**4.18 J**	--
PCB-192					--	--	--	0.509 UJ	0.237 UJ	--
PCB-194					--	--	--	**22.3**	**58.5**	--

Table H-1
Surface Sediment Results

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	JeldWenMarineMay2012 JW-EA07-SS26 JW-EA07-SS26-120507 5/7/2012 0 - 10 cm N SE 1302348.204 373299.779	JeldWenMarineMay2012 JW-EA07-SS27 JW-EA07-SS27-120507 5/7/2012 0 - 10 cm N SE 1302623.687 373317.46	JeldWenMarineMay2012 JW-EA07-SS28 JW-EA07-SS28-120507 5/7/2012 0 - 10 cm N SE 1302468.267 373173.809	JeldWenMarineMay2012 JW-EA08-Composite JW-EA08-COMP-120507 5/7/2012 0 - 10 cm N SE 1302653.144 373112.3013	JeldWenMarineMay2012 JW-EA08-Composite JW-EA58-COMP-120507 5/7/2012 0 - 10 cm FD SE 1302653.144 373112.3013	JeldWenMarineMay2012 JW-EA08-SS29 JW-EA08-SS29-120507 5/7/2012 0 - 10 cm N SE 1302661.047 373224.526
PCB-195					--	--	--	**7.68**	**20.8**	--
PCB-196					--	--	--	**10.9**	**25.8**	--
PCB-197					--	--	--	0.641 U	**0.981 J**	--
PCB-198/199					--	--	--	**28.1**	**70.8**	--
PCB-200					--	--	--	**2.82**	**8.57**	--
PCB-201					--	--	--	**2.76**	**7.9**	--
PCB-202					--	--	--	**6.82**	**16.9**	--
PCB-203					--	--	--	**15.3 J**	**42.1**	--
PCB-204					--	--	--	0.745 U	0.176 U	--
PCB-205					--	--	--	0.863 U	**2.21**	--
PCB-206					--	--	--	**17.9**	**44.3**	--
PCB-207					--	--	--	**2.11**	**4.78**	--
PCB-208					--	--	--	**5.56**	**14.4**	--
PCB-209					--	--	--	**10.7**	**26**	--
Total PCB Congener (U = limit)					--	--	--	**4648.88 J**	**13058.325 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	**0.8796135 J**	**1.7585243 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	**0.0072468 J**	**0.02039215 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	**0.0995999 J**	**0.2719115 J**	--
Total PCB Congener (U = 1/2)					--	--	--	**4599.955 J**	**12999.983 J**	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--	**4551.03 J**	**12941.641 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	**0.859817 J**	**1.7580143 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	**0.8400205 J**	**1.7575043 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	**0.007134475 J**	**0.02036665 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	**0.00702215 J**	**0.02034115 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	**0.0906464 J**	**0.2566115 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	**0.0816929 J**	**0.2413115 J**	--
Total Petroleum Hydrocarbons (mg/kg)										
Diesel range hydrocarbons					--	--	--	--	--	--
Motor oil range hydrocarbons					--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**0.00017148444444 J**	**0.0007776125 J**	**0.00018774885714 J**	**0.000130104948276 J**	**0.00029871265357 J**	**0.0003644485294 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**0.00010246592593 J**	**0.000503425 J**	**0.00010834171429 J**	**7.06285103448E-05 J**	**0.0001590293625 J**	**0.0002328455882 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**0.00013457925926 J**	**0.00153299375 J**	**0.00014369028571 J**	**0.00012664172069 J**	**0.00028074933929 J**	**0.0004147191176 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**0.00017132759259 J**	**0.0007773078125 J**	**0.00018762585714 J**	**0.000112190413793 J**	**0.00029761051071 J**	**0.0003642617647 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**0.00010230907407 J**	**0.0005031203125 J**	**0.00010821871429 J**	**5.40367060345E-05 J**	**0.000157944523214 J**	**0.0002326588235 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**0.00013442240741 J**	**0.0015326890625 J**	**0.00014356728571 J**	**0.000116772634483 J**	**0.00027911898214 J**	**0.0004145323529 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**0.00017117074074 J**	**0.000777003125 J**	**0.00018750285714 J**	**9.427587931E-05 J**	**0.00029650836786 J**	**0.000364075 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**0.00010215222222 J**	**0.000502815625 J**	**0.00010809571429 J**	**3.74449017241E-05 J**	**0.000156859683929 J**	**0.0002324720588 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**0.00013426555556 J**	**0.001532384375 J**	**0.00014344428571 J**	**0.000106903548276 J**	**0.000277488625 J**	**0.0004143455882 J**
Dioxin Furans and PCB Congeners (ng/kg)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**4.63008 J**	**24.8836 J**	**6.57121 J**	**3.7730435 J**	**8.3639543 J**	**12.39125 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**2.76658 J**	**16.1096 J**	**3.79196 J**	**2.0482268 J**	**4.45282215 J**	**7.91675 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**3.63364 J**	**49.0558 J**	**5.02916 J**	**3.6726099 J**	**7.8609815 J**	**14.10045 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**4.625845 J**	**24.87385 J**	**6.566905 J**	**3.253522 J**	**8.3330943 J**	**12.3849 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**2.762345 J**	**16.09985 J**	**3.787655 J**	**1.567064475 J**	**4.42244665 J**	**7.9104 J**

Table H-1
Surface Sediment Results

Task					**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**
Location ID					**JW-EA07-SS26**	**JW-EA07-SS27**	**JW-EA07-SS28**	**JW-EA08-Composite**	**JW-EA08-Composite**	**JW-EA08-SS29**
Sample ID					**JW-EA07-SS26-120507**	**JW-EA07-SS27-120507**	**JW-EA07-SS28-120507**	**JW-EA08-COMP-120507**	**JW-EA58-COMP-120507**	**JW-EA08-SS29-120507**
Sample Date					**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**FD**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302348.204**	**1302623.687**	**1302468.267**	**1302653.144**	**1302653.144**	**1302661.047**
Y	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**	**373299.779**	**373317.46**	**373173.809**	**373112.3013**	**373112.3013**	**373224.526**
Analyte										
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**3.629405 J**	**49.04605 J**	**5.024855 J**	**3.3864064 J**	**7.8153315 J**	**14.0941 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**4.62161 J**	**24.8641 J**	**6.5626 J**	**2.7340005 J**	**8.3022343 J**	**12.37855 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**2.75811 J**	**16.0901 J**	**3.78335 J**	**1.08590215 J**	**4.39207115 J**	**7.90405 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**3.62517 J**	**49.0363 J**	**5.02055 J**	**3.1002029 J**	**7.7696815 J**	**14.08775 J**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA08-SS30	JW-EA08-SS31	JW-EA08-SS31	JW-EA08-SS32	JW-EA09-Composite	JW-EA09-SS33
Sample ID					JW-EA08-SS30-120507	JW-EA08-SS131-120507	JW-EA08-SS31-120507	JW-EA08-SS32-120507	JW-EA09-COMP-120507	JW-EA09-SS33-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302550.074	1302755.944	1302755.944	1302633.582	1302650.756	1302513.168
Y					373090.315	373142.409	373142.409	373006.214	372572.4956	372902.008
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
Conventional Parameters (pct)										
Total organic carbon					**3.5**	--	**2.2**	**2.6**	**1.8**	**1.9**
Moisture, percent					--	--	--	--	**36.6**	--
Total Solids					--	--	--	--	**58**	--
Total solids (preserved)					--	--	--	--	--	--
Total volatile solids					--	--	--	--	--	--
Conventional Parameters (mg/kg)										
Ammonia as nitrogen					--	--	--	--	--	--
Black carbon					--	--	--	--	**1400**	--
Sulfide					--	--	--	--	--	--
Grain Size (pct)										
Cobbles					--	--	--	--	0 U	--
Gravel					--	--	--	--	**1.5**	--
Sand					--	--	--	--	**43**	--
Sand, very coarse					--	--	--	--	--	--
Sand, coarse					--	--	--	--	--	--
Sand, medium					--	--	--	--	--	--
Sand, fine					--	--	--	--	--	--
Sand, very fine					--	--	--	--	--	--
Silt					--	--	--	--	**47**	--
Silt, coarse					--	--	--	--	--	--
Silt, medium					--	--	--	--	--	--
Silt, fine					--	--	--	--	--	--
Silt, very fine					--	--	--	--	--	--
Total fines (Reported, not calculated)					--	--	--	--	--	--
Clay					--	--	--	--	**8.4**	--
Clay, coarse					--	--	--	--	--	--
Clay, medium					--	--	--	--	--	--
Clay, fine					--	--	--	--	--	--
Metals (mg/kg)										
Antimony					--	--	--	--	--	--
Arsenic	57	93	57	93	--	--	--	--	--	--
Cadmium	5.1	6.7	5.1	6.7	--	--	--	--	--	--
Chromium	260	270	260	270	--	--	--	--	--	--
Copper	390	390	390	390	--	--	--	--	--	--
Lead	450	530	450	530	--	--	--	--	--	--
Mercury	0.41	0.59	0.41	0.59	--	--	--	--	--	--
Nickel					--	--	--	--	--	--
Silver	6.1	6.1	6.1	6.1	--	--	--	--	--	--
Zinc	410	960	410	960	--	--	--	--	--	--
Volatile Organics (mg/kg-OC)										
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
Volatile Organics (µg/kg)										
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA08-SS30	JW-EA08-SS31	JW-EA08-SS31	JW-EA08-SS32	JW-EA09-Composite	JW-EA09-SS33
Sample ID					JW-EA08-SS30-120507	JW-EA08-SS131-120507	JW-EA08-SS31-120507	JW-EA08-SS32-120507	JW-EA09-COMP-120507	JW-EA09-SS33-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302550.074	1302755.944	1302755.944	1302633.582	1302650.756	1302513.168
Y					373090.315	373142.409	373142.409	373006.214	372572.4956	372902.008
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
Semivolatile Organics (mg/kg-OC)										
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--
Semivolatile Organics (µg/kg)										
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--
1,3-Dichlorobenzene					--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)										
2-Methylnaphthalene	38	64			--	--	--	--	0.04778 UJ	--
Acenaphthene	16	57			--	--	--	--	0.04778 UJ	--
Acenaphthylene	66	66			--	--	--	--	**0.03444 J**	--
Anthracene	220	1200			--	--	--	--	**0.03278 J**	--
Benzo(a)anthracene	110	270			--	--	--	--	**0.0833 J**	--
Benzo(a)pyrene	99	210			--	--	--	--	**0.0889 J**	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	**0.04889 J**	--
Chrysene	110	460			--	--	--	--	**0.1389 J**	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA08-SS30	JW-EA08-SS31	JW-EA08-SS31	JW-EA08-SS32	JW-EA09-Composite	JW-EA09-SS33
Sample ID					JW-EA08-SS30-120507	JW-EA08-SS131-120507	JW-EA08-SS31-120507	JW-EA08-SS32-120507	JW-EA09-COMP-120507	JW-EA09-SS33-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302550.074	1302755.944	1302755.944	1302633.582	1302650.756	1302513.168
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373090.315	373142.409	373142.409	373006.214	372572.4956	372902.008
Analyte										
Dibenzo(a,h)anthracene	12	33			--	--	--	--	0.04778 UJ	--
Dibenzofuran	15	58			--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	**0.1556 J**	--
Fluorene	23	79			--	--	--	--	**0.01667 J**	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	**0.0556 J**	--
Naphthalene	99	170			--	--	--	--	**0.03944 J**	--
Phenanthrene	100	480			--	--	--	--	**0.05056 J**	--
Pyrene	1000	1400			--	--	--	--	**0.1333 J**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	**0.1255556 J**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	**0.1231667 J**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	**0.1207778 J**	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	**0.16611 J**	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	**0.87056 J**	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	**0.17389 J**	--
Polycyclic Aromatic Hydrocarbons (µg/kg)										
1-Methylnaphthalene					--	--	--	--	**0.26 J**	--
2-Methylnaphthalene			670	670	--	--	--	--	0.86 UJ	--
Acenaphthene			500	500	--	--	--	--	0.86 UJ	--
Acenaphthylene			1300	1300	--	--	--	--	**0.62 J**	--
Anthracene			960	960	--	--	--	--	**0.59 J**	--
Benzo(a)anthracene			1300	1600	--	--	--	--	**1.5 J**	--
Benzo(a)pyrene			1600	1600	--	--	--	--	**1.6 J**	--
Benzo(b)fluoranthene					--	--	--	--	**2.1 J**	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	**0.88 J**	--
Benzo(k)fluoranthene					--	--	--	--	**0.89 J**	--
Chrysene			1400	2800	--	--	--	--	**2.5 J**	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	0.86 UJ	--
Dibenzofuran			540	540	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	**2.8 J**	--
Fluorene			540	540	--	--	--	--	**0.3 J**	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	**1 J**	--
Naphthalene			2100	2100	--	--	--	--	**0.71 J**	--
Phenanthrene			1500	1500	--	--	--	--	**0.91 J**	--
Pyrene			2600	3300	--	--	--	--	**2.4 J**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	**2.26 J**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	**2.217 J**	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	**2.99 J**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	**2.174 J**	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	**15.67 J**	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	**3.13 J**	--
Dioxin Furans (ng/kg)										
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					**0.514 J**	**0.492 J**	**0.48 J**	**0.419 J**	**0.445 J**	**0.236 J**
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					**1.27 J**	**2.1 J**	**1.84 J**	**1.28 J**	**0.928 J**	**0.718 J**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**1.92 J**	**3.59**	**3.15**	**1.87 J**	**1.39 J**	**0.831 J**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA08-SS30	JW-EA08-SS31	JW-EA08-SS31	JW-EA08-SS32	JW-EA09-Composite	JW-EA09-SS33
Sample ID					JW-EA08-SS30-120507	JW-EA08-SS131-120507	JW-EA08-SS31-120507	JW-EA08-SS32-120507	JW-EA09-COMP-120507	JW-EA09-SS33-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302550.074	1302755.944	1302755.944	1302633.582	1302650.756	1302513.168
Y Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373090.315	373142.409	373142.409	373006.214	372572.4956	372902.008
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					10.1	42.8	32.4	12.5	4.89 J	5.51
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					4.97	15.1	12.4	5.61	3.03 J	2.68
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					124	467	370	135	70.6	61.4
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					903	3630	2990	977	511	468
Total Tetrachlorodibenzo-p-dioxin (TCDD)					41.2 J	29.3 J	29.2 J	51.7 J	51.9 J	17.9 J
Total Pentachlorodibenzo-p-dioxin (PeCDD)					31 J	28.8 J	29.3	40.2 J	38.9 J	13 J
Total Hexachlorodibenzo-p-dioxin (HxCDD)					94.4	294	241	123 J	63.9 J	50.2
Total Heptachlorodibenzo-p-dioxin (HpCDD)					273	894	721	298	175	143
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					3.07	2.59	2.48	2.97	2.78	1.29 J
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					1.07 J	1.57 J	1.63 J	1.08 J	0.789 J	0.405 J
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					1.87 J	3.49	3.23	1.95 J	1.39 J	0.865 J
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					1.67 J	5.14	4.59	1.86 J	1.27 J	0.779 J
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					1.35 J	3.54	3.23	1.49 J	0.848 J	0.497 J
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					0.129 U	0.157 U	0.161 U	0.411 J	0.395 U	0.112 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					1.7 J	5.38	4.75	2 J	1.23 J	0.881 J
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					23.2	101	82	25.7	15.3	10.9
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					1.31 J	4.69	4.09	1.38 J	1.01 U	0.638 J
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					51.2	143	128	52.4	47.4	22.6
Total Tetrachlorodibenzofuran (TCDF)					43.9 J	36.9 J	34.4 J	38.5 J	37.5 J	17.3 J
Total Pentachlorodibenzofuran (PeCDF)					23.2 J	43.9 J	42.5 J	24.5 J	17.8 J	10.6 J
Total Hexachlorodibenzofuran (HxCDF)					36.5	146	120	42.4 J	24.8 J	16.5 J
Total Heptachlorodibenzofuran (HpCDF)					68.9	298	251	80.6	48.3 J	31.8
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					8.47442 J	14.2694 J	12.7303 J	8.59134 J	6.70714 J	3.96689 J
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					4.98612 J	10.2419 J	8.9793 J	5.07744 J	3.68449 J	2.42139 J
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					6.63936 J	18.3746 J	15.1503 J	7.11712 J	4.43359 J	3.36021 J
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					8.46797 J	14.26155 J	12.72225 J	8.59134 J	6.68234 J	3.96129 J
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					4.97967 J	10.23405 J	8.97125 J	5.07744 J	3.65969 J	2.41579 J
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					6.63291 J	18.36675 J	15.14225 J	7.11712 J	4.40879 J	3.35461 J
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					8.46152 J	14.2537 J	12.7142 J	8.59134 J	6.65754 J	3.95569 J
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					4.97322 J	10.2262 J	8.9632 J	5.07744 J	3.63489 J	2.41019 J
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					6.62646 J	18.3589 J	15.1342 J	7.11712 J	4.38399 J	3.34901 J
PCB Aroclors (mg/kg-OC)										
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--
PCB Aroclors (µg/kg)										
Aroclor 1016					--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--
Aroclor 1262					--	--	--	--	--	--
Aroclor 1268					--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA08-SS30	JW-EA08-SS31	JW-EA08-SS31	JW-EA08-SS32	JW-EA09-Composite	JW-EA09-SS33
Sample ID					JW-EA08-SS30-120507	JW-EA08-SS131-120507	JW-EA08-SS31-120507	JW-EA08-SS32-120507	JW-EA09-COMP-120507	JW-EA09-SS33-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302550.074	1302755.944	1302755.944	1302633.582	1302650.756	1302513.168
Y					373090.315	373142.409	373142.409	373006.214	372572.4956	372902.008
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB Congeners (mg/kg-OC)										
Total PCB Congener (U = limit)					--	--	--	--	**2.375119722 J**	**0.5105322579 J**
Total PCB Congener (U = 1/2)					--	--	--	--	**2.374898111 J**	**0.5104294974 J**
Total PCB Congener (U = 0)	12	65			--	--	--	--	**2.3746765 J**	**0.5103267368 J**
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	**0.00031864905556 J**	**0.0001079703 J**
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	**3.149986111E-06 J**	**9.85981579E-07 J**
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	--	**3.5709E-05 J**	**1.314405789E-05 J**
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	**0.00031862447222 J**	**0.00010796198421 J**
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	**0.00031859988889 J**	**0.00010795366842 J**
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	**3.148756944E-06 J**	**9.8556579E-07 J**
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	**3.147527778E-06 J**	**9.8515E-07 J**
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	**3.49715E-05 J**	**1.289458421E-05 J**
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	**3.4234E-05 J**	**1.264511053E-05 J**
PCB Congeners (ng/kg)										
PCB-001					--	--	--	--	**38**	**61.2**
PCB-002					--	--	--	--	**23.6**	**24**
PCB-003					--	--	--	--	**43.9**	**64.3**
PCB-004					--	--	--	--	**36.2 J**	**17.5 J**
PCB-005					--	--	--	--	**2.2 J**	**1.3**
PCB-006					--	--	--	--	**20.1 J**	**14.6**
PCB-007					--	--	--	--	**3.81 J**	**3.64**
PCB-008					--	--	--	--	**112 J**	**70.2**
PCB-009					--	--	--	--	**5.4 J**	**4.85**
PCB-010					--	--	--	--	**1.88 J**	**1.31 J**
PCB-011					--	--	--	--	**398 J**	**140**
PCB-012/013					--	--	--	--	**19.5 J**	**12.7**
PCB-014					--	--	--	--	**1.19 J**	**0.725 J**
PCB-015					--	--	--	--	**112 J**	**73.2**
PCB-016					--	--	--	--	**104 J**	**33.6**
PCB-017					--	--	--	--	**108 J**	**37.2**
PCB-018/030					--	--	--	--	**248 J**	**73.6**
PCB-019					--	--	--	--	**16.4**	**4.41**
PCB-020/028					--	--	--	--	**595 J**	**246**
PCB-021/033					--	--	--	--	**221 J**	**88.9**
PCB-022					--	--	--	--	**176 J**	**67.4**
PCB-023					--	--	--	--	0.858 UJ	0.214 U
PCB-024					--	--	--	--	**2.13 J**	**0.86 J**
PCB-025					--	--	--	--	**32.4 J**	**15.8**
PCB-026/029					--	--	--	--	**69.5 J**	**29.8**
PCB-027					--	--	--	--	**19 J**	**6.16**
PCB-031					--	--	--	--	**474 J**	**181**
PCB-032					--	--	--	--	**86.2 J**	**27.8**
PCB-034					--	--	--	--	**2.8 J**	**0.954 J**
PCB-035					--	--	--	--	**18.5 J**	**7.17**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA08-SS30	JW-EA08-SS31	JW-EA08-SS31	JW-EA08-SS32	JW-EA09-Composite	JW-EA09-SS33
Sample ID					JW-EA08-SS30-120507	JW-EA08-SS131-120507	JW-EA08-SS31-120507	JW-EA08-SS32-120507	JW-EA09-COMP-120507	JW-EA09-SS33-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302550.074	1302755.944	1302755.944	1302633.582	1302650.756	1302513.168
Y					373090.315	373142.409	373142.409	373006.214	372572.4956	372902.008
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-036					--	--	--	--	**5.85 J**	**2.17**
PCB-037					--	--	--	--	**209 J**	**85.4**
PCB-038					--	--	--	--	0.958 UJ	0.23 U
PCB-039					--	--	--	--	**3.87 J**	**1.03**
PCB-040/071					--	--	--	--	**279 J**	**84.9**
PCB-041					--	--	--	--	**39.5 J**	**14.1**
PCB-042					--	--	--	--	**140 J**	**48.5**
PCB-043					--	--	--	--	**17.6 J**	**5.8**
PCB-044/047/065					--	--	--	--	**740 J**	**214**
PCB-045					--	--	--	--	**52.2 J**	**15.9**
PCB-046					--	--	--	--	**21.4 J**	**6.14**
PCB-048					--	--	--	--	**90.9 J**	**31.5**
PCB-049/069					--	--	--	--	**423 J**	**133**
PCB-050/053					--	--	--	--	**59.9 J**	**16.5**
PCB-051					--	--	--	--	**14.7 J**	**3.92**
PCB-052					--	--	--	--	**1400 J**	**341**
PCB-054					--	--	--	--	**0.651 J**	**0.182 J**
PCB-055					--	--	--	--	**15.8 J**	**3.82**
PCB-056					--	--	--	--	**462 J**	**120**
PCB-057					--	--	--	--	**2.67 J**	**0.932 J**
PCB-058					--	--	--	--	**3.67 J**	**0.942 J**
PCB-059/062/075					--	--	--	--	**38.3 J**	**14.8**
PCB-060					--	--	--	--	**232 J**	**59.6**
PCB-061/070/074/076					--	--	--	--	**2310 J**	**540**
PCB-063					--	--	--	--	**36.2 J**	**9.22**
PCB-064					--	--	--	--	**265 J**	**84.9**
PCB-066					--	--	--	--	**1070 J**	**306**
PCB-067					--	--	--	--	**22 J**	**8.35**
PCB-068					--	--	--	--	**6.11 J**	**2.16**
PCB-072					--	--	--	--	**12 J**	**3.68**
PCB-073					--	--	--	--	**1.89 J**	**0.553 J**
PCB-077					--	--	--	--	**95 J**	**34.1**
PCB-078					--	--	--	--	0.673 UJ	0.286 U
PCB-079					--	--	--	--	**19.4 J**	**3.49**
PCB-080					--	--	--	--	0.574 UJ	0.23 U
PCB-081					--	--	--	--	**3.23 J**	**1 J**
PCB-082					--	--	--	--	**344**	**50.9**
PCB-083					--	--	--	--	**148**	**26.9**
PCB-084					--	--	--	--	**688**	**103**
PCB-085/116					--	--	--	--	**455**	**72.6**
PCB-086/087/097/108/119/125					--	--	--	--	--	**310**
PCB-086/087/097/109/119/125					--	--	--	--	**1950**	--
PCB-088					--	--	--	--	**1.08**	0.19 U
PCB-089					--	--	--	--	**21.7**	**3.57**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA08-SS30	JW-EA08-SS31	JW-EA08-SS31	JW-EA08-SS32	JW-EA09-Composite	JW-EA09-SS33
Sample ID					JW-EA08-SS30-120507	JW-EA08-SS131-120507	JW-EA08-SS31-120507	JW-EA08-SS32-120507	JW-EA09-COMP-120507	JW-EA09-SS33-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302550.074	1302755.944	1302755.944	1302633.582	1302650.756	1302513.168
Y					373090.315	373142.409	373142.409	373006.214	372572.4956	372902.008
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-090/101/113					--	--	--	--	**2750**	**480**
PCB-091					--	--	--	--	**283**	**50**
PCB-092					--	--	--	--	**483**	**83.9**
PCB-093/100					--	--	--	--	**12**	**2.92**
PCB-094					--	--	--	--	**8.48**	**1.48**
PCB-095					--	--	--	--	**1920**	**279**
PCB-096					--	--	--	--	**11.3**	**2.04**
PCB-098					--	--	--	--	**1.84**	**0.598 J**
PCB-099					--	--	--	--	**1430**	**238**
PCB-102					--	--	--	--	**50.6**	**9.72**
PCB-103					--	--	--	--	**10.9**	**3.35**
PCB-104					--	--	--	--	0.197 U	0.0963 U
PCB-105					--	--	--	--	**1160**	**220**
PCB-106					--	--	--	--	0.238 U	0.151 U
PCB-107					--	--	--	--	**202**	--
PCB-107/124					--	--	--	--	--	**17.4**
PCB-108/124					--	--	--	--	**104**	--
PCB-109					--	--	--	--	--	**36.2**
PCB-110					--	--	--	--	**3500**	**602**
PCB-111					--	--	--	--	0.221 U	0.133 U
PCB-112					--	--	--	--	0.233 U	0.138 U
PCB-114					--	--	--	--	**55.3**	**10.6**
PCB-115					--	--	--	--	**39.7**	**7.51**
PCB-117					--	--	--	--	**50.6**	**14.6**
PCB-118					--	--	--	--	**2610**	**526**
PCB-120					--	--	--	--	**7.01**	**2.36**
PCB-121					--	--	--	--	0.222 U	0.131 U
PCB-122					--	--	--	--	**33.3**	**5.77**
PCB-123					--	--	--	--	**41.1**	**6.96**
PCB-126					--	--	--	--	**4.75 J**	**2.11**
PCB-127					--	--	--	--	0.241 U	0.156 U
PCB-128/166					--	--	--	--	**456 J**	**91.2**
PCB-129/138/163					--	--	--	--	**2730 J**	**528**
PCB-130					--	--	--	--	**184 J**	**33.5**
PCB-131					--	--	--	--	**36.6 J**	**5.63**
PCB-132					--	--	--	--	**840 J**	**141**
PCB-133					--	--	--	--	**31.2 J**	**8.32**
PCB-134					--	--	--	--	**142 J**	**24.8**
PCB-135/151					--	--	--	--	**561 J**	**121**
PCB-136					--	--	--	--	**252 J**	**45.1**
PCB-137					--	--	--	--	**136 J**	**22.4**
PCB-139/140					--	--	--	--	**45.6 J**	**8.99**
PCB-141					--	--	--	--	**351 J**	**65.8**
PCB-142					--	--	--	--	0.191 UJ	0.135 U

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA08-SS30	JW-EA08-SS31	JW-EA08-SS31	JW-EA08-SS32	JW-EA09-Composite	JW-EA09-SS33
Sample ID					JW-EA08-SS30-120507	JW-EA08-SS131-120507	JW-EA08-SS31-120507	JW-EA08-SS32-120507	JW-EA09-COMP-120507	JW-EA09-SS33-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302550.074	1302755.944	1302755.944	1302633.582	1302650.756	1302513.168
Y					373090.315	373142.409	373142.409	373006.214	372572.4956	372902.008
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-143					--	--	--	--	**7.65 J**	**1.34**
PCB-144					--	--	--	--	**87.6 J**	**16.8**
PCB-145					--	--	--	--	**0.986 J**	0.0891 U
PCB-146					--	--	--	--	**320 J**	**55.8**
PCB-147/149					--	--	--	--	**1570 J**	**309**
PCB-148					--	--	--	--	**1.99 J**	**0.94 J**
PCB-150					--	--	--	--	**1.81 J**	**0.559 J**
PCB-152					--	--	--	--	**1.92 J**	**0.334 J**
PCB-153/168					--	--	--	--	**1800 J**	**366**
PCB-154					--	--	--	--	**19.6 J**	**6.93**
PCB-155					--	--	--	--	0.124 U	0.0749 U
PCB-156/157					--	--	--	--	**376 J**	**65**
PCB-158					--	--	--	--	**282 J**	**48.2**
PCB-159					--	--	--	--	0.674 UJ	0.273 U
PCB-160					--	--	--	--	0.15 UJ	0.0983 U
PCB-161					--	--	--	--	0.141 UJ	0.0923 U
PCB-162					--	--	--	--	**7.96 J**	**1.99**
PCB-164					--	--	--	--	**164 J**	**29**
PCB-165					--	--	--	--	0.154 UJ	0.101 U
PCB-167					--	--	--	--	**103 J**	**19.5**
PCB-169					--	--	--	--	0.885 U	0.316 U
PCB-170					--	--	--	--	**205 J**	**82.7**
PCB-171/173					--	--	--	--	**109 J**	**25**
PCB-172					--	--	--	--	**27.7 J**	**15.7**
PCB-174					--	--	--	--	**301 J**	**71.4**
PCB-175					--	--	--	--	**12.1 J**	**3.33**
PCB-176					--	--	--	--	**26.1 J**	**8.52**
PCB-177					--	--	--	--	**193 J**	**51.2**
PCB-178					--	--	--	--	**51.2 J**	**19.8**
PCB-179					--	--	--	--	**95.2 J**	**36.1**
PCB-180/193					--	--	--	--	**392 J**	**181**
PCB-181					--	--	--	--	**5.48 J**	**0.894 J**
PCB-182					--	--	--	--	**1.9 J**	**0.716 J**
PCB-183					--	--	--	--	**170 J**	**42.4**
PCB-184					--	--	--	--	0.154 UJ	**0.176 J**
PCB-185					--	--	--	--	**19.4 J**	**7.69**
PCB-186					--	--	--	--	0.146 UJ	0.103 U
PCB-187					--	--	--	--	**357 J**	**116**
PCB-188					--	--	--	--	0.15 U	**0.293 J**
PCB-189					--	--	--	--	**12.7 J**	**3.51**
PCB-190					--	--	--	--	**48.4 J**	**13.6**
PCB-191					--	--	--	--	**11 J**	**3.54**
PCB-192					--	--	--	--	0.508 UJ	0.25 U
PCB-194					--	--	--	--	**115**	**50.2**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA08-SS30	JW-EA08-SS31	JW-EA08-SS31	JW-EA08-SS32	JW-EA09-Composite	JW-EA09-SS33
Sample ID					JW-EA08-SS30-120507	JW-EA08-SS131-120507	JW-EA08-SS31-120507	JW-EA08-SS32-120507	JW-EA09-COMP-120507	JW-EA09-SS33-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302550.074	1302755.944	1302755.944	1302633.582	1302650.756	1302513.168
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373090.315	373142.409	373142.409	373006.214	372572.4956	372902.008
Analyte										
PCB-195					--	--	--	--	40.4	15.7
PCB-196					--	--	--	--	68.4	23.7
PCB-197					--	--	--	--	3.44	5.22
PCB-198/199					--	--	--	--	179	68.5
PCB-200					--	--	--	--	15.9	0.209 U
PCB-201					--	--	--	--	17.6	8.05
PCB-202					--	--	--	--	35.7	17.5
PCB-203					--	--	--	--	112	44.6
PCB-204					--	--	--	--	0.286 U	0.208 U
PCB-205					--	--	--	--	4.43	1.7
PCB-206					--	--	--	--	79.9	43.1
PCB-207					--	--	--	--	10.3	5.58
PCB-208					--	--	--	--	25.2	13
PCB-209					--	--	--	--	28.6	21.4
Total PCB Congener (U = limit)					--	--	--	--	42752.155 J	9700.1129 J
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	5.735683 J	2.0514357 J
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	0.05669975 J	0.01873365 J
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					--	--	--	--	0.642762 J	0.2497371 J
Total PCB Congener (U = 1/2)					--	--	--	--	42748.166 J	9698.1605 J
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	42744.177 J	9696.208 J
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	5.7352405 J	2.0512777 J
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	5.734798 J	2.0511197 J
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	0.056677625 J	0.01872575 J
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	0.0566555 J	0.01871785 J
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	0.629487 J	0.2449971 J
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	0.616212 J	0.2402571 J
Total Petroleum Hydrocarbons (mg/kg)										
Diesel range hydrocarbons					--	--	--	--	--	--
Motor oil range hydrocarbons					--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					0.0002421262857 J	--	0.00057865 J	0.0003304361538 J	0.00069126794444 J	0.00031675398421 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					0.0001424605714 J	--	0.00040815 J	0.0001952861538 J	0.000207843875 J	0.000128427560526 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					0.000189696 J	--	0.00068865 J	0.0002737353846 J	0.00028201955556 J	0.00018999721579 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					0.000241942 J	--	0.0005782840909 J	0.0003304361538 J	0.00068986558333 J	0.00031645093158 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					0.0001422762857 J	--	0.0004077840909 J	0.0001952861538 J	0.000206464868056 J	0.000128132407895 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					0.0001895117143 J	--	0.0006882840909 J	0.0002737353846 J	0.00027990427778 J	0.00018945300526 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					0.0002417577143 J	--	0.0005779181818 J	0.0003304361538 J	0.00068846322222 J	0.00031614787895 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					0.000142092 J	--	0.0004074181818 J	0.0001952861538 J	0.000205085861111 J	0.000127837255263 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					0.0001893274286 J	--	0.0006879181818 J	0.0002737353846 J	0.000277789 J	0.00018890879474 J
Dioxin Furans and PCB Congeners (ng/kg)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					8.47442 J	14.2694 J	12.7303 J	8.59134 J	12.442823 J	6.0183257 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					4.98612 J	10.2419 J	8.9793 J	5.07744 J	3.74118975 J	2.44012365 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					6.63936 J	18.3746 J	15.1503 J	7.11712 J	5.076352 J	3.6099471 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					8.46797 J	14.26155 J	12.72225 J	8.59134 J	12.4175805 J	6.0125677 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					4.97967 J	10.23405 J	8.97125 J	5.07744 J	3.716367625 J	2.43451575 J

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA08-SS30	JW-EA08-SS31	JW-EA08-SS31	JW-EA08-SS32	JW-EA09-Composite	JW-EA09-SS33
Sample ID					JW-EA08-SS30-120507	JW-EA08-SS131-120507	JW-EA08-SS31-120507	JW-EA08-SS32-120507	JW-EA09-COMP-120507	JW-EA09-SS33-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	FD	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302550.074	1302755.944	1302755.944	1302633.582	1302650.756	1302513.168
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373090.315	373142.409	373142.409	373006.214	372572.4956	372902.008
Analyte										
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					6.63291 J	18.36675 J	15.14225 J	7.11712 J	5.038277 J	3.5996071 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					8.46152 J	14.2537 J	12.7142 J	8.59134 J	12.392338 J	6.0068097 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					4.97322 J	10.2262 J	8.9632 J	5.07744 J	3.6915455 J	2.42890785 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					6.62646 J	18.3589 J	15.1342 J	7.11712 J	5.000202 J	3.5892671 J

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA09-SS34	JW-EA09-SS35	JW-EA09-SS36	JW-EA09-SS37	JW-EA09-SS38	JW-EA10-Composite
Sample ID					JW-EA09-SS34-120507	JW-EA09-SS35-120507	JW-EA09-SS36-120507	JW-EA09-SS37-120507	JW-EA09-SS38-120507	JW-EA10-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302755.347	1302548.452	1302768.177	1302586.944	1302785.819	1302901.691
Y					372706.341	372634.168	372459.35	372343.875	372183.491	372488.6797
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
Conventional Parameters (pct)										
Total organic carbon					**1.8**	**2.1**	**2.5**	**0.86**	**2.7**	**2**
Moisture, percent					--	--	--	--	--	**40.4**
Total Solids					--	--	--	--	--	**63**
Total solids (preserved)					--	--	--	--	--	--
Total volatile solids					--	--	--	--	--	--
Conventional Parameters (mg/kg)										
Ammonia as nitrogen					--	--	--	--	--	--
Black carbon					--	--	--	--	--	**1400**
Sulfide					--	--	--	--	--	--
Grain Size (pct)										
Cobbles					--	--	--	--	--	0 U
Gravel					--	--	--	--	--	**3.5**
Sand					--	--	--	--	--	**34**
Sand, very coarse					--	--	--	--	--	--
Sand, coarse					--	--	--	--	--	--
Sand, medium					--	--	--	--	--	--
Sand, fine					--	--	--	--	--	--
Sand, very fine					--	--	--	--	--	--
Silt					--	--	--	--	--	**52**
Silt, coarse					--	--	--	--	--	--
Silt, medium					--	--	--	--	--	--
Silt, fine					--	--	--	--	--	--
Silt, very fine					--	--	--	--	--	--
Total fines (Reported, not calculated)					--	--	--	--	--	--
Clay					--	--	--	--	--	**11**
Clay, coarse					--	--	--	--	--	--
Clay, medium					--	--	--	--	--	--
Clay, fine					--	--	--	--	--	--
Metals (mg/kg)										
Antimony					--	--	--	--	--	--
Arsenic	57	93	57	93	--	--	--	--	--	--
Cadmium	5.1	6.7	5.1	6.7	--	--	--	--	--	--
Chromium	260	270	260	270	--	--	--	--	--	--
Copper	390	390	390	390	--	--	--	--	--	--
Lead	450	530	450	530	--	--	--	--	--	--
Mercury	0.41	0.59	0.41	0.59	--	--	--	--	--	--
Nickel					--	--	--	--	--	--
Silver	6.1	6.1	6.1	6.1	--	--	--	--	--	--
Zinc	410	960	410	960	--	--	--	--	--	--
Volatile Organics (mg/kg-OC)										
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
Volatile Organics (µg/kg)										
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA09-SS34	JW-EA09-SS35	JW-EA09-SS36	JW-EA09-SS37	JW-EA09-SS38	JW-EA10-Composite
Sample ID					JW-EA09-SS34-120507	JW-EA09-SS35-120507	JW-EA09-SS36-120507	JW-EA09-SS37-120507	JW-EA09-SS38-120507	JW-EA10-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302755.347	1302548.452	1302768.177	1302586.944	1302785.819	1302901.691
Y					372706.341	372634.168	372459.35	372343.875	372183.491	372488.6797
Analyte	**SMS_Marine_SCO_SCUMII**	**SMS_Marine_CSL_SCUMII**	**AET_Marine_SCO_SCUMII**	**AET_Marine_CSL_SCUMII**						
Semivolatile Organics (mg/kg-OC)										
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--
Semivolatile Organics (µg/kg)										
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--
1,3-Dichlorobenzene					--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)										
2-Methylnaphthalene	38	64			--	--	--	--	--	**0.02 J**
Acenaphthene	16	57			--	--	--	--	--	**0.09**
Acenaphthylene	66	66			--	--	--	--	--	**0.095**
Anthracene	220	1200			--	--	--	--	--	**0.37**
Benzo(a)anthracene	110	270			--	--	--	--	--	**0.55**
Benzo(a)pyrene	99	210			--	--	--	--	--	**0.55**
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	**0.305**
Chrysene	110	460			--	--	--	--	--	**1**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					**JW-EA09-SS34**	**JW-EA09-SS35**	**JW-EA09-SS36**	**JW-EA09-SS37**	**JW-EA09-SS38**	**JW-EA10-Composite**
Sample ID					**JW-EA09-SS34-120507**	**JW-EA09-SS35-120507**	**JW-EA09-SS36-120507**	**JW-EA09-SS37-120507**	**JW-EA09-SS38-120507**	**JW-EA10-COMP-120507**
Sample Date					**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302755.347**	**1302548.452**	**1302768.177**	**1302586.944**	**1302785.819**	**1302901.691**
Y					**372706.341**	**372634.168**	**372459.35**	**372343.875**	**372183.491**	**372488.6797**
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**						
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	**0.085**
Dibenzofuran	15	58			--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	**1.15**
Fluorene	23	79			--	--	--	--	--	**0.1**
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	**0.365**
Naphthalene	99	170			--	--	--	--	--	0.0385 U
Phenanthrene	100	480			--	--	--	--	--	**0.65**
Pyrene	1000	1400			--	--	--	--	--	**1.15**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	**0.77**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	**0.77**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	**0.77**
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	**1.1**
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	**6.255**
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	**1.305**
Polycyclic Aromatic Hydrocarbons (µg/kg)										
1-Methylnaphthalene					--	--	--	--	--	**0.38 J**
2-Methylnaphthalene			670	670	--	--	--	--	--	**0.4 J**
Acenaphthene			500	500	--	--	--	--	--	**1.8**
Acenaphthylene			1300	1300	--	--	--	--	--	**1.9**
Anthracene			960	960	--	--	--	--	--	**7.4**
Benzo(a)anthracene			1300	1600	--	--	--	--	--	**11**
Benzo(a)pyrene			1600	1600	--	--	--	--	--	**11**
Benzo(b)fluoranthene					--	--	--	--	--	**15**
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	**6.1**
Benzo(k)fluoranthene					--	--	--	--	--	**7**
Chrysene			1400	2800	--	--	--	--	--	**20**
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	**1.7**
Dibenzofuran			540	540	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	**23**
Fluorene			540	540	--	--	--	--	--	**2**
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	**7.3**
Naphthalene			2100	2100	--	--	--	--	--	0.77 U
Phenanthrene			1500	1500	--	--	--	--	--	**13**
Pyrene			2600	3300	--	--	--	--	--	**23**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	**15.4**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	**15.4**
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	**22**
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	**15.4**
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	**125.1**
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	**26.1**
Dioxin Furans (ng/kg)										
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					**0.448 J**	**0.376 J**	**0.745**	**0.223 J**	**1.8**	0.108 U
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					**1.2 J**	**0.776 J**	**1.56 J**	**0.421 J**	**3.13**	1.17 U
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**1.62 J**	**1.12 J**	**2.08 J**	**0.644 J**	**3.98**	1.59 U

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA09-SS34	JW-EA09-SS35	JW-EA09-SS36	JW-EA09-SS37	JW-EA09-SS38	JW-EA10-Composite
Sample ID					JW-EA09-SS34-120507	JW-EA09-SS35-120507	JW-EA09-SS36-120507	JW-EA09-SS37-120507	JW-EA09-SS38-120507	JW-EA10-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302755.347	1302548.452	1302768.177	1302586.944	1302785.819	1302901.691
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372706.341	372634.168	372459.35	372343.875	372183.491	372488.6797
Analyte										
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**10.1**	**6.83**	**8.16**	**2.61**	**12.8**	**7.78**
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					**4.76**	**3.3**	**4.52**	**1.41 J**	**7.78**	**3.99**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					**94.1**	**67.1**	**93.8**	**34.7**	**161**	**99.7**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					**619**	**467**	**656**	**265**	**1080**	**833**
Total Tetrachlorodibenzo-p-dioxin (TCDD)					**32.5 J**	**23.5 J**	**56.9 J**	**17.4 J**	**163**	**34.7 J**
Total Pentachlorodibenzo-p-dioxin (PeCDD)					**31.4 J**	**21.4 J**	**44.5 J**	**12.1 J**	**111**	**31.3 J**
Total Hexachlorodibenzo-p-dioxin (HxCDD)					**103**	**72.8**	**98.6**	**28.6 J**	**187 J**	**86.8 J**
Total Heptachlorodibenzo-p-dioxin (HpCDD)					**214**	**165**	**230**	**80.3**	**369**	**242**
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					**2.98**	**2.08**	**5.71**	**2.82 J**	**9.89**	**2.85 J**
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					**0.936 J**	**0.575 J**	**1.44 J**	**0.4 J**	**3.03**	1.05 U
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					**1.54 J**	**1.19 J**	**2.68**	**0.679 J**	**5.21**	1.94 U
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					**1.42 J**	**0.944 J**	**1.84 J**	**0.508 J**	**3.43**	1.94 U
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					**1 J**	**0.719 J**	**1.53 J**	**0.39 J**	**2.82 J**	1.6 U
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					0.0834 U	0.117 U	0.162 U	0.0492 U	0.139 U	0.633 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					**1.52 J**	**1.02 J**	**2.03 J**	**0.554 J**	**3.78**	2.22 U
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					**19.3**	**11.5**	**21.4**	**8.56**	**36.1**	**21.9**
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					**0.975 J**	**0.623 J**	**1.31 J**	**0.513 J**	**2.56**	1.69 U
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					**31.5**	**22.4**	**37.2**	**34.2**	**68.8**	**46.8**
Total Tetrachlorodibenzofuran (TCDF)					**39.6 J**	**26.7 J**	**78 J**	**19.4 J**	**140 J**	**45.9 J**
Total Pentachlorodibenzofuran (PeCDF)					**20.4 J**	**14.6 J**	**33.8 J**	**8.39 J**	**69.3 J**	**21.6 J**
Total Hexachlorodibenzofuran (HxCDF)					**30.4 J**	**19.8 J**	**38.9 J**	**11.4 J**	**67.7 J**	**38.6 J**
Total Heptachlorodibenzofuran (HpCDF)					**52.2**	**33.1 J**	**60.8 J**	**32.2 J**	**106**	**58**
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					**7.68384 J**	**5.45107 J**	**12.42302 J**	**4.68777 J**	**23.11738 J**	**7.79218 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					**4.33664 J**	**3.05832 J**	**6.11572 J**	**1.81217 J**	**12.05618 J**	**4.41858 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					**5.82532 J**	**4.0783 J**	**7.12846 J**	**2.28571 J**	**13.38704 J**	**5.64864 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					**7.67967 J**	**5.44522 J**	**12.41492 J**	**4.68531 J**	**23.11043 J**	**5.76283 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					**4.33247 J**	**3.05247 J**	**6.10762 J**	**1.80971 J**	**12.04923 J**	**2.54273 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					**5.82115 J**	**4.07245 J**	**7.12036 J**	**2.28325 J**	**13.38009 J**	**4.29529 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					**7.6755 J**	**5.43937 J**	**12.40682 J**	**4.68285 J**	**23.10348 J**	**3.73348 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					**4.3283 J**	**3.04662 J**	**6.09952 J**	**1.80725 J**	**12.04228 J**	**0.66688 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					**5.81698 J**	**4.0666 J**	**7.11226 J**	**2.28079 J**	**13.37314 J**	**2.94194 J**
PCB Aroclors (mg/kg-OC)										
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--
PCB Aroclors (µg/kg)										
Aroclor 1016					--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--
Aroclor 1262					--	--	--	--	--	--
Aroclor 1268					--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA09-SS34	JW-EA09-SS35	JW-EA09-SS36	JW-EA09-SS37	JW-EA09-SS38	JW-EA10-Composite
Sample ID					JW-EA09-SS34-120507	JW-EA09-SS35-120507	JW-EA09-SS36-120507	JW-EA09-SS37-120507	JW-EA09-SS38-120507	JW-EA10-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302755.347	1302548.452	1302768.177	1302586.944	1302785.819	1302901.691
Y Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372706.341	372634.168	372459.35	372343.875	372183.491	372488.6797
PCB Congeners (mg/kg-OC)										
Total PCB Congener (U = limit)					**1.6956488611 J**	**0.8505448762 J**	**2.99954756 J**	**1.2240007791 J**	**4.8531270519 J**	--
Total PCB Congener (U = 1/2)					**1.695558875 J**	**0.8504347 J**	**2.999412 J**	**1.2235898081 J**	**4.8525280444 J**	--
Total PCB Congener (U = 0)	12	65			**1.6954688889 J**	**0.8503245238 J**	**2.99927644 J**	**1.2231788372 J**	**4.851929037 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					**0.000254609**	**0.000144038**	**0.0004537356 J**	**0.000228033**	**0.00087555325926 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					**2.41224E-06**	**1.30032E-06**	**3.646188E-06 J**	**1.76856E-06**	**6.260135185E-06 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					**2.61507E-05**	**1.55036E-05**	**3.831664E-05 J**	**2.19811E-05**	**6.577537037E-05 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					**0.000254598**	**0.000144032**	**0.00045371912 J**	**0.000228024**	**0.00087553766667 J**	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					**0.000254586**	**0.000144027**	**0.00045370264 J**	**0.000228014**	**0.00087552207407 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					**2.41166E-06**	**1.30005E-06**	**3.645364E-06 J**	**1.76808E-06**	**6.259197222E-06 J**	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					**2.41108E-06**	**1.29977E-06**	**3.64454E-06 J**	**1.7676E-06**	**6.258259259E-06 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					**2.58049E-05**	**1.53365E-05**	**3.782224E-05 J**	**2.16933E-05**	**6.531709259E-05 J**	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					**2.54591E-05**	**1.51694E-05**	**3.732784E-05 J**	**2.14055E-05**	**6.485881481E-05 J**	--
PCB Congeners (ng/kg)										
PCB-001					**41.3**	**69.4**	**79.4**	**13.7**	**123**	--
PCB-002					**35.5**	**30.1**	**58.2**	**19.7**	**109**	--
PCB-003					**50.5**	**48.6**	**82.9**	**15.8**	**118**	--
PCB-004					**25.1 J**	**25.3 J**	**76.3 J**	**14.3 J**	**163 J**	--
PCB-005					**2.23**	**2.13**	**4.85**	**1.05**	**7.65**	--
PCB-006					**19.1**	**17.7**	**48.5**	**9.71**	**113**	--
PCB-007					**4.91**	**5.14**	**9.85**	2.02 U	**18.9**	--
PCB-008					**110**	**98.5**	**273**	**53.5**	**617**	--
PCB-009					**6.53**	**6.67**	**13.9**	**3.09**	**30.2**	--
PCB-010					**1.81 J**	**2.06**	**4.11 J**	**0.932 J**	**8.85**	--
PCB-011					**310**	**216**	**750**	**148**	**2640**	--
PCB-012/013					**21.2**	**18.1**	**42.2**	**9.65**	**83.1**	--
PCB-014					**1.46**	**0.853 J**	**2.81**	**0.951 J**	**5.28**	--
PCB-015					**112**	**98.6**	**232**	**41.2**	**421**	--
PCB-016					**66**	**58.9**	**249**	**47.4**	**452**	--
PCB-017					**70.6**	**63**	**242**	**48.1**	**434**	--
PCB-018/030					**137**	**119**	**542**	**103**	**1080**	--
PCB-019					**8.69**	**7.49**	**35.6**	**6.3**	**79.2**	--
PCB-020/028					**568**	**383**	**1520**	**287**	**3420**	--
PCB-021/033					**209**	**141**	**589**	**107**	**1270**	--
PCB-022					**155**	**102**	**444**	**82.4**	**961**	--
PCB-023					0.308 U	0.242 U	**0.825 J**	**0.215 J**	**1.73 J**	--
PCB-024					**1.79**	**1.39 J**	**4.22**	0.0685 U	0.102 U	--
PCB-025					**35.9**	**23.5**	**91.3**	**16**	**199**	--
PCB-026/029					**73.2**	**45.6**	**194**	**33.3**	**487**	--
PCB-027					**12.8**	**10.4**	**41.6**	**8.13**	**83.7**	--
PCB-031					**427**	**286**	**1230**	**227**	**2870**	--
PCB-032					**47**	**39.7**	**170**	**39.3**	**389**	--
PCB-034					**2.56**	**1.58**	**8.08**	**1.48**	**19.7**	--
PCB-035					**16.2**	**10.9**	**39.5**	**8.8**	**97.8**	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA09-SS34	JW-EA09-SS35	JW-EA09-SS36	JW-EA09-SS37	JW-EA09-SS38	JW-EA10-Composite
Sample ID					JW-EA09-SS34-120507	JW-EA09-SS35-120507	JW-EA09-SS36-120507	JW-EA09-SS37-120507	JW-EA09-SS38-120507	JW-EA10-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302755.347	1302548.452	1302768.177	1302586.944	1302785.819	1302901.691
Y					372706.341	372634.168	372459.35	372343.875	372183.491	372488.6797
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
PCB-036					**5.04**	**3.44**	**9.79**	**2.17**	**33.5**	--
PCB-037					**157**	**125**	**390**	**73.8**	**821**	--
PCB-038					**0.817 J**	**0.498 J**	0.667 U	**0.463 J**	**2.87 J**	--
PCB-039					**2.59**	**1.67**	**7.54**	**1.29**	**15.4**	--
PCB-040/071					**201**	**136**	**711**	**155**	**1760**	--
PCB-041					**23.7**	**19.1**	**118**	**20.5**	**252**	--
PCB-042					**103**	**76.4**	**384**	**78.9**	**836**	--
PCB-043					**13.3**	**9.54**	**50**	**9.79**	**113**	--
PCB-044/047/065					**558**	**331**	**1680**	**328**	**3710**	--
PCB-045					**35.2**	**24**	**157**	**32**	**412**	--
PCB-046					**13.9**	**9.57**	**60.3**	**11.9**	**146**	--
PCB-048					**66.8**	**48.9**	**253**	**51.4**	**575**	--
PCB-049/069					**344**	**211**	**1050**	**195**	**2130**	--
PCB-050/053					**41.9**	**27.1**	**162**	**33.5**	**398**	--
PCB-051					**9.68**	**7.28**	**33.9**	**7.54**	**70.7**	--
PCB-052					**1120**	**543**	**2960**	**469**	**5760 J**	--
PCB-054					**0.295 J**	**0.243 J**	**1.05 J**	**0.221 J**	**2.78**	--
PCB-055					**6.41**	**5.27**	**25.3**	0.202 U	1.42 U	--
PCB-056					**271**	**186**	**817**	**170**	**2060**	--
PCB-057					**0.8 J**	**1.43**	**6.17**	0.197 U	1.38 U	--
PCB-058					**1.5**	**1.38**	**7.33**	**1.67**	**17.9**	--
PCB-059/062/075					**29.9**	**22.9**	**109**	**22.1**	**236**	--
PCB-060					**134**	**93**	**438**	**87**	**1120**	--
PCB-061/070/074/076					**1380**	**853**	**3710**	**672**	**8490**	--
PCB-063					**18.2**	**14.6**	**68.7**	**13**	**159**	--
PCB-064					**177**	**134**	**600**	**125**	**1440**	--
PCB-066					**684**	**464**	**1930**	**391**	**4560 J**	--
PCB-067					**9.37**	**12.1**	**45.8**	**9.81**	**99.8**	--
PCB-068					**3.39**	**3.1**	**14.5**	**2.87**	**28.5**	--
PCB-072					**6.66**	**5.41**	**25.6**	**5.23**	**64.6**	--
PCB-073					**0.862 J**	**0.54 J**	**2.63**	0.0644 U	0.139 U	--
PCB-077					**77**	**50.2**	**194**	**33**	**407**	--
PCB-078					0.428 U	0.265 U	1.04 U	0.196 U	1.38 U	--
PCB-079					**12.9**	**6.43**	**27.4**	**2.96**	**36.1**	--
PCB-080					0.344 U	0.213 U	0.835 U	0.17 U	1.2 U	--
PCB-081					**2.42**	**1.82**	**6.55**	**1.23**	**14.5**	--
PCB-082					**204**	**99.3**	**462**	**53.5**	**846**	--
PCB-083					**92.8**	**53.5**	**237**	**27.6**	**394**	--
PCB-084					**430**	**200**	**999**	**121**	**1620**	--
PCB-085/116					**277**	**133**	**597**	**85.2**	2.22 U	--
PCB-086/087/097/108/119/125					**1270**	**600**	**2850**	**337**	**4640**	--
PCB-086/087/097/109/119/125					--	--	--	--	--	--
PCB-088					0.156 U	0.642 U	0.276 U	0.531 U	3.66 U	--
PCB-089					**11.1**	**5.99**	**26.9**	**6.31**	**76**	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA09-SS34	JW-EA09-SS35	JW-EA09-SS36	JW-EA09-SS37	JW-EA09-SS38	JW-EA10-Composite
Sample ID					JW-EA09-SS34-120507	JW-EA09-SS35-120507	JW-EA09-SS36-120507	JW-EA09-SS37-120507	JW-EA09-SS38-120507	JW-EA10-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302755.347	1302548.452	1302768.177	1302586.944	1302785.819	1302901.691
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372706.341	372634.168	372459.35	372343.875	372183.491	372488.6797
Analyte										
PCB-090/101/113					**1900**	**922**	**4650**	**593**	**6610**	--
PCB-091					**188**	**95.7**	**440**	**58.3**	**765**	--
PCB-092					**357**	**157**	**1010**	**109**	**1320**	--
PCB-093/100					**4.74**	**4.83**	**22.2**	**3.47**	**30.8**	--
PCB-094					**3.12**	**3.01**	**13.3**	**3.07**	**21.8**	--
PCB-095					**646**	**521**	**2720**	**445**	**3720**	--
PCB-096					**7.03**	**4.43**	**20.2**	**2.2**	**34.2**	--
PCB-098					**1.27**	**1.31**	**3.6**	0.431 U	2.97 U	--
PCB-099					**892**	**430**	**2110**	**254**	**3180**	--
PCB-102					**24.6**	**18.3**	**109**	**23.9**	**163**	--
PCB-103					**6.23**	**5.54**	**45.1**	**5.85**	**32.6**	--
PCB-104					0.0667 U	0.0665 U	0.123 U	0.048 U	**0.266 J**	--
PCB-105					**866**	**415**	**1670**	**175**	**2910**	--
PCB-106					0.124 U	0.51 U	0.219 U	0.315 U	2.17 U	--
PCB-107					--	--	--	--	--	--
PCB-107/124					**74.1**	**35.1**	**146**	**14.7**	**230**	--
PCB-108/124					--	--	--	--	--	--
PCB-109					**135**	**68.2**	**292**	**34.8**	**579**	--
PCB-110					**2370**	**1130**	**5130 J**	**543**	**7270 J**	--
PCB-111					**1.53**	**0.774 J**	0.193 U	**0.63 J**	1.99 U	--
PCB-112					0.113 U	0.465 U	0.2 U	0.307 U	2.12 U	--
PCB-114					**44.1**	**21.3**	**84.1**	**7.9**	**125**	--
PCB-115					**26.5**	**13.4**	**65.8**	0.319 U	2.2 U	--
PCB-117					**38**	**28.3**	**119**	0.392 U	**1540**	--
PCB-118					**2090**	**989**	**4000 J**	**398**	**6210 J**	--
PCB-120					**5.86**	**3.36**	**22.4**	**2.59**	**31.3**	--
PCB-121					0.108 U	0.443 U	0.19 U	0.299 U	2.06 U	--
PCB-122					**23.4**	**11.8**	**43.2**	**4.59**	**70.1**	--
PCB-123					**27.7**	**12.7**	**52.3**	**5.02**	1.9 U	--
PCB-126					**3.47**	**2.64**	**7.16**	**1.61**	**14**	--
PCB-127					0.133 U	0.568 U	0.235 U	0.302 U	2.09 U	--
PCB-128/166					**399**	**186**	**751**	**67.1**	**1070**	--
PCB-129/138/163					**2150**	**1170**	**4300**	**444**	**6330**	--
PCB-130					**146**	**73.9**	**301**	**28.3**	**429**	--
PCB-131					**28.8**	**13.9**	**57.4**	**4.14**	**72.8**	--
PCB-132					**624**	**333**	**1360**	**121**	**1780**	--
PCB-133					**26.6**	**15.7**	**74.9**	**7.14**	**85**	--
PCB-134					**114**	**56.6**	**259**	**23.9**	**342**	--
PCB-135/151					**446**	**272**	**1360**	**140**	**1630**	--
PCB-136					**191**	**114**	**533**	**51.8**	**630**	--
PCB-137					**131**	**52**	**184**	**13.9**	**244**	--
PCB-139/140					**40.8**	**19.4**	**80.4**	**5.92**	**93.2**	--
PCB-141					**278**	**177**	**645**	**64.9**	**830**	--
PCB-142					**0.51 J**	0.072 U	0.187 U	0.072 U	0.151 U	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA09-SS34	JW-EA09-SS35	JW-EA09-SS36	JW-EA09-SS37	JW-EA09-SS38	JW-EA10-Composite
Sample ID					JW-EA09-SS34-120507	JW-EA09-SS35-120507	JW-EA09-SS36-120507	JW-EA09-SS37-120507	JW-EA09-SS38-120507	JW-EA10-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302755.347	1302548.452	1302768.177	1302586.944	1302785.819	1302901.691
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372706.341	372634.168	372459.35	372343.875	372183.491	372488.6797
Analyte										
PCB-143					**6.12**	**2.95**	**13.7**	0.0658 U	0.138 U	--
PCB-144					**66.6**	**40.9**	**186**	**18.8**	**240**	--
PCB-145					**0.743 J**	0.0476 U	**1.45**	0.0502 U	**1.92**	--
PCB-146					**187**	**109**	**527**	**62.8**	**702**	--
PCB-147/149					**1180**	**708**	**3090**	**325**	**3970**	--
PCB-148					**2.09**	**1.3**	**8.18**	**0.711 J**	**4.4**	--
PCB-150					**1.89**	**1.38**	**3.54**	**0.484 J**	**4.37**	--
PCB-152					**1.59**	**0.835 J**	**3.03**	**0.278 J**	**3.69**	--
PCB-153/168					**1290**	**773**	**2930**	**357**	**4420**	--
PCB-154					**19.2**	**11.7**	**57.4**	**4.86**	**44.5**	--
PCB-155					0.0625 U	0.04 U	0.104 U	0.0439 U	0.0924 U	--
PCB-156/157					**304**	**144**	**538**	**44.3**	**710**	--
PCB-158					**222**	**114**	**428**	**41.1**	**626**	--
PCB-159					0.368 U	0.239 U	0.634 U	0.145 U	0.666 U	--
PCB-160					0.082 U	0.0525 U	0.136 U	0.0531 U	0.112 U	--
PCB-161					0.077 U	0.0493 U	0.128 U	0.0501 U	0.105 U	--
PCB-162					**7.91**	**3.91**	**15.1**	**1.13**	**37**	--
PCB-164					**111**	**68.2**	**264**	**28.5**	**409**	--
PCB-165					**0.501 J**	0.0541 U	**1.36**	0.0552 U	0.116 U	--
PCB-167					**85.6**	**43.1**	**160**	**13.7**	**208**	--
PCB-169					0.415 U	0.234 U	0.824 U	0.165 U	0.823 U	--
PCB-170					**224**	**205**	**586**	**102**	**1220**	--
PCB-171/173					**74.3**	**61.2**	**191**	**26**	**319**	--
PCB-172					**40.5**	**31.8**	**110**	**16.2**	**193**	--
PCB-174					**199**	**189**	**578**	**80.5**	**1020**	--
PCB-175					**8.97**	**8.14**	**28**	**3.59**	**43.3**	--
PCB-176					**23.8**	**21.3**	**66.1**	**9.84**	**123**	--
PCB-177					**133**	**122**	**342**	**53**	**609**	--
PCB-178					**44.3**	**40.9**	**116**	**20.3**	**222**	--
PCB-179					**84.6**	**80.3**	**251**	**35.9**	**457**	--
PCB-180/193					**466**	**401**	**1200**	**214**	**2500**	--
PCB-181					**3.63**	**2.17**	**7.3**	**0.591 J**	**9.13**	--
PCB-182					**2.08**	**1.49**	**4.82**	0.0901 U	**5.09**	--
PCB-183					**118**	**99.9**	**310**	**53.4**	**616**	--
PCB-184					**0.293 J**	**0.232 J**	**0.573 J**	0.0587 U	**0.821 J**	--
PCB-185					**13.2**	**19.2**	**38.7**	0.0953 U	0.511 U	--
PCB-186					0.0893 U	0.0741 U	0.128 U	0.0564 U	**0.247 J**	--
PCB-187					**257**	**235**	**658**	**109**	**1210**	--
PCB-188					**0.429 J**	**0.4 J**	**0.753 J**	**0.156 J**	**1.19**	--
PCB-189					**10.5**	**7.92**	**23.3**	**3.36**	**41.6**	--
PCB-190					**43.6**	**38.7**	**89.7**	**15.7**	**198**	--
PCB-191					**9.85**	**8.45**	**25.8**	**3.94**	**46.5**	--
PCB-192					0.226 U	0.254 U	0.401 U	0.096 U	0.509 U	--
PCB-194					**102**	**79.1**	**237**	**46**	**548**	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA09-SS34	JW-EA09-SS35	JW-EA09-SS36	JW-EA09-SS37	JW-EA09-SS38	JW-EA10-Composite
Sample ID					JW-EA09-SS34-120507	JW-EA09-SS35-120507	JW-EA09-SS36-120507	JW-EA09-SS37-120507	JW-EA09-SS38-120507	JW-EA10-COMP-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302755.347	1302548.452	1302768.177	1302586.944	1302785.819	1302901.691
Y					372706.341	372634.168	372459.35	372343.875	372183.491	372488.6797
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
PCB-195					33.1	29	82.6	16.2	215	--
PCB-196					47.7	41.9	112	21.6	254	--
PCB-197					2.66 J	2.91	5.88	0.896 J	15.2	--
PCB-198/199					134	103	259	46.4	616	--
PCB-200					8.57	6.19	20.7	4.19	51	--
PCB-201					14.9	11.2	30.3	5.51	71.5	--
PCB-202					31.9	20.9	55.6	10.5	137	--
PCB-203					85.2	60.9	160	30.5	368	--
PCB-204					0.139 U	0.0963 U	0.258 U	0.11 U	0.122 U	--
PCB-205					3.7	3.43	8.86	1.77	20.7	--
PCB-206					70.2	35.1	79.5 J	19.5	196 J	--
PCB-207					9.44	4.99	13.6	2.84	36.5	--
PCB-208					21.6	11	29.9	6.3	76.6	--
PCB-209					29.9	19.3	45.5	18.3	138	--
Total PCB Congener (U = limit)					30521.6795 J	17861.4424 J	74988.689 J	10526.4067 J	131034.4304 J	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					4.582963	3.0247912	11.34339 J	1.9610858	23.639938 J	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					0.04342025	0.0273068	0.0911547 J	0.01520965	0.16902365 J	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					0.470713	0.3255766	0.957916 J	0.1890374	1.775935 J	--
Total PCB Congener (U = 1/2)					30520.0597 J	17859.1287 J	74985.3 J	10522.8723 J	131018.2572 J	--
Total PCB Congener (U = 0)			130000	1000000	30518.44 J	17856.815 J	74981.911 J	10519.338 J	131002.084 J	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					4.5827555	3.0246742	11.342978 J	1.9610033	23.639517 J	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					4.582548	3.0245572	11.342566 J	1.9609208	23.639096 J	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					0.043409875	0.02730095	0.0911341 J	0.015205525	0.168998325 J	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					0.0433995	0.0272951	0.0911135 J	0.0152014	0.168973 J	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					0.464488	0.3220666	0.945556 J	0.1865624	1.7635615 J	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					0.458263	0.3185566	0.933196 J	0.1840874	1.751188 J	--
Total Petroleum Hydrocarbons (mg/kg)										
Diesel range hydrocarbons					--	--	--	--	--	--
Motor oil range hydrocarbons					--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					0.000681489055556 J	0.0004036124381 J	0.0009506564 J	0.000773122767442 J	0.00173175251852 J	0.000389609 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					0.0002433366805556 J	0.000146934609524 J	0.000248274988 J	0.000212486005814 J	0.00045278532037 J	0.000220929 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					0.000349779611111 J	0.00020970840952 J	0.00032345504 J	0.000287761325581 J	0.00056159166667 J	0.000282432 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					0.000681245861111 J	0.00040332829524 J	0.00095031592 J	0.000772827127907 J	0.00173147951852 J	0.0002881415 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					0.0002431044375 J	0.000146655759524 J	0.000247950164 J	0.0002121994796512 J	0.000452526975 J	0.0001271365 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					0.000349202111111 J	0.00020926269524 J	0.00032263664 J	0.000287187488372 J	0.00056087598148 J	0.0002147645 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					0.000681002666667 J	0.00040304415238 J	0.00094997544 J	0.000772531488372 J	0.00173120651852 J	0.000186674 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					0.0002428721944444 J	0.000146376909524 J	0.00024762534 J	0.0002119129534884 J	0.00045226862963 J	3.3344E-05 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					0.000348624611111 J	0.00020881698095 J	0.00032181824 J	0.000286613651163 J	0.0005601602963 J	0.000147097 J
Dioxin Furans and PCB Congeners (ng/kg)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					12.266803 J	8.4758612 J	23.76641 J	6.6488558 J	46.757318 J	7.79218 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					4.38006025 J	3.0856268 J	6.2068747 J	1.82737965 J	12.22520365 J	4.41858 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					6.296033 J	4.4038766 J	8.086376 J	2.4747474 J	15.162975 J	5.64864 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					12.2624255 J	8.4698942 J	23.757898 J	6.6463133 J	46.749947 J	5.76283 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					4.375879875 J	3.07977095 J	6.1987541 J	1.824915525 J	12.218228325 J	2.54273 J

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					**JW-EA09-SS34**	**JW-EA09-SS35**	**JW-EA09-SS36**	**JW-EA09-SS37**	**JW-EA09-SS38**	**JW-EA10-Composite**
Sample ID					**JW-EA09-SS34-120507**	**JW-EA09-SS35-120507**	**JW-EA09-SS36-120507**	**JW-EA09-SS37-120507**	**JW-EA09-SS38-120507**	**JW-EA10-COMP-120507**
Sample Date					**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302755.347**	**1302548.452**	**1302768.177**	**1302586.944**	**1302785.819**	**1302901.691**
Y	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**	**372706.341**	**372634.168**	**372459.35**	**372343.875**	**372183.491**	**372488.6797**
Analyte										
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**6.285638 J**	**4.3945166 J**	**8.065916 J**	**2.4698124 J**	**15.1436515 J**	**4.29529 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**12.258048 J**	**8.4639272 J**	**23.749386 J**	**6.6437708 J**	**46.742576 J**	**3.73348 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**4.3716995 J**	**3.0739151 J**	**6.1906335 J**	**1.8224514 J**	**12.211253 J**	**0.66688 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**6.275243 J**	**4.3851566 J**	**8.045456 J**	**2.4648774 J**	**15.124328 J**	**2.94194 J**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA10-SS39	JW-EA10-SS40	JW-EA10-SS40	JW-EA10-SS41	JW-EA10-SS42	JW-EA10-SS43
Sample ID					JW-EA10-SS39-120507	JW-EA10-SS40-120507	JW-EA10-SS90-120507	JW-EA10-SS41-120507	JW-EA10-SS42-120507	JW-EA10-SS43-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302890.069	1302883.653	1302883.653	1302875.634	1302941.391	1302947.806
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372406.424	372505.862	372505.862	372598.884	372541.146	372459.35
Analyte										
Conventional Parameters (pct)										
Total organic carbon					**2.4**	**2.5**	--	**2.8**	**1.6**	**2.3**
Moisture, percent					**39.1**	**42.3**	**41.4**	**35.9**	**40.1**	**42.3**
Total Solids					**62**	**60**	--	**70**	**63**	**61**
Total solids (preserved)					--	--	--	--	--	--
Total volatile solids					--	--	--	--	--	--
Conventional Parameters (mg/kg)										
Ammonia as nitrogen					--	--	--	--	--	--
Black carbon					**1500**	**1500**	--	**1600**	**1300**	**1500**
Sulfide					--	--	--	--	--	--
Grain Size (pct)										
Cobbles					0 U	0 U	--	0 U	0 U	0 U
Gravel					**16**	**1.1**	--	**14**	**0.2**	**1.6**
Sand					**52**	**31**	--	**40**	**2.5**	**33**
Sand, very coarse					--	--	--	--	--	--
Sand, coarse					--	--	--	--	--	--
Sand, medium					--	--	--	--	--	--
Sand, fine					--	--	--	--	--	--
Sand, very fine					--	--	--	--	--	--
Silt					**26**	**56**	--	**37**	**85**	**11**
Silt, coarse					--	--	--	--	--	--
Silt, medium					--	--	--	--	--	--
Silt, fine					--	--	--	--	--	--
Silt, very fine					--	--	--	--	--	--
Total fines (Reported, not calculated)					--	--	--	--	--	--
Clay					**6.5**	**13**	--	**9.7**	**12**	**11**
Clay, coarse					--	--	--	--	--	--
Clay, medium					--	--	--	--	--	--
Clay, fine					--	--	--	--	--	--
Metals (mg/kg)										
Antimony					--	--	--	--	--	--
Arsenic	57	93	57	93	--	--	--	--	--	--
Cadmium	5.1	6.7	5.1	6.7	--	--	--	--	--	--
Chromium	260	270	260	270	--	--	--	--	--	--
Copper	390	390	390	390	--	--	--	--	--	--
Lead	450	530	450	530	--	--	--	--	--	--
Mercury	0.41	0.59	0.41	0.59	--	--	--	--	--	--
Nickel					--	--	--	--	--	--
Silver	6.1	6.1	6.1	6.1	--	--	--	--	--	--
Zinc	410	960	410	960	--	--	--	--	--	--
Volatile Organics (mg/kg-OC)										
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
Volatile Organics (µg/kg)										
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA10-SS39	JW-EA10-SS40	JW-EA10-SS40	JW-EA10-SS41	JW-EA10-SS42	JW-EA10-SS43
Sample ID					JW-EA10-SS39-120507	JW-EA10-SS40-120507	JW-EA10-SS90-120507	JW-EA10-SS41-120507	JW-EA10-SS42-120507	JW-EA10-SS43-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302890.069	1302883.653	1302883.653	1302875.634	1302941.391	1302947.806
Y					372406.424	372505.862	372505.862	372598.884	372541.146	372459.35
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
Semivolatile Organics (mg/kg-OC)										
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--
Semivolatile Organics (µg/kg)										
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--
1,3-Dichlorobenzene					--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)										
2-Methylnaphthalene	38	64			--	--	--	--	--	--
Acenaphthene	16	57			--	--	--	--	--	--
Acenaphthylene	66	66			--	--	--	--	--	--
Anthracene	220	1200			--	--	--	--	--	--
Benzo(a)anthracene	110	270			--	--	--	--	--	--
Benzo(a)pyrene	99	210			--	--	--	--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	--
Chrysene	110	460			--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA10-SS39	JW-EA10-SS40	JW-EA10-SS40	JW-EA10-SS41	JW-EA10-SS42	JW-EA10-SS43
Sample ID					JW-EA10-SS39-120507	JW-EA10-SS40-120507	JW-EA10-SS90-120507	JW-EA10-SS41-120507	JW-EA10-SS42-120507	JW-EA10-SS43-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302890.069	1302883.653	1302883.653	1302875.634	1302941.391	1302947.806
Y					372406.424	372505.862	372505.862	372598.884	372541.146	372459.35
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	--
Dibenzofuran	15	58			--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	--
Fluorene	23	79			--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	--
Naphthalene	99	170			--	--	--	--	--	--
Phenanthrene	100	480			--	--	--	--	--	--
Pyrene	1000	1400			--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)										
1-Methylnaphthalene					--	--	--	--	--	--
2-Methylnaphthalene			670	670	--	--	--	--	--	--
Acenaphthene			500	500	--	--	--	--	--	--
Acenaphthylene			1300	1300	--	--	--	--	--	--
Anthracene			960	960	--	--	--	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--	--	--	--
Benzo(b)fluoranthene					--	--	--	--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	--
Benzo(k)fluoranthene					--	--	--	--	--	--
Chrysene			1400	2800	--	--	--	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	--
Dibenzofuran			540	540	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	--
Fluorene			540	540	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	--
Naphthalene			2100	2100	--	--	--	--	--	--
Phenanthrene			1500	1500	--	--	--	--	--	--
Pyrene			2600	3300	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	--
Dioxin Furans (ng/kg)										
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					**0.648 J**	**0.879**	--	**0.785**	**0.531**	**0.628**
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					**1.52 J**	**1.9 J**	--	**1.48 J**	**1.16 J**	**1.15 J**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**2.32 J**	**2.81**	--	**2.21 J**	**1.85 J**	**1.92 J**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA10-SS39	JW-EA10-SS40	JW-EA10-SS40	JW-EA10-SS41	JW-EA10-SS42	JW-EA10-SS43
Sample ID					JW-EA10-SS39-120507	JW-EA10-SS40-120507	JW-EA10-SS90-120507	JW-EA10-SS41-120507	JW-EA10-SS42-120507	JW-EA10-SS43-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302890.069	1302883.653	1302883.653	1302875.634	1302941.391	1302947.806
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372406.424	372505.862	372505.862	372598.884	372541.146	372459.35
Analyte										
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**8.16**	**9.92**	--	**9.33**	**6.87**	**7.5**
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					**4.04 J**	**5.18**	--	**5.2**	**4.01**	**4.18**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					**85.7**	**112**	--	**117**	**89.4**	**86.8**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					**622**	**781**	--	**1020**	**848**	**697**
Total Tetrachlorodibenzo-p-dioxin (TCDD)					**211 J**	**81.1 J**	--	**54 J**	**45.3 J**	**45.2 J**
Total Pentachlorodibenzo-p-dioxin (PeCDD)					**106**	**59.5 J**	--	**46.7**	**36.1**	**32.4 J**
Total Hexachlorodibenzo-p-dioxin (HxCDD)					**115 J**	**132**	--	**120**	**83.6 J**	**93.2**
Total Heptachlorodibenzo-p-dioxin (HpCDD)					**222**	**267**	--	**266**	**206**	**209**
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					**4.01**	**5.23 J**	--	**4.04**	**2.94**	**4.05 J**
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					**1.28 J**	**1.63 J**	--	**1.9 J**	**0.949 J**	**1.22 J**
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					**2.28 J**	**2.79**	--	**2.68**	**1.87 J**	**2.04 J**
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					**1.92 J**	**2.47**	--	**2.45 J**	**1.81 J**	**1.95 J**
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					**1.42 J**	**1.74 J**	--	**1.58 J**	**1.41 J**	**1.39 J**
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					0.115 U	0.163 U	--	0.112 U	0.16 U	0.0973 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					**1.82 J**	**2.43 J**	--	**2.3 J**	**1.57 J**	**1.67 J**
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					**17.8**	**22.3**	--	**20.9**	**17.3**	**18.4**
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					**1.18 J**	**1.22 J**	--	**1.38 J**	**1 J**	**1.1 J**
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					**27.3**	**36.4**	--	**36.3**	**34.8**	**33.6**
Total Tetrachlorodibenzofuran (TCDF)					**56.9 J**	**74.5 J**	--	**58.1 J**	**41.9 J**	**47.5 J**
Total Pentachlorodibenzofuran (PeCDF)					**29 J**	**34.4 J**	--	**34 J**	**22.6 J**	**25 J**
Total Hexachlorodibenzofuran (HxCDF)					**31.5 J**	**43.8 J**	--	**43.8 J**	**30.4**	**31.1 J**
Total Heptachlorodibenzofuran (HpCDF)					**51.9**	**61.7**	--	**61**	**52.5**	**54.5 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					**10.05553 J**	**12.82894 J**	--	**10.98843 J**	**8.01378 J**	**9.44459 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					**5.72243 J**	**7.18224 J**	--	**6.24193 J**	**4.70993 J**	**5.00389 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					**6.51249 J**	**8.25962 J**	--	**7.55789 J**	**5.68431 J**	**5.98451 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					**10.04978 J**	**12.82079 J**	--	**10.98283 J**	**8.00578 J**	**9.439725 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					**5.71668 J**	**7.17409 J**	--	**6.23633 J**	**4.70193 J**	**4.999025 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					**6.50674 J**	**8.25147 J**	--	**7.55229 J**	**5.67631 J**	**5.979645 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					**10.04403 J**	**12.81264 J**	--	**10.97723 J**	**7.99778 J**	**9.43486 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					**5.71093 J**	**7.16594 J**	--	**6.23073 J**	**4.69393 J**	**4.99416 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					**6.50099 J**	**8.24332 J**	--	**7.54669 J**	**5.66831 J**	**5.97478 J**
PCB Aroclors (mg/kg-OC)										
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--
PCB Aroclors (µg/kg)										
Aroclor 1016					--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--
Aroclor 1262					--	--	--	--	--	--
Aroclor 1268					--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA10-SS39	JW-EA10-SS40	JW-EA10-SS40	JW-EA10-SS41	JW-EA10-SS42	JW-EA10-SS43
Sample ID					JW-EA10-SS39-120507	JW-EA10-SS40-120507	JW-EA10-SS90-120507	JW-EA10-SS41-120507	JW-EA10-SS42-120507	JW-EA10-SS43-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302890.069	1302883.653	1302883.653	1302875.634	1302941.391	1302947.806
Y					372406.424	372505.862	372505.862	372598.884	372541.146	372459.35
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB Congeners (mg/kg-OC)										
Total PCB Congener (U = limit)					**5.886485875 J**	**2.32900048 J**	--	**1.817622214 J**	**5.377820938 J**	**2.889752087 J**
Total PCB Congener (U = 1/2)					**5.885098583 J**	**2.32765478 J**	--	**1.817075911 J**	**5.37680625 J**	**2.889067957 J**
Total PCB Congener (U = 0)	12	65			**5.883711292 J**	**2.32630908 J**	--	**1.816529607 J**	**5.375791563 J**	**2.888383826 J**
Total PCB Congener TEQ 1998 (Avian) (U = limit)					**0.000238008 J**	**0.000150512**	--	**0.0001323681786 J**	**0.000245329**	**0.00018999**
Total PCB Congener TEQ 1998 (Fish) (U = limit)					**5.834375E-06 J**	**2.31422E-06**	--	**2.26823214E-06 J**	**5.70134E-06**	**3.28674E-06**
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					**6.1042125E-05 J**	**2.54211E-05**	--	**2.69201786E-05 J**	**5.90794E-05**	**4.17969E-05**
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					**0.0002276625833 J**	**0.000144876**	--	**0.0001323485357 J**	**0.0002453**	**0.000185534**
Total PCB Congener TEQ 1998 (Avian) (U = 0)					**0.0002173171667 J**	**0.000139239**	--	**0.0001323288929 J**	**0.000245271**	**0.000181077**
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					**5.78116667E-06 J**	**2.2844E-06**	--	**2.26725E-06 J**	**5.69989E-06**	**3.26446E-06**
Total PCB Congener TEQ 1998 (Fish) (U = 0)					**5.72795833E-06 J**	**2.25458E-06**	--	**2.26626786E-06 J**	**5.69844E-06**	**3.24217E-06**
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					**6.00236875E-05 J**	**2.43123E-05**	--	**2.63308929E-05 J**	**5.82734E-05**	**4.17835E-05**
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					**5.900525E-05 J**	**2.32035E-05**	--	**2.57416071E-05 J**	**5.74674E-05**	**4.17702E-05**
PCB Congeners (ng/kg)										
PCB-001					**21.1 J**	**23.6 J**	**30.8 J**	**35.5 J**	**16.4 J**	**21.9 J**
PCB-002					**10.6**	**11.3**	**14.6**	**11.3**	**9.65**	**12**
PCB-003					**21.7 J**	**23.8 J**	**34 J**	**28 J**	**17.3 J**	**25.7 J**
PCB-004					**17.8**	**26.3**	**32.5**	**22.2**	**13.4**	**19.5**
PCB-005					2.55 U	3.97 U	**1.74**	**1.29 J**	1.32 U	1.46 U
PCB-006					**10.8**	**13.2 J**	**15.8**	**10.2**	**7.94**	**11.3**
PCB-007					**2.07**	3.75 U	**3.2**	**2.35**	**1.42 J**	**2.26 J**
PCB-008					**50.2**	**63.5**	**85.5**	**49**	**37.2**	**50.8**
PCB-009					**3.05**	**3.79 J**	**4.32**	**3.23**	**1.69 J**	**3.24**
PCB-010					2.36 U	4.73 U	**1.68**	**1.34 J**	1.34 U	1.72 U
PCB-011					**169**	**169**	**243**	**109**	**140**	**168**
PCB-012/013					**8.89**	3.84 U	**13.3**	**8.13**	**5.31**	**9.12**
PCB-014					2.13 U	3.32 U	0.608 U	1.03 U	1.1 U	1.22 U
PCB-015					**52.2**	**63.2**	**100**	**50.8**	**43.1**	**58.4**
PCB-016					**59.9**	**70.5**	**93.1**	**47.3**	**31.7**	**43.9**
PCB-017					**60.7**	**71.3**	**95.1**	**43.5**	**35.1**	**50.1**
PCB-018/030					**144**	**156**	**207**	**96.4**	**73.8**	**107**
PCB-019					**10.7**	**12.8**	**15.5**	**8.1**	**6.38**	**9.46**
PCB-020/028					**334**	**344**	**557**	**241**	**195**	**270**
PCB-021/033					**137**	**126**	**209**	**92.1**	**73.4**	**101**
PCB-022					**101**	**104**	**167**	**72.7**	**57.2**	**77.2**
PCB-023					1.05 U	1.77 U	**0.408 J**	0.669 U	0.569 U	0.626 U
PCB-024					1.11 U	**2.01**	**1.87 J**	**1.14 J**	**1.01 J**	**1.41 J**
PCB-025					**22.1**	**20.2**	**34.5**	**20.8**	**15**	**20.3**
PCB-026/029					**50.5**	**42.4**	**74.3**	**36.1**	**31.6**	**45**
PCB-027					**11.6**	**13.5**	**17.7**	**7.91**	**7.71**	**10.9**
PCB-031					**315**	**272**	**453**	**196**	**159**	**223**
PCB-032					**61.2**	**76.4**	**68.3**	**38.6**	**34.4**	**47.8**
PCB-034					**1.49 J**	**1.58 J**	**3.4**	**1.27 J**	**0.991 J**	**1.51 J**
PCB-035					**8.73**	**9.89**	**14.9**	**7.76**	**6.73**	0.663 U

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA10-SS39	JW-EA10-SS40	JW-EA10-SS40	JW-EA10-SS41	JW-EA10-SS42	JW-EA10-SS43
Sample ID					JW-EA10-SS39-120507	JW-EA10-SS40-120507	JW-EA10-SS90-120507	JW-EA10-SS41-120507	JW-EA10-SS42-120507	JW-EA10-SS43-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302890.069	1302883.653	1302883.653	1302875.634	1302941.391	1302947.806
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372406.424	372505.862	372505.862	372598.884	372541.146	372459.35
Analyte										
PCB-036					1.01 U	**2.25 J**	**4.18**	**1.71**	**1.93**	**2.47**
PCB-037					**115**	**126**	**188**	**91.6**	**85.4**	**109**
PCB-038					1.09 U	1.86 U	**0.831 J**	0.7 U	0.595 U	0.655 U
PCB-039					**3.41**	**2.99**	**3.97**	0.626 U	0.532 U	**2.28**
PCB-040/071					**440**	**304**	**431**	**238**	**233**	**298**
PCB-041					**34.9**	**31.8**	**49.1**	**23.4**	**19.4**	**23.4**
PCB-042					**188**	**132**	**198**	**112**	**104**	**124**
PCB-043					**20.6**	**14.2**	0.599 U	**10.8**	**10.7**	**11.5**
PCB-044/047/065					**1770**	**805**	**961**	**717**	**938**	**1030**
PCB-045					**50.5**	**40.9**	**68**	**34.5**	**23.5**	**32.6**
PCB-046					**20.8**	**16.9**	**27.6**	**15.1**	**10.7**	**14.2**
PCB-048					**111**	**77.6**	**121**	**57.1**	**57.3**	**65.6**
PCB-049/069					**956**	**458**	**582**	**425**	**523**	**578**
PCB-050/053					**88.9**	**52.2**	**77.8**	**43.9**	**45.4**	**59.2**
PCB-051					**12.9**	**11.1**	**17.5**	**8.15**	**7.75**	**10.2**
PCB-052					**4580**	**1710**	**1850**	**1600**	**2450**	**2580**
PCB-054					0.769 U	1.23 U	**0.578 J**	0.46 U	0.35 U	**0.528 J**
PCB-055					4.72 U	**7**	**9.37**	1.93 U	3.06 U	1.96 U
PCB-056					**522**	**314**	**372**	**246**	**328**	**317**
PCB-057					4.74 U	2.68 U	1.41 U	1.94 U	3.07 U	1.97 U
PCB-058					**118**	2.61 U	**30.2**	**34.6**	**73.5**	**47.6**
PCB-059/062/075					**44.3**	**35.7**	**54.7**	**29.2**	**24.9**	**31.3**
PCB-060					**228**	**149**	**180**	**102**	**137**	**132**
PCB-061/070/074/076					**4690**	**1920**	**1530**	**1800**	**2910**	**2550**
PCB-063					4.38 U	**26.6**	1.3 U	1.79 U	**29.9**	1.82 U
PCB-064					**554**	**289**	**333**	**231**	**313**	**329**
PCB-066					**1350**	**752**	**1440**	**788**	**883**	**861**
PCB-067					4.43 U	**15.7**	**2.91**	**1.79 J**	2.87 U	1.84 U
PCB-068					**4.01**	**6.19**	**6.79**	**7.08**	**2.39**	**3.91**
PCB-072					**9.88**	**8.37**	**13.2**	**9.47**	**5.26**	**8.64**
PCB-073					1.07 U	**0.677 J**	0.415 U	0.679 U	0.382 U	0.531 U
PCB-077					**71.8**	**56.6**	**83.7**	**54.8**	**52.4**	**64.8**
PCB-078					5.16 U	2.92 U	1.54 U	2.11 U	3.34 U	2.14 U
PCB-079					**85.2**	**37.3**	**20.4**	**22.7**	**52.6**	**35.6**
PCB-080					4.24 U	2.4 U	1.26 U	1.74 U	2.75 U	1.76 U
PCB-081					4.95 U	2.8 U	**2.51**	**1.84 J**	**2.73**	2.05 U
PCB-082					**1260**	**466**	**289**	**447**	**783**	**550**
PCB-083					**571**	**218**	**132**	**185**	**356**	**246**
PCB-084					**2700**	**928**	**578**	**982**	**1600**	**1200**
PCB-085/116					**1920**	**709**	**379**	**667**	**1060**	**860**
PCB-086/087/097/108/119/125					--	--	--	--	--	--
PCB-086/087/097/109/119/125					**7770**	**2800**	**1720**	**2590**	**4830**	**3350**
PCB-088					1.75 U	2.25 U	0.923 U	1.53 U	1.12 U	1.12 U
PCB-089					**63.6**	**25.5**	**18.1**	**22.5**	**38.3**	**29.1**

Table H-1
Surface Sediment Results

Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
Task					**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**	**JeldWenMarineMay2012**
Location ID					**JW-EA10-SS39**	**JW-EA10-SS40**	**JW-EA10-SS40**	**JW-EA10-SS41**	**JW-EA10-SS42**	**JW-EA10-SS43**
Sample ID					**JW-EA10-SS39-120507**	**JW-EA10-SS40-120507**	**JW-EA10-SS90-120507**	**JW-EA10-SS41-120507**	**JW-EA10-SS42-120507**	**JW-EA10-SS43-120507**
Sample Date					**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**	**5/7/2012**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**FD**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302890.069**	**1302883.653**	**1302883.653**	**1302875.634**	**1302941.391**	**1302947.806**
Y					**372406.424**	**372505.862**	**372505.862**	**372598.884**	**372541.146**	**372459.35**
PCB-090/101/113					**11300**	**4010**	**2570**	**3990**	**6980**	**4850**
PCB-091					**1150**	**397**	**262**	**393**	**696**	**508**
PCB-092					**2050**	**725**	**499**	**735**	**1280**	**885**
PCB-093/100					1.62 U	2.08 U	0.855 U	1.42 U	1.04 U	**8.88**
PCB-094					**18.7**	**10.5**	**6.17**	**7.01**	**11.6**	**7.95**
PCB-095					**4300**	**2630**	**1050**	**1510**	**2550**	**1750**
PCB-096					**34.4**	**13.5**	**8.39**	**12.2**	**20.7**	**16.5**
PCB-098					**230**	2.22 U	**60.5**	**80.1**	**134**	**96.4**
PCB-099					**5200**	**1940**	**1290**	**1910**	**3310**	**2320**
PCB-102					**30.6**	**84.4**	**9.1**	**12.1**	**19.1**	0.927 U
PCB-103					**26.3**	**15**	**11.5**	**11.9**	**16.9**	**13**
PCB-104					0.264 U	0.593 U	0.183 U	0.274 U	0.191 U	0.225 U
PCB-105					**4180**	**1530**	**930**	**1400 J**	**2610**	**1850**
PCB-106					1.44 U	1.85 U	0.761 U	1.26 U	0.921 U	0.925 U
PCB-107					**675**	**253**	**181**	**274**	**462**	**305**
PCB-107/124					--	--	--	--	--	--
PCB-108/124					**467**	**169**	**101**	**160**	**311**	**193**
PCB-109					--	--	--	--	--	--
PCB-110					**13800**	**5030**	**3060**	**4750**	**8470**	**6050**
PCB-111					1.27 U	1.64 U	**1.72**	1.12 U	0.815 U	0.819 U
PCB-112					1.22 U	1.57 U	0.644 U	1.07 U	**3.87**	**2.58 J**
PCB-114					**207**	**76.4**	**45.9**	**70.2**	0.71 U	**88**
PCB-115					1.25 U	1.61 U	0.66 U	1.1 U	0.8 U	0.803 U
PCB-117					1.32 U	1.7 U	**68.9**	1.16 U	**140**	0.849 U
PCB-118					**10200**	**3780**	**2450**	**3760**	**6900**	**4580**
PCB-120					1.19 U	1.53 U	0.63 U	1.05 U	**5.43**	0.767 U
PCB-121					1.19 U	1.52 U	0.626 U	1.04 U	0.758 U	0.762 U
PCB-122					1.4 U	**40**	**23.8**	**36.4**	**74**	**47.4**
PCB-123					**169**	**64.4**	**40**	**57.5**	**99.4**	**72.3**
PCB-126					**8.96**	**3.86**	**5.29**	**5.32**	**5.8**	**6.09**
PCB-127					1.96 U	2.29 U	0.996 U	1.54 U	1.16 U	1.14 U
PCB-128/166					**2200 J**	**856**	**486**	**798**	**1470**	**888**
PCB-129/138/163					**12700 J**	**4250**	**2720**	**4140**	**7330**	**5050**
PCB-130					**846 J**	**287**	**181**	**265**	**488**	**311**
PCB-131					**195 J**	**71.6**	**35.7**	**59.4**	**120**	**74.9**
PCB-132					**3980 J**	**1480**	**764**	**1230**	**2360**	**1550**
PCB-133					**120 J**	**48.7**	**31.4**	**43.4**	**72.8**	**50.8**
PCB-134					**662 J**	**228**	**120**	**208**	**393**	**255**
PCB-135/151					**2240 J**	**914**	**540**	**764**	**1340**	**996**
PCB-136					**1110 J**	**404**	**219**	**363**	**649**	**458**
PCB-137					**908 J**	**307**	**169**	**279**	**514**	**287**
PCB-139/140					**246 J**	**95**	**50**	**79**	**153**	**92.9**
PCB-141					**1650 J**	**601**	**333**	**544**	**982**	**660**
PCB-142					0.399 UJ	0.869 U	0.257 U	0.373 U	0.265 U	0.293 U

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA10-SS39	JW-EA10-SS40	JW-EA10-SS40	JW-EA10-SS41	JW-EA10-SS42	JW-EA10-SS43
Sample ID					JW-EA10-SS39-120507	JW-EA10-SS40-120507	JW-EA10-SS90-120507	JW-EA10-SS41-120507	JW-EA10-SS42-120507	JW-EA10-SS43-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302890.069	1302883.653	1302883.653	1302875.634	1302941.391	1302947.806
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372406.424	372505.862	372505.862	372598.884	372541.146	372459.35
Analyte										
PCB-143					0.367 UJ	**16.5**	**6.95**	0.343 U	0.244 U	0.269 U
PCB-144					**401 J**	**156**	**82**	**129**	**240**	**164**
PCB-145					0.254 UJ	**1.58 J**	**0.838 J**	**1.3 J**	**2.75**	**1.64 J**
PCB-146					**1220 J**	**519**	**301**	**439**	**710**	**509**
PCB-147/149					**6670 J**	**2640**	**1430**	**2060**	**3900**	**2750**
PCB-148					**5.71 J**	**2.37 J**	**2.15**	**2.24**	**3.52**	**2.41**
PCB-150					**8.71 J**	**3.76**	**2.19**	**3.25**	**5.33**	**3.4**
PCB-152					**10.1 J**	**3.68**	**1.97**	**3.19**	**6.18**	**3.63**
PCB-153/168					**7520 J**	**3010**	**1750**	**2540**	**4440**	**3160**
PCB-154					0.303 UJ	**32.8**	**20.3**	**27.8**	0.201 U	0.222 U
PCB-155					0.238 U	0.519 U	0.154 U	0.223 U	0.158 U	0.175 U
PCB-156/157					**1820**	**640**	**345**	**622**	**1170**	**694**
PCB-158					**1350 J**	**515**	**288**	**454**	**840**	**544**
PCB-159					**32.3 J**	**15.9**	0.605 U	**12**	**18.8**	**18.2**
PCB-160					0.294 UJ	0.641 U	0.19 U	0.275 U	0.195 U	0.216 U
PCB-161					0.27 UJ	0.589 U	0.174 U	0.253 U	0.18 U	0.198 U
PCB-162					**42 J**	**17.4**	**8.93**	**14.8**	**29.1**	**16**
PCB-164					**682 J**	**246**	**145**	**214**	**410**	**256**
PCB-165					0.301 UJ	0.656 U	0.194 U	0.281 U	0.2 U	0.221 U
PCB-167					**468 J**	**168**	**93.8**	**160**	**300**	**178**
PCB-169					1.58 U	1.82 U	1.35 U	1.1 U	0.859 U	**4.02**
PCB-170					**1150**	**439**	**270**	**415**	**643**	**529**
PCB-171/173					**364**	**135**	**97.2**	**141**	**211**	**173**
PCB-172					**146**	**67.7**	**43.9**	**56.6**	**88.3**	**77.4**
PCB-174					**808**	**358**	**259**	**320**	**450**	**462**
PCB-175					**37.3**	**16.6**	**12.6**	**16.2**	**22.7**	**20.1**
PCB-176					**98.4**	**44.6**	**29.9**	**38.9**	**60.2**	**55.7**
PCB-177					**518**	**228**	**187**	**225**	**312**	**295**
PCB-178					**125**	**70.2**	**57.4**	**57.6**	**80.4**	**87.1**
PCB-179					**256**	**155**	**111**	**119**	**168**	**180**
PCB-180/193					**1700**	**874**	**567**	**671**	**1000**	**981**
PCB-181					**28.4**	**8.64**	**4.68**	**9.36**	**15.1**	**9.04**
PCB-182					**8.03**	**3.36**	0.329 U	**2.91 J**	0.448 U	**3.09**
PCB-183					**518**	**231**	**173**	**205**	**296**	**277**
PCB-184					**0.968 J**	0.536 U	0.179 U	0.304 U	**0.577 J**	0.216 U
PCB-185					**40.6**	**24.3**	**17.7**	**19**	**27.3**	**40.9**
PCB-186					**0.713 J**	0.518 U	0.174 U	0.294 U	0.203 U	0.209 U
PCB-187					**605**	**447**	**289**	**302**	**346**	**480**
PCB-188					**1.11 J**	0.544 U	**0.631 J**	**0.589 J**	**0.717 J**	**0.65 J**
PCB-189					**54.2**	**22.1**	**14.4**	**21.4**	**34.6**	**25.5**
PCB-190					**184**	**77.1**	**47.8**	**69.6**	**106**	**91.9**
PCB-191					**40.5**	**16**	**10.1**	**14.7**	**22.6**	**19.6**
PCB-192					0.58 U	0.978 U	0.272 U	0.425 U	0.396 U	0.384 U
PCB-194					**249**	**368**	**240**	**133**	**187**	**331**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA10-SS39	JW-EA10-SS40	JW-EA10-SS40	JW-EA10-SS41	JW-EA10-SS42	JW-EA10-SS43
Sample ID					JW-EA10-SS39-120507	JW-EA10-SS40-120507	JW-EA10-SS90-120507	JW-EA10-SS41-120507	JW-EA10-SS42-120507	JW-EA10-SS43-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302890.069	1302883.653	1302883.653	1302875.634	1302941.391	1302947.806
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372406.424	372505.862	372505.862	372598.884	372541.146	372459.35
Analyte										
PCB-195					**88.2**	**75.9**	**56.8**	**45.8**	**58.4**	**86.6**
PCB-196					**129**	**147**	**99**	**60.7**	**86.6**	**144**
PCB-197					**5.24**	**5.73**	**2.57**	**2.76**	**2.99**	**2.75**
PCB-198/199					**292**	**522**	**324**	**144**	**230**	**563**
PCB-200					**32.4**	**40.6**	**22**	**13**	**18.9**	**40**
PCB-201					**33.9**	**43.2**	**28.2**	**15.3**	**23.7**	**42.3**
PCB-202					**64.4**	**119**	**75.3**	**32.3**	**57.5**	**127**
PCB-203					**195**	**333**	**210**	**90.9**	**153**	**330**
PCB-204					0.371 U	0.882 U	0.305 U	0.484 U	0.328 U	0.315 U
PCB-205					**10.9**	**10.3**	**6.17**	**5.45**	**7.21**	**9.67**
PCB-206					**159**	**490**	**279**	**78.1**	**155**	**829**
PCB-207					**20**	**46.2**	**26.4**	**8.79**	**16.2**	**76.8**
PCB-208					**43**	**106**	**65.4**	**21.7**	**39.3**	**280**
PCB-209					**29.9**	**61**	**54.9**	**32.8**	**30.6**	**187**
Total PCB Congener (U = limit)					**141275.661 J**	**58225.012 J**	**40869.099 J**	**50893.422 J**	**86045.135 J**	**66464.298 J**
Total PCB Congener TEQ 1998 (Avian) (U = limit)					**5.712192 J**	**3.762805**	**5.124422**	**3.706309 J**	**3.92527**	**4.369778**
Total PCB Congener TEQ 1998 (Fish) (U = limit)					**0.140025 J**	**0.0578555**	**0.055738**	**0.0635105 J**	**0.0912215**	**0.075595**
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					**1.465011 J**	**0.635527**	**0.696196**	**0.753765 J**	**0.9452703**	**0.961329**
Total PCB Congener (U = 1/2)					**141242.366 J**	**58191.37 J**	**40860.303 J**	**50878.125 J**	**86028.9 J**	**66448.563 J**
Total PCB Congener (U = 0)			130000	1000000	**141209.071 J**	**58157.727 J**	**40851.506 J**	**50862.829 J**	**86012.665 J**	**66432.828 J**
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					**5.463902 J**	**3.621895**	**5.123747**	**3.705759 J**	**3.924805**	**4.267278**
Total PCB Congener TEQ 1998 (Avian) (U = 0)					**5.215612 J**	**3.480985**	**5.123072**	**3.705209 J**	**3.92434**	**4.164778**
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					**0.138748 J**	**0.05711**	**0.05570425**	**0.063483 J**	**0.09119825**	**0.0750825**
Total PCB Congener TEQ 1998 (Fish) (U = 0)					**0.137471 J**	**0.0563645**	**0.0556705**	**0.0634555 J**	**0.091175**	**0.07457**
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					**1.4405685 J**	**0.607807**	**0.675946**	**0.737265 J**	**0.93237465**	**0.9610215**
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					**1.416126 J**	**0.580087**	**0.655696**	**0.720765 J**	**0.919479**	**0.960714**
Total Petroleum Hydrocarbons (mg/kg)										
Diesel range hydrocarbons					--	--	--	--	--	--
Motor oil range hydrocarbons					--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**0.00065698841667 J**	**0.0006636698 J**	--	**0.00052481210714 J**	**0.000746190625 J**	**0.000600624695652 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**0.000244268958333 J**	**0.00028960382 J**	--	**0.000225194303571 J**	**0.00030007196875 J**	**0.000220847173913 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**0.000332395875 J**	**0.00035580588 J**	--	**0.00029684482143 J**	**0.00041434876875 J**	**0.000301993 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**0.00064640341667 J**	**0.0006577074 J**	--	**0.00052459246429 J**	**0.0007456615625 J**	**0.000595956652174 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**0.000243976166667 J**	**0.000289248 J**	--	**0.000224993321429 J**	**0.000299570515625 J**	**0.0002206133695652 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**0.00033113785417 J**	**0.00035437108 J**	--	**0.00029605553571 J**	**0.00041304279063 J**	**0.000301768108696 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**0.00063581841667 J**	**0.000651745 J**	--	**0.00052437282143 J**	**0.0007451325 J**	**0.000591288608696 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**0.000243683375 J**	**0.00028889218 J**	--	**0.000224792339286 J**	**0.0002990690625 J**	**0.0002203795652174 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**0.00032987983333 J**	**0.00035293628 J**	--	**0.00029526625 J**	**0.0004117368125 J**	**0.000301543217391 J**
Dioxin Furans and PCB Congeners (ng/kg)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**15.767722 J**	**16.591745 J**	**5.124422**	**14.694739 J**	**11.93905 J**	**13.814368 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**5.862455 J**	**7.2400955 J**	**0.055738**	**6.3054405 J**	**4.8011515 J**	**5.079485 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**7.977501 J**	**8.895147 J**	**0.696196**	**8.311655 J**	**6.6295803 J**	**6.945839 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**15.513682 J**	**16.442685 J**	**5.123747**	**14.688589 J**	**11.930585 J**	**13.707003 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**5.855428 J**	**7.2312 J**	**0.05570425**	**6.299813 J**	**4.79312825 J**	**5.0741075 J**

Table H-1
Surface Sediment Results

Task					JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012	JeldWenMarineMay2012
Location ID					JW-EA10-SS39	JW-EA10-SS40	JW-EA10-SS40	JW-EA10-SS41	JW-EA10-SS42	JW-EA10-SS43
Sample ID					JW-EA10-SS39-120507	JW-EA10-SS40-120507	JW-EA10-SS90-120507	JW-EA10-SS41-120507	JW-EA10-SS42-120507	JW-EA10-SS43-120507
Sample Date					5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012	5/7/2012
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302890.069	1302883.653	1302883.653	1302875.634	1302941.391	1302947.806
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372406.424	372505.862	372505.862	372598.884	372541.146	372459.35
Analyte										
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					7.9473085 J	8.859277 J	0.675946	8.289555 J	6.60868465 J	6.9406665 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					15.259642 J	16.293625 J	5.123072	14.682439 J	11.92212 J	13.599638 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					5.848401 J	7.2223045 J	0.0556705	6.2941855 J	4.785105 J	5.06873 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					7.917116 J	8.823407 J	0.655696	8.267455 J	6.587789 J	6.935494 J

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-301-130919	JW-302-130919	JW-SS-101-2013	JW-SS-102-2013	JW-SS-103-2013	JW-SS-104-2013	JW-SS-105-2013	JW-SS-106-2013
Sample ID					JW-301-130919	JW-302-130919	JW-SS-101-130429	JW-SS-102-130429	JW-SS-103-130429	JW-SS-104-130429	JW-SS-105-130429	JW-SS-106-130429
Sample Date					9/19/2013	9/19/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1302315.848	1302196.687	1302147.983	1302137.562	1302321.922	1302384.445	1302452.239	1302358.053
Y					371339.0055	370932.173	373756.235	373622.314	373182.718	373076.652	372980.985	372592.179
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII								
Conventional Parameters (pct)												
Total organic carbon					**2.1**	**2.28**	**2.2**	**1.97**	**2.14**	**1.95**	**1.88**	**1.59**
Moisture, percent					--	--	--	--	--	--	--	--
Total Solids					**51.86**	**52.18**	**46.82**	**44.99**	**63.41**	**55.77**	**55.69**	**60.35**
Total solids (preserved)					--	--	--	--	--	--	--	--
Total volatile solids					--	--	--	--	--	--	--	--
Conventional Parameters (mg/kg)												
Ammonia as nitrogen					--	--	--	--	--	--	--	--
Black carbon					--	--	--	--	--	--	--	--
Sulfide					--	--	--	--	--	--	--	--
Grain Size (pct)												
Cobbles					--	--	--	--	--	--	--	--
Gravel					--	--	--	--	--	--	--	--
Sand					--	--	--	--	--	--	--	--
Sand, very coarse					--	--	--	--	--	--	--	--
Sand, coarse					--	--	--	--	--	--	--	--
Sand, medium					--	--	--	--	--	--	--	--
Sand, fine					--	--	--	--	--	--	--	--
Sand, very fine					--	--	--	--	--	--	--	--
Silt					--	--	--	--	--	--	--	--
Silt, coarse					--	--	--	--	--	--	--	--
Silt, medium					--	--	--	--	--	--	--	--
Silt, fine					--	--	--	--	--	--	--	--
Silt, very fine					--	--	--	--	--	--	--	--
Total fines (Reported, not calculated)					--	--	--	--	--	--	--	--
Clay					--	--	--	--	--	--	--	--
Clay, coarse					--	--	--	--	--	--	--	--
Clay, medium					--	--	--	--	--	--	--	--
Clay, fine					--	--	--	--	--	--	--	--
Metals (mg/kg)												
Antimony					--	--	--	--	--	--	--	--
Arsenic	57	93	57	93	--	--	--	--	--	--	--	--
Cadmium	5.1	6.7	5.1	6.7	--	--	--	--	--	--	--	--
Chromium	260	270	260	270	--	--	--	--	--	--	--	--
Copper	390	390	390	390	--	--	--	--	--	--	--	--
Lead	450	530	450	530	--	--	--	--	--	--	--	--
Mercury	0.41	0.59	0.41	0.59	--	--	--	--	--	--	--	--
Nickel					--	--	--	--	--	--	--	--
Silver	6.1	6.1	6.1	6.1	--	--	--	--	--	--	--	--
Zinc	410	960	410	960	--	--	--	--	--	--	--	--
Volatile Organics (mg/kg-OC)												
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--	--	--
Volatile Organics (µg/kg)												
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-301-130919	JW-302-130919	JW-SS-101-2013	JW-SS-102-2013	JW-SS-103-2013	JW-SS-104-2013	JW-SS-105-2013	JW-SS-106-2013
Sample ID					JW-301-130919	JW-302-130919	JW-SS-101-130429	JW-SS-102-130429	JW-SS-103-130429	JW-SS-104-130429	JW-SS-105-130429	JW-SS-106-130429
Sample Date					9/19/2013	9/19/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1302315.848	1302196.687	1302147.983	1302137.562	1302321.922	1302384.445	1302452.239	1302358.053
Y					371339.0055	370932.173	373756.235	373622.314	373182.718	373076.652	372980.985	372592.179
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII								
Semivolatile Organics (mg/kg-OC)												
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--	--	--
Semivolatile Organics (µg/kg)												
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene					--	--	--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--	--	--
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)												
2-Methylnaphthalene	38	64			--	--	--	--	--	--	--	--
Acenaphthene	16	57			--	--	--	--	--	--	--	--
Acenaphthylene	66	66			--	--	--	--	--	--	--	--
Anthracene	220	1200			--	--	--	--	--	--	--	--
Benzo(a)anthracene	110	270			--	--	--	--	--	--	--	--
Benzo(a)pyrene	99	210			--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	--	--	--
Chrysene	110	460			--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					**JW-301-130919**	**JW-302-130919**	**JW-SS-101-2013**	**JW-SS-102-2013**	**JW-SS-103-2013**	**JW-SS-104-2013**	**JW-SS-105-2013**	**JW-SS-106-2013**
Sample ID					**JW-301-130919**	**JW-302-130919**	**JW-SS-101-130429**	**JW-SS-102-130429**	**JW-SS-103-130429**	**JW-SS-104-130429**	**JW-SS-105-130429**	**JW-SS-106-130429**
Sample Date					**9/19/2013**	**9/19/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302315.848**	**1302196.687**	**1302147.983**	**1302137.562**	**1302321.922**	**1302384.445**	**1302452.239**	**1302358.053**
Y	**SMS_Marine_SCO_SCUMII**	**SMS_Marine_CSL_SCUMII**	**AET_Marine_SCO_SCUMII**	**AET_Marine_CSL_SCUMII**	**371339.0055**	**370932.173**	**373756.235**	**373622.314**	**373182.718**	**373076.652**	**372980.985**	**372592.179**
Analyte												
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	--	--	--
Dibenzofuran	15	58			--	--	--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	--	--	--
Fluorene	23	79			--	--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	--	--	--
Naphthalene	99	170			--	--	--	--	--	--	--	--
Phenanthrene	100	480			--	--	--	--	--	--	--	--
Pyrene	1000	1400			--	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)												
1-Methylnaphthalene					--	--	--	--	--	--	--	--
2-Methylnaphthalene			670	670	--	--	--	--	--	--	--	--
Acenaphthene			500	500	--	--	--	--	--	--	--	--
Acenaphthylene			1300	1300	--	--	--	--	--	--	--	--
Anthracene			960	960	--	--	--	--	--	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--	--	--	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene					--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene					--	--	--	--	--	--	--	--
Chrysene			1400	2800	--	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	--	--	--
Dibenzofuran			540	540	--	--	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	--	--	--
Fluorene			540	540	--	--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	--	--	--
Naphthalene			2100	2100	--	--	--	--	--	--	--	--
Phenanthrene			1500	1500	--	--	--	--	--	--	--	--
Pyrene			2600	3300	--	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	--	--	--
Dioxin Furans (ng/kg)												
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	0.1756 U	**0.276 J**	**0.328 J**	**0.189 J**	**0.183 J**	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	**0.749 J**	**0.629 J**	**0.751 J**	**0.621 J**	**0.521 J**	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	**1.26 J**	**1.07 J**	**0.866 J**	**1.06 J**	**0.865 J**	--

Table H-1
Surface Sediment Results

Task					**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**
Location ID					**JW-301-130919**	**JW-302-130919**	**JW-SS-101-2013**	**JW-SS-102-2013**	**JW-SS-103-2013**	**JW-SS-104-2013**	**JW-SS-105-2013**	**JW-SS-106-2013**
Sample ID					**JW-301-130919**	**JW-302-130919**	**JW-SS-101-130429**	**JW-SS-102-130429**	**JW-SS-103-130429**	**JW-SS-104-130429**	**JW-SS-105-130429**	**JW-SS-106-130429**
Sample Date					**9/19/2013**	**9/19/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302315.848**	**1302196.687**	**1302147.983**	**1302137.562**	**1302321.922**	**1302384.445**	**1302452.239**	**1302358.053**
Y					**371339.0055**	**370932.173**	**373756.235**	**373622.314**	**373182.718**	**373076.652**	**372980.985**	**372592.179**
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**								
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	**5.91**	**4.07**	**3.82**	**5.87**	**4.33**	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	**2.96**	**2.4 J**	**1.87 J**	**2.58**	**2.43**	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	**71.4**	**59.6**	**47.2**	**63.5**	**49.3**	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					--	--	**513**	**554**	**340**	**402**	**324**	--
Total Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	**22.2 J**	**21.5 J**	**23.3 J**	**21.3 J**	**33.3 J**	--
Total Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	**18.7**	**13.9 J**	**18.1 J**	**17.1 J**	**26.3 J**	--
Total Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	**55.3 J**	**42.6**	**41.9**	**55.8 J**	**52.9 J**	--
Total Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	**165**	**147**	**118**	**144**	**116**	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					--	--	**1.19**	**1.26**	**2.37**	**1.72**	**1.24 J**	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	**0.405 J**	**0.392 J**	**0.472 J**	**0.512 J**	**0.436 J**	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	**0.866 J**	**0.959 J**	**1.03 J**	**0.957 J**	**0.735 J**	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	**0.673 J**	**0.627 J**	**0.499 J**	**0.681 J**	**0.424 J**	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	**0.479 J**	**0.572 J**	**0.434 J**	**0.529 J**	**0.379 J**	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					--	--	0.213 U	0.1115 U	0.1483 U	0.1504 U	0.0997 U	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	**0.816 J**	**0.861 J**	**0.752 J**	**0.847 J**	**0.681 J**	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					--	--	**11.6**	**9.91**	**8.47**	**10.5**	**7.87**	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					--	--	**0.677 J**	**0.6 J**	**0.442 J**	**0.51 J**	**0.474 J**	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					--	--	**24.5**	**23.6**	**17.4**	**19.6**	**15.8**	--
Total Tetrachlorodibenzofuran (TCDF)					--	--	**13.8 J**	**14.2 J**	**24.2 J**	**21.1 J**	**17 J**	--
Total Pentachlorodibenzofuran (PeCDF)					--	--	**9.59 J**	**10.7 J**	**12.8 J**	**11 J**	**9.59 J**	--
Total Hexachlorodibenzofuran (HxCDF)					--	--	**15.4 J**	**13.8 J**	**14.2 J**	**15.3 J**	**11.3 J**	--
Total Heptachlorodibenzofuran (HpCDF)					--	--	**32.4 J**	**27.6**	**24.3**	**29.3**	**22**	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	**3.90522 J**	**3.93701 J**	**5.15009 J**	**4.3444 J**	**3.37724 J**	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	**2.62207 J**	**2.50641 J**	**2.58139 J**	**2.4511 J**	**1.98049 J**	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	**3.54467 J**	**3.17599 J**	**3.14643 J**	**3.32778 J**	**2.66083 J**	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	**3.80677 J**	**3.931435 J**	**5.142675 J**	**4.33688 J**	**3.372255 J**	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	**2.52362 J**	**2.500835 J**	**2.573975 J**	**2.44358 J**	**1.975505 J**	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	**3.44622 J**	**3.170415 J**	**3.139015 J**	**3.32026 J**	**2.655845 J**	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	**3.70832 J**	**3.92586 J**	**5.13526 J**	**4.32936 J**	**3.36727 J**	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	**2.42517 J**	**2.49526 J**	**2.56656 J**	**2.43606 J**	**1.97052 J**	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	**3.34777 J**	**3.16484 J**	**3.1316 J**	**3.31274 J**	**2.65086 J**	--
PCB Aroclors (mg/kg-OC)												
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--	--	--
PCB Aroclors (µg/kg)												
Aroclor 1016					--	--	--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--	--	--
Aroclor 1262					--	--	--	--	--	--	--	--
Aroclor 1268					--	--	--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-301-130919	JW-302-130919	JW-SS-101-2013	JW-SS-102-2013	JW-SS-103-2013	JW-SS-104-2013	JW-SS-105-2013	JW-SS-106-2013
Sample ID					JW-301-130919	JW-302-130919	JW-SS-101-130429	JW-SS-102-130429	JW-SS-103-130429	JW-SS-104-130429	JW-SS-105-130429	JW-SS-106-130429
Sample Date					9/19/2013	9/19/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1302315.848	1302196.687	1302147.983	1302137.562	1302321.922	1302384.445	1302452.239	1302358.053
Y Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	371339.0055	370932.173	373756.235	373622.314	373182.718	373076.652	372980.985	372592.179
PCB Congeners (mg/kg-OC)												
Total PCB Congener (U = limit)					**0.602958905 J**	**0.344392237 J**	--	--	--	--	--	**0.5301587862 J**
Total PCB Congener (U = 1/2)					**0.602596857 J**	**0.344077281 J**	--	--	--	--	--	**0.5300165 J**
Total PCB Congener (U = 0)	12	65			**0.60223481 J**	**0.343762325 J**	--	--	--	--	--	**0.5298742138 J**
Total PCB Congener TEQ 1998 (Avian) (U = limit)					**0.00013922408095 J**	**7.538612719E-05 J**	--	--	--	--	--	**0.000124736**
Total PCB Congener TEQ 1998 (Fish) (U = limit)					**1.331433333E-06 J**	**7.14708333E-07 J**	--	--	--	--	--	**1.02526E-06**
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					**1.943890952E-05 J**	**1.104977193E-05 J**	--	--	--	--	--	**1.34804E-05**
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					**0.00013920277143 J**	**7.536222368E-05 J**	--	--	--	--	--	**0.000124729**
Total PCB Congener TEQ 1998 (Avian) (U = 0)					**0.0001391814619 J**	**7.533832018E-05 J**	--	--	--	--	--	**0.000124723**
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					**1.330367857E-06 J**	**7.13513158E-07 J**	--	--	--	--	--	**1.02494E-06**
Total PCB Congener TEQ 1998 (Fish) (U = 0)					**1.329302381E-06 J**	**7.12317983E-07 J**	--	--	--	--	--	**1.02461E-06**
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					**1.879962381E-05 J**	**1.033266667E-05 J**	--	--	--	--	--	**1.32832E-05**
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					**1.81603381E-05 J**	**9.6155614E-06 J**	--	--	--	--	--	**1.30861E-05**
PCB Congeners (ng/kg)												
PCB-001					**83**	**139**	--	--	--	--	--	**108**
PCB-002					**36.1**	**64.8**	--	--	--	--	--	**41.5**
PCB-003					**68.8**	**177**	--	--	--	--	--	**70.6**
PCB-004					**35.8**	**23.6**	--	--	--	--	--	**28.1 J**
PCB-005					**3.73**	**3.17**	--	--	--	--	--	**2.49**
PCB-006					**31.4**	**19.7**	--	--	--	--	--	**17.7**
PCB-007					**8.64**	**5.85**	--	--	--	--	--	**4.99**
PCB-008					**157**	**87.6**	--	--	--	--	--	**86.7**
PCB-009					**10.8**	**7.29**	--	--	--	--	--	**6.56**
PCB-010					**2.21**	**1.66**	--	--	--	--	--	**1.94**
PCB-011					**187**	**131**	--	--	--	--	--	**94.2**
PCB-012/013					**21.2**	**21.8**	--	--	--	--	--	**12.6**
PCB-014					0.468 U	0.353 U	--	--	--	--	--	**1.13**
PCB-015					**111**	**75.6**	--	--	--	--	--	**58.3**
PCB-016					**67.1**	**41.7**	--	--	--	--	--	**64.7**
PCB-017					**72.6**	**44**	--	--	--	--	--	**66.4**
PCB-018/030					**140**	**84.3**	--	--	--	--	--	**148**
PCB-019					**8.74**	**5.1**	--	--	--	--	--	**9.2**
PCB-020/028					**415**	**220**	--	--	--	--	--	**290**
PCB-021/033					**159**	**83.2**	--	--	--	--	--	**110**
PCB-022					**121**	**64.2**	--	--	--	--	--	**84**
PCB-023					0.853 U	0.62 U	--	--	--	--	--	0.287 U
PCB-024					**2.02**	**1.07**	--	--	--	--	--	**1.33**
PCB-025					**25.4**	**14.6**	--	--	--	--	--	**17.7**
PCB-026/029					**49.6**	**27.9**	--	--	--	--	--	**34.9**
PCB-027					**12.1**	**7.62**	--	--	--	--	--	**10.3**
PCB-031					**298**	**157**	--	--	--	--	--	**224**
PCB-032					**54.2**	**33.2**	--	--	--	--	--	**52.1**
PCB-034					**1.42 J**	**0.757 J**	--	--	--	--	--	**1.43**
PCB-035					**11.9**	**8.32**	--	--	--	--	--	**6.84**

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-301-130919	JW-302-130919	JW-SS-101-2013	JW-SS-102-2013	JW-SS-103-2013	JW-SS-104-2013	JW-SS-105-2013	JW-SS-106-2013
Sample ID					JW-301-130919	JW-302-130919	JW-SS-101-130429	JW-SS-102-130429	JW-SS-103-130429	JW-SS-104-130429	JW-SS-105-130429	JW-SS-106-130429
Sample Date					9/19/2013	9/19/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1302315.848	1302196.687	1302147.983	1302137.562	1302321.922	1302384.445	1302452.239	1302358.053
Y					371339.0055	370932.173	373756.235	373622.314	373182.718	373076.652	372980.985	372592.179
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII								
PCB-036					**3**	**1.79**	--	--	--	--	--	**1.89**
PCB-037					**126**	**69.5**	--	--	--	--	--	**82.2**
PCB-038					0.925 U	**2.11**	--	--	--	--	--	**0.438 J**
PCB-039					**2.05**	0.603 U	--	--	--	--	--	**0.922 J**
PCB-040/071					**115**	**69.2**	--	--	--	--	--	**115**
PCB-041					**17.5**	**11.3**	--	--	--	--	--	**21.8**
PCB-042					**68.1**	**41.7**	--	--	--	--	--	**67.8**
PCB-043					**7.37**	**4.41**	--	--	--	--	--	**8.54**
PCB-044/047/065					**274**	**159**	--	--	--	--	--	**258**
PCB-045					**22.4**	**13.3**	--	--	--	--	--	**34**
PCB-046					**7.34**	**5.37**	--	--	--	--	--	**12.4**
PCB-048					**44.7**	**27.2**	--	--	--	--	--	**49.9**
PCB-049/069					**174**	**101**	--	--	--	--	--	**164**
PCB-050/053					**20.8**	**13.1**	--	--	--	--	--	**29.6**
PCB-051					**4.67**	**4.05**	--	--	--	--	--	**7.28**
PCB-052					**385**	**211**	--	--	--	--	--	**327**
PCB-054					0.274 U	0.294 U	--	--	--	--	--	**0.581 J**
PCB-055					0.69 U	0.674 U	--	--	--	--	--	**3.45**
PCB-056					**175**	**98.7**	--	--	--	--	--	**145**
PCB-057					**1.51**	**0.775 J**	--	--	--	--	--	**1.08**
PCB-058					**1.21**	0.64 U	--	--	--	--	--	**0.971**
PCB-059/062/075					**21.4**	**13.6**	--	--	--	--	--	**19.9**
PCB-060					**87.4**	**47.4**	--	--	--	--	--	**63.6**
PCB-061/070/074/076					**725**	**398**	--	--	--	--	--	**438**
PCB-063					**13.4**	**7.45**	--	--	--	--	--	**8.89**
PCB-064					**114**	**65.6**	--	--	--	--	--	**104**
PCB-066					**426**	**238**	--	--	--	--	--	**292**
PCB-067					**11.9**	**7.6**	--	--	--	--	--	**7.28**
PCB-068					**2.62**	**1.63**	--	--	--	--	--	**1.82**
PCB-072					**4.86**	**2.69**	--	--	--	--	--	**3.5**
PCB-073					0.389 U	0.3 U	--	--	--	--	--	**0.371 J**
PCB-077					**47.2**	**28.5**	--	--	--	--	--	**32.9**
PCB-078					0.746 U	0.728 U	--	--	--	--	--	0.243 U
PCB-079					**5.05**	**3.69**	--	--	--	--	--	**3.3**
PCB-080					0.586 U	0.572 U	--	--	--	--	--	0.205 U
PCB-081					**1.75 J**	**0.689 J**	--	--	--	--	--	**1.27**
PCB-082					**67.7**	**43**	--	--	--	--	--	**45.7**
PCB-083					**31.8**	**17.6**	--	--	--	--	--	**19.5**
PCB-084					**124**	**73.1**	--	--	--	--	--	**67.8**
PCB-085/116					**98.3**	**65.5**	--	--	--	--	--	**64.5**
PCB-086/087/097/108/119/125					**377**	**237**	--	--	--	--	--	**233**
PCB-086/087/097/109/119/125					--	--	--	--	--	--	--	--
PCB-088					0.661 U	0.516 U	--	--	--	--	--	**2.86**
PCB-089					**4.38**	**2.82 J**	--	--	--	--	--	**4.44**

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-301-130919	JW-302-130919	JW-SS-101-2013	JW-SS-102-2013	JW-SS-103-2013	JW-SS-104-2013	JW-SS-105-2013	JW-SS-106-2013
Sample ID					JW-301-130919	JW-302-130919	JW-SS-101-130429	JW-SS-102-130429	JW-SS-103-130429	JW-SS-104-130429	JW-SS-105-130429	JW-SS-106-130429
Sample Date					9/19/2013	9/19/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1302315.848	1302196.687	1302147.983	1302137.562	1302321.922	1302384.445	1302452.239	1302358.053
Y					371339.0055	370932.173	373756.235	373622.314	373182.718	373076.652	372980.985	372592.179
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII								
PCB-090/101/113					**557**	**353**	--	--	--	--	--	**342**
PCB-091					**55.2**	**34.6**	--	--	--	--	--	**28.5**
PCB-092					**106**	**66.2**	--	--	--	--	--	**67.6**
PCB-093/100					**3.2 J**	0.47 U	--	--	--	--	--	**2.57**
PCB-094					**1.69 J**	0.513 U	--	--	--	--	--	**1.16 J**
PCB-095					**357**	**216**	--	--	--	--	--	**174**
PCB-096					**2.39**	**1.64**	--	--	--	--	--	**2.97**
PCB-098					0.667 U	0.521 U	--	--	--	--	--	0.703 U
PCB-099					**306**	**199**	--	--	--	--	--	**190**
PCB-102					**11**	**6.88**	--	--	--	--	--	**6.92**
PCB-103					**3.82**	**2.11**	--	--	--	--	--	**2.8**
PCB-104					0.232 U	0.219 U	--	--	--	--	--	0.0877 U
PCB-105					**262**	**165**	--	--	--	--	--	**167**
PCB-106					0.451 U	0.352 U	--	--	--	--	--	0.405 U
PCB-107					--	--	--	--	--	--	--	--
PCB-107/124					**23.6**	**15.5**	--	--	--	--	--	**12.6**
PCB-108/124					--	--	--	--	--	--	--	--
PCB-109					**44.6**	**28.9**	--	--	--	--	--	**29.1**
PCB-110					**666**	**413**	--	--	--	--	--	**416**
PCB-111					0.423 U	0.33 U	--	--	--	--	--	0.373 U
PCB-112					0.455 U	**0.73 J**	--	--	--	--	--	0.399 U
PCB-114					**12.1**	**8.3**	--	--	--	--	--	**8.23**
PCB-115					0.469 U	0.366 U	--	--	--	--	--	**7.67**
PCB-117					**14.2**	**9.81**	--	--	--	--	--	**10.1**
PCB-118					**615**	**387**	--	--	--	--	--	**383**
PCB-120					0.425 U	0.332 U	--	--	--	--	--	**2.2**
PCB-121					0.425 U	0.331 U	--	--	--	--	--	0.388 U
PCB-122					**8.39**	**5.77**	--	--	--	--	--	**4.3**
PCB-123					**8.75**	**6.75**	--	--	--	--	--	**5.96**
PCB-126					**3.46**	**1.97**	--	--	--	--	--	**1.86**
PCB-127					0.494 U	0.372 U	--	--	--	--	--	0.393 U
PCB-128/166					**105**	**72.7**	--	--	--	--	--	**47.3**
PCB-129/138/163					**683**	**420**	--	--	--	--	--	**358**
PCB-130					**43.2**	**28**	--	--	--	--	--	**23.7**
PCB-131					**7.16**	**4.98**	--	--	--	--	--	**3.41**
PCB-132					**179**	**112**	--	--	--	--	--	**90.3**
PCB-133					0.289 U	**6.46**	--	--	--	--	--	**6.24**
PCB-134					**34.3**	**22.1**	--	--	--	--	--	**17.6**
PCB-135/151					**154**	**89.5**	--	--	--	--	--	**93.9**
PCB-136					**54.3**	**35.4**	--	--	--	--	--	**32.4**
PCB-137					**27.3**	**18.8**	--	--	--	--	--	**13.3**
PCB-139/140					**10.3**	**7.37**	--	--	--	--	--	**5.83**
PCB-141					**83.2**	**51.5**	--	--	--	--	--	**46.7**
PCB-142					0.309 U	0.28 U	--	--	--	--	--	0.106 U

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-301-130919	JW-302-130919	JW-SS-101-2013	JW-SS-102-2013	JW-SS-103-2013	JW-SS-104-2013	JW-SS-105-2013	JW-SS-106-2013
Sample ID					JW-301-130919	JW-302-130919	JW-SS-101-130429	JW-SS-102-130429	JW-SS-103-130429	JW-SS-104-130429	JW-SS-105-130429	JW-SS-106-130429
Sample Date					9/19/2013	9/19/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1302315.848	1302196.687	1302147.983	1302137.562	1302321.922	1302384.445	1302452.239	1302358.053
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	371339.0055	370932.173	373756.235	373622.314	373182.718	373076.652	372980.985	372592.179
Analyte												
PCB-143					0.267 U	0.242 U	--	--	--	--	--	**0.564 J**
PCB-144					**19.9**	**12.4**	--	--	--	--	--	**11.7**
PCB-145					0.179 U	0.206 U	--	--	--	--	--	0.0775 U
PCB-146					**91.3**	**55.7**	--	--	--	--	--	**56.3**
PCB-147/149					**392**	**234**	--	--	--	--	--	**225**
PCB-148					**1.12**	**0.61 J**	--	--	--	--	--	**0.72 J**
PCB-150					0.168 U	0.193 U	--	--	--	--	--	**0.537 J**
PCB-152					**0.331 J**	0.192 U	--	--	--	--	--	**0.28 J**
PCB-153/168					**473**	**286**	--	--	--	--	--	**305**
PCB-154					**7.92**	**4.48 J**	--	--	--	--	--	**5.42**
PCB-155					0.152 U	0.174 U	--	--	--	--	--	0.0778 U
PCB-156/157					**78.9**	**53.6**	--	--	--	--	--	**35.4**
PCB-158					**62.2**	**37.8**	--	--	--	--	--	**31**
PCB-159					**3.55**	**2.28 J**	--	--	--	--	--	**1.66 J**
PCB-160					0.236 U	0.214 U	--	--	--	--	--	0.0777 U
PCB-161					0.208 U	0.188 U	--	--	--	--	--	0.0718 U
PCB-162					**2.57**	**1.67**	--	--	--	--	--	**1.16**
PCB-164					**40.6**	**25.2**	--	--	--	--	--	**21.6**
PCB-165					0.235 U	0.213 U	--	--	--	--	--	**0.238 J**
PCB-167					**22.8**	**15.5**	--	--	--	--	--	**11.4**
PCB-169					0.895 U	1.09 U	--	--	--	--	--	0.209 U
PCB-170					**109**	**62**	--	--	--	--	--	**61.1**
PCB-171/173					**35.7**	**19.5**	--	--	--	--	--	**19**
PCB-172					**20.7**	**11.1**	--	--	--	--	--	**10.2**
PCB-174					**99.2**	**53.1**	--	--	--	--	--	**59.1**
PCB-175					0.658 U	**3.01**	--	--	--	--	--	**2.56**
PCB-176					**10.5**	**6.5**	--	--	--	--	--	**7.09**
PCB-177					**72.7**	**40.2**	--	--	--	--	--	**42**
PCB-178					**24.5**	**15.4**	--	--	--	--	--	**15.8**
PCB-179					**40.2**	**23.4**	--	--	--	--	--	**27.4**
PCB-180/193					**235**	**126**	--	--	--	--	--	**140**
PCB-181					**1.4**	0.487 U	--	--	--	--	--	**0.484 J**
PCB-182					0.559 U	0.461 U	--	--	--	--	--	**0.574 J**
PCB-183					**59.9**	**32.1**	--	--	--	--	--	**34.8**
PCB-184					0.205 U	0.214 U	--	--	--	--	--	0.0733 U
PCB-185					**9.67**	**6.41**	--	--	--	--	--	**5.51**
PCB-186					0.197 U	0.206 U	--	--	--	--	--	0.0698 U
PCB-187					**151**	**83.9**	--	--	--	--	--	**91.9**
PCB-188					0.191 U	0.199 U	--	--	--	--	--	0.0746 U
PCB-189					**4.52**	**3.12**	--	--	--	--	--	**2.26**
PCB-190					**20.3**	**10.8**	--	--	--	--	--	**10.8**
PCB-191					**4.55**	**2.44**	--	--	--	--	--	**2.2**
PCB-192					0.518 U	0.427 U	--	--	--	--	--	0.125 U
PCB-194					**61.4**	**32.1**	--	--	--	--	--	**31.8**

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-301-130919	JW-302-130919	JW-SS-101-2013	JW-SS-102-2013	JW-SS-103-2013	JW-SS-104-2013	JW-SS-105-2013	JW-SS-106-2013
Sample ID					JW-301-130919	JW-302-130919	JW-SS-101-130429	JW-SS-102-130429	JW-SS-103-130429	JW-SS-104-130429	JW-SS-105-130429	JW-SS-106-130429
Sample Date					9/19/2013	9/19/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1302315.848	1302196.687	1302147.983	1302137.562	1302321.922	1302384.445	1302452.239	1302358.053
Y					371339.0055	370932.173	373756.235	373622.314	373182.718	373076.652	372980.985	372592.179
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII								
PCB-195					22	11.6	--	--	--	--	--	11.1
PCB-196					26	14.1	--	--	--	--	--	14.2
PCB-197					1.62	1 J	--	--	--	--	--	1.04
PCB-198/199					60.9	34.8	--	--	--	--	--	34.3
PCB-200					6.05	3.11	--	--	--	--	--	3.91
PCB-201					7.23	4.26	--	--	--	--	--	4.45
PCB-202					15.1	9.05	--	--	--	--	--	11.1
PCB-203					38.5	22.8	--	--	--	--	--	21.9
PCB-204					0.307 U	0.27 U	--	--	--	--	--	0.0785 U
PCB-205					2.73	1.5	--	--	--	--	--	1.2
PCB-206					29.9	24.4	--	--	--	--	--	20.3
PCB-207					3.77	2.73	--	--	--	--	--	2.29
PCB-208					9.37	6.73	--	--	--	--	--	6.84
PCB-209					17	12	--	--	--	--	--	12.4
Total PCB Congener (U = limit)					12662.137 J	7852.143 J	--	--	--	--	--	8429.5247 J
Total PCB Congener TEQ 1998 (Avian) (U = limit)					2.9237057 J	1.7188037 J	--	--	--	--	--	1.9832982
Total PCB Congener TEQ 1998 (Fish) (U = limit)					0.0279601 J	0.01629535 J	--	--	--	--	--	0.0163017
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					0.4082171 J	0.2519348 J	--	--	--	--	--	0.2143385
Total PCB Congener (U = 1/2)					12654.534 J	7844.962 J	--	--	--	--	--	8427.2624 J
Total PCB Congener (U = 0)			130000	1000000	12646.931 J	7837.781 J	--	--	--	--	--	8425 J
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					2.9232582 J	1.7182587 J	--	--	--	--	--	1.9831937
Total PCB Congener TEQ 1998 (Avian) (U = 0)					2.9228107 J	1.7177137 J	--	--	--	--	--	1.9830892
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					0.027937725 J	0.0162681 J	--	--	--	--	--	0.016296475
Total PCB Congener TEQ 1998 (Fish) (U = 0)					0.02791535 J	0.01624085 J	--	--	--	--	--	0.01629125
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					0.3947921 J	0.2355848 J	--	--	--	--	--	0.2112035
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					0.3813671 J	0.2192348 J	--	--	--	--	--	0.2080685
Total Petroleum Hydrocarbons (mg/kg)												
Diesel range hydrocarbons					--	--	--	--	--	--	--	--
Motor oil range hydrocarbons					--	--	--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)												
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					0.00013922408095 J	7.538612719E-05 J	0.00017751 J	0.00019984822335 J	0.00024065841122 J	0.00022278974359 J	0.00017964042553 J	0.000124736
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					1.331433333E-06 J	7.14708333E-07 J	0.000119185 J	0.00012722893401 J	0.00012062570093 J	0.0001256974359 J	0.00010534521277 J	1.02526E-06
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					1.943890952E-05 J	1.104977193E-05 J	0.00016112136364 J	0.0001612177665 J	0.00014702943925 J	0.00017065538462 J	0.00014153351064 J	1.34804E-05
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					0.00013920277143 J	7.536222368E-05 J	0.000173035 J	0.00019956522843 J	0.00024031191589 J	0.00022240410256 J	0.00017937526596 J	0.000124729
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					1.330367857E-06 J	7.13513158E-07 J	0.00011471 J	0.00012694593909 J	0.00012027920561 J	0.00012531179487 J	0.00010508005319 J	1.02494E-06
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					1.879962381E-05 J	1.033266667E-05 J	0.00015664636364 J	0.00016093477157 J	0.00014668294393 J	0.00017026974359 J	0.00014126835106 J	1.32832E-05
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					0.0001391814619 J	7.533832018E-05 J	0.00016856 J	0.0001992822335 J	0.00023996542056 J	0.00022201846154 J	0.00017911010638 J	0.000124723
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					1.329302381E-06 J	7.12317983E-07 J	0.000110235 J	0.00012666294416 J	0.00011993271028 J	0.00012492615385 J	0.00010481489362 J	1.02461E-06
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					1.81603381E-05 J	9.6155614E-06 J	0.00015217136364 J	0.00016065177665 J	0.0001463364486 J	0.00016988410256 J	0.00014100319149 J	1.30861E-05
Dioxin Furans and PCB Congeners (ng/kg)												
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					2.9237057 J	1.7188037 J	3.90522 J	3.93701 J	5.15009 J	4.3444 J	3.37724 J	1.9832982
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					0.0279601 J	0.01629535 J	2.62207 J	2.50641 J	2.58139 J	2.4511 J	1.98049 J	0.0163017
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					0.4082171 J	0.2519348 J	3.54467 J	3.17599 J	3.14643 J	3.32778 J	2.66083 J	0.2143385
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					2.9232582 J	1.7182587 J	3.80677 J	3.931435 J	5.142675 J	4.33688 J	3.372255 J	1.9831937
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					0.027937725 J	0.0162681 J	2.52362 J	2.500835 J	2.573975 J	2.44358 J	1.975505 J	0.016296475

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-301-130919	JW-302-130919	JW-SS-101-2013	JW-SS-102-2013	JW-SS-103-2013	JW-SS-104-2013	JW-SS-105-2013	JW-SS-106-2013
Sample ID					JW-301-130919	JW-302-130919	JW-SS-101-130429	JW-SS-102-130429	JW-SS-103-130429	JW-SS-104-130429	JW-SS-105-130429	JW-SS-106-130429
Sample Date					9/19/2013	9/19/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1302315.848	1302196.687	1302147.983	1302137.562	1302321.922	1302384.445	1302452.239	1302358.053
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	371339.0055	370932.173	373756.235	373622.314	373182.718	373076.652	372980.985	372592.179
Analyte												
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					0.3947921 J	0.2355848 J	3.44622 J	3.170415 J	3.139015 J	3.32026 J	2.655845 J	0.2112035
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					2.9228107 J	1.7177137 J	3.70832 J	3.92586 J	5.13526 J	4.32936 J	3.36727 J	1.9830892
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					0.02791535 J	0.01624085 J	2.42517 J	2.49526 J	2.56656 J	2.43606 J	1.97052 J	0.01629125
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					0.3813671 J	0.2192348 J	3.34777 J	3.16484 J	3.1316 J	3.31274 J	2.65086 J	0.2080685

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-SS-107-2013	JW-SS-108-2013	JW-SS-109-2013	JW-SS-110-2013	JW-SS-110-2013	JW-SS-207-2013	JW-SS-208-2013	JW-SS-209-2013
Sample ID					JW-SS-107-130429	JW-SS-108-130429	JW-SS-109-130429	JW-SS-110-130429	JW-SS-310-130429	JW-SS-207-130429	JW-SS-208-130429	JW-SS-209-130429
Sample Date					4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1302378.901	1302611.606	1302793.455	1302729.017	1302729.017	1302337.163942	1302131.302806	1302183.819433
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372312.064	372134.198	372034.018	371899.504	371899.504	372986.353233	372599.319231	372279.345789
Analyte												
Conventional Parameters (pct)												
Total organic carbon					**1.75**	**2.24**	**2.34**	**2.34**	**2.73**	**2.35 J**	**2.18 J**	**1.67 J**
Moisture, percent					--	--	--	--	--	--	--	--
Total Solids					**68.94**	**63.19**	**62.58**	**62.66**	**62**	**49.9**	**49.1**	**54.5**
Total solids (preserved)					--	--	--	--	--	--	--	--
Total volatile solids					--	--	--	--	--	--	--	--
Conventional Parameters (mg/kg)												
Ammonia as nitrogen					--	--	--	--	--	--	--	--
Black carbon					--	--	--	--	--	--	--	--
Sulfide					--	--	--	--	--	--	--	--
Grain Size (pct)												
Cobbles					--	--	--	--	--	--	--	--
Gravel					--	--	--	--	--	--	--	--
Sand					--	--	--	--	--	--	--	--
Sand, very coarse					--	--	--	--	--	--	--	--
Sand, coarse					--	--	--	--	--	--	--	--
Sand, medium					--	--	--	--	--	--	--	--
Sand, fine					--	--	--	--	--	--	--	--
Sand, very fine					--	--	--	--	--	--	--	--
Silt					--	--	--	--	--	--	--	--
Silt, coarse					--	--	--	--	--	--	--	--
Silt, medium					--	--	--	--	--	--	--	--
Silt, fine					--	--	--	--	--	--	--	--
Silt, very fine					--	--	--	--	--	--	--	--
Total fines (Reported, not calculated)					--	--	--	--	--	--	--	--
Clay					--	--	--	--	--	--	--	--
Clay, coarse					--	--	--	--	--	--	--	--
Clay, medium					--	--	--	--	--	--	--	--
Clay, fine					--	--	--	--	--	--	--	--
Metals (mg/kg)												
Antimony					--	--	--	--	--	--	--	--
Arsenic	57	93	57	93	--	--	--	--	--	--	--	--
Cadmium	5.1	6.7	5.1	6.7	--	--	--	--	--	--	--	--
Chromium	260	270	260	270	--	--	--	--	--	--	--	--
Copper	390	390	390	390	--	--	--	--	--	--	--	--
Lead	450	530	450	530	--	--	--	--	--	--	--	--
Mercury	0.41	0.59	0.41	0.59	--	--	--	--	--	--	--	--
Nickel					--	--	--	--	--	--	--	--
Silver	6.1	6.1	6.1	6.1	--	--	--	--	--	--	--	--
Zinc	410	960	410	960	--	--	--	--	--	--	--	--
Volatile Organics (mg/kg-OC)												
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--	--	--
Volatile Organics (µg/kg)												
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII								
Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-SS-107-2013	JW-SS-108-2013	JW-SS-109-2013	JW-SS-110-2013	JW-SS-110-2013	JW-SS-207-2013	JW-SS-208-2013	JW-SS-209-2013
Sample ID					JW-SS-107-130429	JW-SS-108-130429	JW-SS-109-130429	JW-SS-110-130429	JW-SS-310-130429	JW-SS-207-130429	JW-SS-208-130429	JW-SS-209-130429
Sample Date					4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1302378.901	1302611.606	1302793.455	1302729.017	1302729.017	1302337.163942	1302131.302806	1302183.819433
Y					372312.064	372134.198	372034.018	371899.504	371899.504	372986.353233	372599.319231	372279.345789
Semivolatile Organics (mg/kg-OC)												
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--	--	--
Semivolatile Organics (µg/kg)												
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene					--	--	--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--	--	--
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)												
2-Methylnaphthalene	38	64			--	--	--	--	--	--	--	--
Acenaphthene	16	57			--	--	--	--	--	--	--	--
Acenaphthylene	66	66			--	--	--	--	--	--	--	--
Anthracene	220	1200			--	--	--	--	--	--	--	--
Benzo(a)anthracene	110	270			--	--	--	--	--	--	--	--
Benzo(a)pyrene	99	210			--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	--	--	--
Chrysene	110	460			--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					**JW-SS-107-2013**	**JW-SS-108-2013**	**JW-SS-109-2013**	**JW-SS-110-2013**	**JW-SS-110-2013**	**JW-SS-207-2013**	**JW-SS-208-2013**	**JW-SS-209-2013**
Sample ID					**JW-SS-107-130429**	**JW-SS-108-130429**	**JW-SS-109-130429**	**JW-SS-110-130429**	**JW-SS-310-130429**	**JW-SS-207-130429**	**JW-SS-208-130429**	**JW-SS-209-130429**
Sample Date					**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**FD**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302378.901**	**1302611.606**	**1302793.455**	**1302729.017**	**1302729.017**	**1302337.163942**	**1302131.302806**	**1302183.819433**
Y					**372312.064**	**372134.198**	**372034.018**	**371899.504**	**371899.504**	**372986.353233**	**372599.319231**	**372279.345789**
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**								
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	--	--	--
Dibenzofuran	15	58			--	--	--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	--	--	--
Fluorene	23	79			--	--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	--	--	--
Naphthalene	99	170			--	--	--	--	--	--	--	--
Phenanthrene	100	480			--	--	--	--	--	--	--	--
Pyrene	1000	1400			--	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)												
1-Methylnaphthalene					--	--	--	--	--	--	--	--
2-Methylnaphthalene			670	670	--	--	--	--	--	--	--	--
Acenaphthene			500	500	--	--	--	--	--	--	--	--
Acenaphthylene			1300	1300	--	--	--	--	--	--	--	--
Anthracene			960	960	--	--	--	--	--	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--	--	--	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene					--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene					--	--	--	--	--	--	--	--
Chrysene			1400	2800	--	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	--	--	--
Dibenzofuran			540	540	--	--	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	--	--	--
Fluorene			540	540	--	--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	--	--	--
Naphthalene			2100	2100	--	--	--	--	--	--	--	--
Phenanthrene			1500	1500	--	--	--	--	--	--	--	--
Pyrene			2600	3300	--	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	--	--	--
Dioxin Furans (ng/kg)												
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					--	**0.701**	**0.785**	**0.82**	**0.844**	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					--	**1.96 J**	**1.78 J**	**2.36 J**	**2.21 J**	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	**2.22 J**	**2.07 J**	**2.92**	**2.75**	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-SS-107-2013	JW-SS-108-2013	JW-SS-109-2013	JW-SS-110-2013	JW-SS-110-2013	JW-SS-207-2013	JW-SS-208-2013	JW-SS-209-2013
Sample ID					JW-SS-107-130429	JW-SS-108-130429	JW-SS-109-130429	JW-SS-110-130429	JW-SS-310-130429	JW-SS-207-130429	JW-SS-208-130429	JW-SS-209-130429
Sample Date					4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1302378.901	1302611.606	1302793.455	1302729.017	1302729.017	1302337.163942	1302131.302806	1302183.819433
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372312.064	372134.198	372034.018	371899.504	371899.504	372986.353233	372599.319231	372279.345789
Analyte												
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	**8.99**	**5.38**	**10.1**	**8.29**	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					--	**4.62**	**3.21**	**5.78**	**4.48**	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					--	**106**	**103**	**151**	**114**	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					--	**664**	**1170**	**1180**	**780**	--	--	--
Total Tetrachlorodibenzo-p-dioxin (TCDD)					--	**69.2 J**	**79.8 J**	**73.3 J**	**63.7 J**	--	--	--
Total Pentachlorodibenzo-p-dioxin (PeCDD)					--	**64.4 J**	**68.7 J**	**70.3 J**	**57 J**	--	--	--
Total Hexachlorodibenzo-p-dioxin (HxCDD)					--	**104**	**87.6**	**111**	**91.7 J**	--	--	--
Total Heptachlorodibenzo-p-dioxin (HpCDD)					--	**223**	**218**	**316**	**241**	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					--	**8.03**	**5.09**	**8.32**	**6.92**	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					--	**1.57 J**	**1.5 J**	**1.57 J**	**1.39 J**	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					--	**3.05**	**3.89**	**3.32**	**2.72**	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					--	**1.74 J**	**1.64 J**	**2.14 J**	**1.75 J**	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	**1.59 J**	**1.52 J**	**1.68 J**	**1.48 J**	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					--	0.1771 U	0.1618 U	0.1646 U	0.1714 U	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	**2.51**	**2.35 J**	**2.86**	**2.35 J**	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					--	**21.9**	**23.8**	**30.2**	**22.9**	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					--	**1.34 J**	**1.28 J**	**2.03 J**	**1.64 J**	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					--	**39.4**	**162**	**84.6**	**49.6**	--	--	--
Total Tetrachlorodibenzofuran (TCDF)					--	**73.9 J**	**86 J**	**77.2 J**	**67.1 J**	--	--	--
Total Pentachlorodibenzofuran (PeCDF)					--	**37.8 J**	**47 J**	**42 J**	**33.7 J**	--	--	--
Total Hexachlorodibenzofuran (HxCDF)					--	**41.3 J**	**34.9 J**	**45.5 J**	**36.9**	--	--	--
Total Heptachlorodibenzofuran (HpCDF)					--	**59.6**	**86.5**	**91.8 J**	**66.4**	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	**15.57135 J**	**13.22748 J**	**17.08622 J**	**14.5189 J**	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	**6.92255 J**	**7.01458 J**	**8.23752 J**	**7.3497 J**	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	**8.11423 J**	**7.59958 J**	**9.83124 J**	**8.36512 J**	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	**15.562495 J**	**13.21939 J**	**17.07799 J**	**14.51033 J**	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	**6.913695 J**	**7.00649 J**	**8.22929 J**	**7.34113 J**	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	**8.105375 J**	**7.59149 J**	**9.82301 J**	**8.35655 J**	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	**15.55364 J**	**13.2113 J**	**17.06976 J**	**14.50176 J**	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	**6.90484 J**	**6.9984 J**	**8.22106 J**	**7.33256 J**	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	**8.09652 J**	**7.5834 J**	**9.81478 J**	**8.34798 J**	--	--	--
PCB Aroclors (mg/kg-OC)												
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--	--	--
PCB Aroclors (µg/kg)												
Aroclor 1016					--	--	--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--	--	--
Aroclor 1262					--	--	--	--	--	--	--	--
Aroclor 1268					--	--	--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-SS-107-2013	JW-SS-108-2013	JW-SS-109-2013	JW-SS-110-2013	JW-SS-110-2013	JW-SS-207-2013	JW-SS-208-2013	JW-SS-209-2013
Sample ID					JW-SS-107-130429	JW-SS-108-130429	JW-SS-109-130429	JW-SS-110-130429	JW-SS-310-130429	JW-SS-207-130429	JW-SS-208-130429	JW-SS-209-130429
Sample Date					4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1302378.901	1302611.606	1302793.455	1302729.017	1302729.017	1302337.163942	1302131.302806	1302183.819433
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372312.064	372134.198	372034.018	371899.504	371899.504	372986.353233	372599.319231	372279.345789
Analyte												
PCB Congeners (mg/kg-OC)												
Total PCB Congener (U = limit)					**0.7762985429 J**	**2.205004196 J**	**2.039072479 J**	**3.028431239 J**	**2.156191758 J**	**0.458716511 J**	**0.293266972 J**	**0.660782994 J**
Total PCB Congener (U = 1/2)					**0.7761976714 J**	**2.204852321 J**	**2.03890406 J**	**3.02826453 J**	**2.15611141 J**	**0.456564021 J**	**0.288819404 J**	**0.66034479 J**
Total PCB Congener (U = 0)	12	65			**0.7760968 J**	**2.204700446 J**	**2.038735641 J**	**3.028097821 J**	**2.156031062 J**	**0.454411532 J**	**0.284371835 J**	**0.659906587 J**
Total PCB Congener TEQ 1998 (Avian) (U = limit)					**0.000159331**	**0.000479288**	**0.00032508**	**0.00064792**	**0.000432422**	**7.01082553E-05 J**	**6.35952E-05**	**0.0001360281916 J**
Total PCB Congener TEQ 1998 (Fish) (U = limit)					**1.23537E-06**	**3.93558E-06**	**3.39594E-06**	**5.25376E-06**	**3.74717E-06**	**6.8785106E-07 J**	**4.60255E-07**	**1.08777844E-06 J**
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					**1.57442E-05**	**4.93717E-05**	**4.26604E-05**	**6.36109E-05**	**4.7087E-05**	**9.5106809E-06 J**	**7.1144E-06**	**1.50693653E-05 J**
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					**0.000159324**	**0.000479276**	**0.000325072**	**0.000647906**	**0.000432411**	**7.0084E-05 J**	**5.93191E-05**	**0.0001359910659 J**
Total PCB Congener TEQ 1998 (Avian) (U = 0)					**0.000159317**	**0.000479264**	**0.000325063**	**0.000647892**	**0.000432401**	**7.00597447E-05 J**	**5.50429E-05**	**0.0001359539401 J**
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					**1.23505E-06**	**3.93499E-06**	**3.3955E-06**	**5.25306E-06**	**3.74665E-06**	**6.866383E-07 J**	**3.39544E-07**	**1.08592216E-06 J**
Total PCB Congener TEQ 1998 (Fish) (U = 0)					**1.23472E-06**	**3.9344E-06**	**3.39506E-06**	**5.25235E-06**	**3.74614E-06**	**6.8542553E-07 J**	**2.18833E-07**	**1.08406587E-06 J**
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					**1.5547E-05**	**4.90154E-05**	**4.23982E-05**	**6.31879E-05**	**4.67766E-05**	**8.7830213E-06 J**	**3.94306E-06**	**1.39555928E-05 J**
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					**1.53499E-05**	**4.86592E-05**	**4.21361E-05**	**6.27648E-05**	**4.64661E-05**	**8.0553617E-06 J**	**7.71711E-07**	**1.28418204E-05 J**
PCB Congeners (ng/kg)												
PCB-001					**761**	**124**	**33.6**	**88.3**	**101**	**25.8**	**45.6**	**53.1**
PCB-002					**126**	**71.9**	**73.3**	**85.9**	**69.7**	**44.3**	**43.5**	**32.8**
PCB-003					**501**	**125**	**54**	**112**	**104**	**28.1**	**35.9**	**46.2**
PCB-004					**82.1 J**	**106 J**	**48.9 J**	**87.6 J**	**81.3 J**	**12.8**	**17**	**21.7**
PCB-005					**7.7**	**7.91**	**191**	**350**	**6.75**	**1.33 J**	**1.49 J**	**1.93**
PCB-006					**46.3**	**76.6**	**33.9**	**67**	**58.4**	**12.4**	**13.5**	**18.7**
PCB-007					**14.6**	**14.4**	**5.19**	**14.2**	**12.5**	**2.4**	**2.9**	**3.91**
PCB-008					**224**	**334**	0.23 U	0.223 U	**308**	**61.2**	**57.2**	**92.3**
PCB-009					**17.6**	**20.6**	**8.77**	**20.4**	**18.1**	**3.88**	**4.3**	**5.96**
PCB-010					**6.37**	**5.41**	**2.12**	**4.89**	**4.51**	0.375 U	**1.45 J**	**1.8**
PCB-011					**163**	**598**	**951**	**948**	**774**	89.3 U	90 U	**134**
PCB-012/013					**31.1**	**49.9**	**36.5**	**56.7**	**45.9**	**10.2**	**10.6**	**14.8**
PCB-014					0.28 U	**2.79**	**3.85**	**3.18**	**2.63**	**1.4 J**	**1.15 J**	**1.04 J**
PCB-015					**133**	**270**	**163**	**307**	**249**	**51.3**	**49.7**	**72.3**
PCB-016					**131**	**241**	**167**	**286**	**255**	**33.2**	**30**	**49.9**
PCB-017					**141**	**263**	**166**	**279**	**248**	**39.1**	**36.1**	**56.7**
PCB-018/030					**285**	**581**	**356**	**620**	**556**	**72.3**	**67.2**	**112**
PCB-019					**16.3**	**50.9**	**28.1**	**42.3**	**36.3**	**4.73**	**4.42**	**7.08**
PCB-020/028					**460**	**1430**	**920**	**1570**	**1310**	**221**	**194**	**329**
PCB-021/033					**176**	**538**	**339**	**595**	**502**	**85.6**	**69.1**	**124**
PCB-022					**135**	**418**	**269**	**477**	**395**	**61.8**	**53.7**	**95.8**
PCB-023					0.366 U	**0.933 J**	**0.733 J**	**0.952 J**	**0.852 J**	0.636 U	0.925 U	0.434 U
PCB-024					**3.62**	**6.05**	**4.54**	**5.83**	**5.8**	**0.905 J**	**0.97 J**	**1.53 J**
PCB-025					**27.7**	**130**	**57.2**	**100**	**79.8**	**16.3**	**13.7**	**21.3**
PCB-026/029					**54.9**	**302**	**115**	**200**	**163**	**29.9**	**24.5**	**40.2**
PCB-027					**23.1**	**54.9**	**31.4**	**49.4**	**43.7**	**6.86**	**6.33**	**9.65**
PCB-031					**349**	**1130**	**705**	**1260**	**1070**	**161**	**136**	**241**
PCB-032					**112**	**200**	**131**	**224**	**204**	**27.7**	**25.9**	**44.2**
PCB-034					**2.29**	**7.09**	**4.15**	**8.78**	**7.01**	**1 J**	0.956 U	**1.68**
PCB-035					**11.5**	**39.2**	**35**	**50.2**	**40.8**	**6.36**	**5.87**	**9.05**

Table H-1
Surface Sediment Results

Task					**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**
Location ID					**JW-SS-107-2013**	**JW-SS-108-2013**	**JW-SS-109-2013**	**JW-SS-110-2013**	**JW-SS-110-2013**	**JW-SS-207-2013**	**JW-SS-208-2013**	**JW-SS-209-2013**
Sample ID					**JW-SS-107-130429**	**JW-SS-108-130429**	**JW-SS-109-130429**	**JW-SS-110-130429**	**JW-SS-310-130429**	**JW-SS-207-130429**	**JW-SS-208-130429**	**JW-SS-209-130429**
Sample Date					**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**FD**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302378.901**	**1302611.606**	**1302793.455**	**1302729.017**	**1302729.017**	**1302337.163942**	**1302131.302806**	**1302183.819433**
Y					**372312.064**	**372134.198**	**372034.018**	**371899.504**	**371899.504**	**372986.353233**	**372599.319231**	**372279.345789**
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**								
PCB-036					**2.71**	**8.81**	**13**	**12.9**	**10.7**	**1.54 J**	**1.66 J**	**2.18 J**
PCB-037					**134**	**426**	**285**	**522**	**423**	**72.2**	**65**	**103**
PCB-038					**0.875 J**	**1.58**	**1.96**	**1.76 J**	**1.34 J**	0.691 U	1 U	0.472 U
PCB-039					**1.12**	**3.3**	**4.77**	**9.28**	**3.55**	**1.19 J**	0.954 U	**2.22**
PCB-040/071					**160**	**704**	**500**	**926**	**753**	**58.6**	**46.3**	**101**
PCB-041					**20.2**	**85.8**	**52.2**	**121**	**99.9**	**8.14**	**8.57**	**17.4**
PCB-042					**90.4**	**332**	**235**	**460**	**375**	**37.7**	**31.4**	**64.9**
PCB-043					**10.2**	**37.2**	**26.2**	**53.2**	**43.7**	**4.94**	**3.81**	**8.02**
PCB-044/047/065					**339**	**1360**	**1170**	**1890**	**1550**	**187**	**121**	**258**
PCB-045					**35.2**	**145**	**102**	**197**	**168**	**11.7**	**9.68**	**19.6**
PCB-046					**12.4**	**51.8**	**35.6**	**69.8**	**58.2**	**5.12**	**4.03**	**8.51**
PCB-048					**57.9**	**219**	**138**	**284**	**239**	**25**	**21.4**	**43.8**
PCB-049/069					**220**	**940**	**682**	**1120**	**922**	**115**	**83.5**	**167**
PCB-050/053					**30.4**	**152**	**104**	**182**	**152**	**14.5**	**10.6**	**21.5**
PCB-051					**7.79**	**33.7**	**20.3**	**37.2**	**30.1**	**3.96**	**2.91**	**6.98**
PCB-052					**440**	**2180**	**2190**	**2940**	**2450**	**334**	**160**	**344**
PCB-054					**0.374 J**	**1.26**	**0.803 J**	**1.7**	**1.29**	0.303 U	0.626 U	0.308 U
PCB-055					**4.78**	**23.5**	**13**	**27.8**	**18.2**	**3.28**	**2.56 J**	**7.21**
PCB-056					**205**	**719**	**479**	**978**	**811**	**98**	**80**	**156**
PCB-057					**1.86**	**5**	**2.9**	**6.28**	**5.53**	0.602 U	0.875 U	**1.34 J**
PCB-058					**1.81**	**5.6**	**3.53**	**8.94**	**6.09**	**0.762 J**	0.879 U	**1.39 J**
PCB-059/062/075					**27.5**	**100**	**64.7**	**124**	**103**	**11.5**	**10.2**	**21**
PCB-060					**98.2**	**352**	**235**	**507**	**411**	**40.2**	**37.2**	**68.6**
PCB-061/070/074/076					**789**	**2600**	**2200**	**3770**	**3230**	**457**	**296**	**624**
PCB-063					**16**	**47.9**	**33.3**	**70.4**	**58.6**	**7.72**	**6.15**	**13.2**
PCB-064					**140**	**532**	**419**	**743**	**611**	**62.8**	**45.1**	**101**
PCB-066					**480**	**1580**	**1090**	**2150**	**1790**	**247**	**196**	**387**
PCB-067					**12.6**	**37.6**	**23.1**	**49.1**	**41.1**	**7.36**	0.821 U	**11.5**
PCB-068					**3.44**	**10.3**	**8.1**	**14.1**	**11**	**1.91**	**1.3 J**	**2.9**
PCB-072					**6.1**	**21.5**	**14**	**27.6**	**22.1**	**3.08**	**2.21**	**4.8**
PCB-073					**0.515 J**	0.162 U	0.163 U	0.177 U	**2.42**	0.274 U	0.533 U	**2.02**
PCB-077					**46.6**	**181**	**123**	**256**	**198**	**26.5**	**23.6**	**38.1**
PCB-078					0.268 U	1.08 U	1.09 U	1.65 U	1.54 U	0.682 U	0.991 U	1.17 U
PCB-079					**4.23**	0.918 U	**20**	**25.2**	**21.3**	**6.11**	**3.29**	**7.54**
PCB-080					**1.88**	**8.27**	0.919 U	**13.3**	**11.2**	0.53 U	**1.49 J**	0.911 U
PCB-081					**1.86**	**5.71**	**4.29**	**8.42**	**5.96**	**1.22 J**	0.902 U	**1.45 J**
PCB-082					**57.3**	**288**	**336**	**457**	**369**	**70.8**	**30.5**	**62.1**
PCB-083					**26.4**	**133**	**143**	**207**	**167**	**35.1**	**11.1**	1.1 U
PCB-084					**106**	**529**	**675**	**854**	**714**	**137**	**46.2**	**109**
PCB-085/116					**82.8**	**400**	**428**	**612**	**488**	**92.2**	**45.2**	**81**
PCB-086/087/097/108/119/125					**320**	**1590**	**1970**	**2460**	**2040**	**427**	**173**	**347**
PCB-086/087/097/109/119/125					--	--	--	--	--	--	--	--
PCB-088					**69.2**	1.32 U	1.33 U	1.61 U	0.374 U	0.888 U	**32.6**	1.04 U
PCB-089					**5.05**	**22.4**	**23.5**	**37.6**	**30.6**	**4.14**	**2.3**	**4.39**

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-SS-107-2013	JW-SS-108-2013	JW-SS-109-2013	JW-SS-110-2013	JW-SS-110-2013	JW-SS-207-2013	JW-SS-208-2013	JW-SS-209-2013
Sample ID					JW-SS-107-130429	JW-SS-108-130429	JW-SS-109-130429	JW-SS-110-130429	JW-SS-310-130429	JW-SS-207-130429	JW-SS-208-130429	JW-SS-209-130429
Sample Date					4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1302378.901	1302611.606	1302793.455	1302729.017	1302729.017	1302337.163942	1302131.302806	1302183.819433
Y					372312.064	372134.198	372034.018	371899.504	371899.504	372986.353233	372599.319231	372279.345789
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII								
PCB-090/101/113					**484**	**2270**	**2750**	**3450**	**2880**	**613**	**268**	**529**
PCB-091					0.319 U	**229**	**266**	**342**	**290**	**57.1**	0.756 U	**51.2**
PCB-092					**97.3**	**450**	**525**	**681**	**574**	**113**	**52.9**	**102**
PCB-093/100					**3.6**	**11.1**	**12**	**15**	**13.3**	**3.6**	0.872 U	**4.18**
PCB-094					**1.73**	**7.6**	**8.16**	**12.6**	**10.3**	**1.68 J**	0.952 U	**1.86**
PCB-095					**273**	**1410**	**1760**	**2200**	**1870**	**375**	**133**	**319**
PCB-096					**2.89**	**12.3**	**12.1**	**19.4**	**15.2**	**2.66**	**1.13 J**	**1.76 J**
PCB-098					**1.1**	**8.49**	**3.73**	**8.85**	**2.39**	0.743 U	0.872 U	0.87 U
PCB-099					**255**	**1140**	**1360**	**1630**	**1340**	**324**	**165**	**319**
PCB-102					**9.63**	**42.3**	**48**	**67.2**	**58.6**	**11.7**	**5.88**	**12.6**
PCB-103					**4.07**	**13.7**	**13.8**	**18**	**14.3**	**3.97**	**1.95**	**4.3**
PCB-104					0.123 U	**0.19 J**	0.104 U	0.122 U	0.123 U	0.238 U	0.476 U	0.184 U
PCB-105					**220**	**1060**	**1260**	**1710**	**1350**	**268**	**120**	**225**
PCB-106					0.288 U	0.842 U	0.845 U	1.03 U	0.238 U	0.648 U	0.761 U	0.759 U
PCB-107					--	--	--	--	--	--	--	--
PCB-107/124					**16.4**	**82.4**	**105**	**128**	**106**	**24.9**	**11.1**	**20.9**
PCB-108/124					--	--	--	--	--	--	--	--
PCB-109					**40.8**	**176**	**196**	**257**	**210**	**43.8**	**24.6**	**41.9**
PCB-110					**593**	**2800**	**3470**	**4270 J**	**3490**	**788**	**342**	**686**
PCB-111					**0.541 J**	**1.82**	**1.84**	**2.54**	**1.76**	0.561 U	0.659 U	0.657 U
PCB-112					**0.529 J**	**2.28**	**1.27**	**11.3**	**2.08**	0.58 U	0.681 U	0.679 U
PCB-114					**9.69**	**46.8**	**56.9**	**71.3**	**59**	**13.3**	**6.44**	**11.6**
PCB-115					**8.84**	**65.9**	**41.9**	**74**	**64.2**	**30.3**	**6.14**	0.614 U
PCB-117					**10.2**	**59.1**	**71.3**	**84.7**	**58.4**	**18.6**	**6.58**	**14.5**
PCB-118					**512**	**2420**	**2880**	**3610**	**2960**	**599**	**294**	**534**
PCB-120					**3.3**	**10.6**	**9.34**	**14.3**	**10.8**	**2.54**	0.672 U	**3.3**
PCB-121					0.275 U	0.805 U	0.808 U	0.981 U	0.228 U	0.557 U	0.654 U	0.652 U
PCB-122					**5.22**	**24.2**	**27.8**	**35.4**	**29.2**	**9.23**	**5.25**	**8.66**
PCB-123					**6.97**	**34.4**	**41**	**56.5**	**40.9**	**11.6**	**5.42**	**7.9**
PCB-126					**2.39**	**9.53**	**8.32**	**12.6**	**11**	**1.56 J**	0.948 U	**1.84 J**
PCB-127					0.276 U	**2.49**	0.816 U	**4.18**	**3.27**	**1.34 J**	0.77 U	0.833 U
PCB-128/166					**63.4**	**374**	**471**	**585**	**504**	**109**	**54.9**	**89.5**
PCB-129/138/163					**474**	**2380**	**2620**	**3760**	**3060**	**714**	**386**	**586**
PCB-130					**31.7**	**165**	**181**	**262**	**212**	**48.5**	**25.6**	**39.2**
PCB-131					**4.07 J**	**29.2**	**35.6**	**47.1**	**38.4**	**8.62**	**4.03**	**6.35**
PCB-132					**127**	**699**	**810**	**1140**	**933**	**196**	**92.3**	**153**
PCB-133					**7.89**	**32.4**	**30.9**	**48.9**	**39.8**	**11.7**	**7.36**	**9.91**
PCB-134					**23.9**	**125**	**147**	**200**	**167**	**38.1**	**17.6**	**27.1**
PCB-135/151					**128**	**604**	**584**	**966**	**783**	**152**	**93.7**	**136**
PCB-136					**46.3**	**229**	**238**	**353**	**302**	**66**	**33.7**	**49**
PCB-137					**17.1**	**100**	**131**	**148**	**132**	**32.8**	**14.9**	**25.9**
PCB-139/140					**7.25**	**39**	**50.1**	**63.1**	**51.1**	**13.6**	**6.78**	**10.7**
PCB-141					**65.9**	**346**	**364**	**523**	**465**	**94.4**	**50.2**	**80.3**
PCB-142					0.138 U	**0.466 J**	**0.592 J**	**0.631 J**	**0.857 J**	0.31 U	0.603 U	0.329 U

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					**JW-SS-107-2013**	**JW-SS-108-2013**	**JW-SS-109-2013**	**JW-SS-110-2013**	**JW-SS-110-2013**	**JW-SS-207-2013**	**JW-SS-208-2013**	**JW-SS-209-2013**
Sample ID					**JW-SS-107-130429**	**JW-SS-108-130429**	**JW-SS-109-130429**	**JW-SS-110-130429**	**JW-SS-310-130429**	**JW-SS-207-130429**	**JW-SS-208-130429**	**JW-SS-209-130429**
Sample Date					**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**FD**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302378.901**	**1302611.606**	**1302793.455**	**1302729.017**	**1302729.017**	**1302337.163942**	**1302131.302806**	**1302183.819433**
Y **Analyte**	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**	**372312.064**	**372134.198**	**372034.018**	**371899.504**	**371899.504**	**372986.353233**	**372599.319231**	**372279.345789**
PCB-143					**0.614 J**	**6.45**	**7.92**	**15.6**	**8.52**	0.286 U	0.558 U	**1.63**
PCB-144					**16**	**85.8**	**89.9**	**143**	**117**	**21.8**	**11.7**	**18**
PCB-145					0.0946 U	**0.647 J**	**0.794 J**	**1.15**	**0.997**	0.217 U	0.411 U	0.218 U
PCB-146					**75.2**	**320**	**311**	**495**	**396**	**102**	**65.9**	**88.8**
PCB-147/149					**311**	**1510**	**1560**	**2400**	**1960**	**404**	**230**	**353**
PCB-148					**0.811 J**	**2.25**	**1.87**	**2.92**	**2.37**	**1.23 J**	0.534 U	**1.13 J**
PCB-150					**0.625 J**	**2.1**	**2.08**	**2.79**	**2.28**	**1.13 J**	**0.736 J**	**0.78 J**
PCB-152					**0.294 J**	**1.53**	**1.99**	**2.35**	**1.96**	**0.455 J**	0.384 U	**0.299 J**
PCB-153/168					**404**	**1860**	**1910**	**2950**	**2370**	**463**	**283**	**407**
PCB-154					**6.13**	**20.9**	**20.4**	**29.1**	**22.6**	**10.5**	**6.97**	**8.45**
PCB-155					0.0949 U	0.117 U	0.107 U	0.101 U	0.124 U	0.186 U	0.352 U	0.187 U
PCB-156/157					**47.2**	**254**	**335**	**424**	**364**	**88.8**	**41.5**	**71.1**
PCB-158					**42.2**	**234**	**271**	**366**	**308**	**69.8**	**34**	**53.1**
PCB-159					**2.96**	**11.3**	**8.03**	**17.2**	**14.6**	**3.24**	0.927 U	**4.26**
PCB-160					0.101 U	0.12 U	0.121 U	0.111 U	0.137 U	**7.33**	**4.93**	**6.16**
PCB-161					0.0938 U	0.111 U	0.112 U	0.103 U	0.126 U	0.219 U	0.427 U	0.233 U
PCB-162					**1.52**	**7.55**	**8.93**	**11.1**	**10**	**2.2**	0.946 U	**1.84 J**
PCB-164					**29.5**	**154**	**168**	**257**	**200**	**44.1**	**23.5**	**33.3**
PCB-165					0.102 U	**0.7 J**	0.122 U	**1**	**0.782 J**	0.252 U	0.491 U	0.268 U
PCB-167					**14.4**	**75.4**	**94.6**	**124**	**104**	**24.9**	**12.2**	**20.6**
PCB-169					0.23 U	0.532 U	0.409 U	0.66 U	0.565 U	1.14 U	1.44 U	1.24 U
PCB-170					**84.1**	**406**	**323**	**670**	**572**	**89**	60.4 U	**87.7**
PCB-171/173					**26.3**	**125**	**101**	**205**	**178**	**29**	**20.1**	**26.7**
PCB-172					**14.9**	**68.7**	**52.3**	**106**	**93**	**15.7**	**11.2**	**15.7**
PCB-174					**83.9**	**410**	**301**	**672**	**564**	**80.2**	**57.6**	**79.1**
PCB-175					**3.73**	**17**	**13.3**	**27.4**	**23.6**	**4.16**	**2.51**	**3.08 J**
PCB-176					**9.25**	**41.4**	**31.1**	**62.7**	**55**	**9.94**	**7.1**	**9.08**
PCB-177					**54.8**	**248**	**180**	**395**	**339**	**56.6**	**44.3**	**57.5**
PCB-178					**19.7**	**69.8**	**52.3**	**103**	**92.8**	**21**	**16.6**	**19.7**
PCB-179					**37**	**155**	**107**	**225**	**197**	**37.8**	**29.1**	**36**
PCB-180/193					**191**	**851**	**635**	**1320**	**1150**	**183**	**131**	**183**
PCB-181					**0.643 J**	**3.78**	**4.64**	**6.66**	**5.9**	**1.26 J**	0.953 U	**0.9 J**
PCB-182					**0.748 J**	**2.71**	**2.57**	**3.93**	**3.5**	**1.17 J**	0.882 U	**0.751 J**
PCB-183					**49.5**	**255**	**179**	**337**	**323**	**50.5**	**38.6**	**52.3**
PCB-184					0.0996 U	**0.488 J**	0.105 U	**0.528 J**	0.136 U	**0.328 J**	0.429 U	0.253 U
PCB-185					**4.95**	0.255 U	**20**	**85.7**	**36**	**8.36**	**5.69**	**5.66**
PCB-186					0.0949 U	0.101 U	0.1 U	0.128 U	0.129 U	0.192 U	0.406 U	0.24 U
PCB-187					**118**	**492**	**366**	**770**	**646**	**117**	**94.9**	**119**
PCB-188					**0.245 J**	**0.706 J**	**0.792 J**	**0.848 J**	**0.67 J**	**0.341 J**	0.4 U	**0.29 J**
PCB-189					**3.25**	**14.5**	**12.4**	**23.2**	**20**	**3.9**	**2.55**	**3.58**
PCB-190					**14.6**	**66.1**	**49.3**	**106**	**90.7**	**17.8**	**12.6**	**16.5**
PCB-191					**3.21**	**14.9**	**11.8**	**23.2**	**20.1**	**4.75**	**3.05**	**4.7**
PCB-192					0.191 U	0.214 U	0.22 U	0.409 U	0.394 U	0.501 U	0.868 U	0.588 U
PCB-194					**44.8**	**211**	**148**	**311**	**262**	**45.1**	**38.8**	**47.1**

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-SS-107-2013	JW-SS-108-2013	JW-SS-109-2013	JW-SS-110-2013	JW-SS-110-2013	JW-SS-207-2013	JW-SS-208-2013	JW-SS-209-2013
Sample ID					JW-SS-107-130429	JW-SS-108-130429	JW-SS-109-130429	JW-SS-110-130429	JW-SS-310-130429	JW-SS-207-130429	JW-SS-208-130429	JW-SS-209-130429
Sample Date					4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1302378.901	1302611.606	1302793.455	1302729.017	1302729.017	1302337.163942	1302131.302806	1302183.819433
Y					372312.064	372134.198	372034.018	371899.504	371899.504	372986.353233	372599.319231	372279.345789
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII								
PCB-195					15.1	70.8	48.4	110	92.4	16.3	13.3 U	16.4
PCB-196					19.2	82.7	62.2	124	105	20.2	15.9	20.5
PCB-197					1.21	0.106 U	0.131 U	0.231 U	6.53	1.36 J	1.25 J	1.76 J
PCB-198/199					50	208	161	281	245	48.6	43	48.3
PCB-200					5.43	30.9	23.9	44.8	30.1	4.9	3.44 J	4.91
PCB-201					5.87	25.9	21.8	38.9	32.3	6.43	5.27	6.46
PCB-202					13.8	57	53.5	87.7	69.4	13.5	11.6	13
PCB-203					28.8	128	90.6	167	142	32.1	25.6	28.6
PCB-204					0.0957 U	0.121 U	0.15 U	0.266 U	0.273 U	0.256 U	0.668 U	0.397 U
PCB-205					1.85	7.2	4.94	10.9	9.35	1.91	1.92	2.83
PCB-206					25.3	86.8	154	112	94.3	30.5	27.6	29.9
PCB-207					3.23	13.6	19.9	20.6	16.1	3.89	3.51	3.34
PCB-208					8.44	34.4	71	54.3	42.5	9.95	8.28	8.81
PCB-209					14.8	55.2	217	79.1	66.5	20.9	17.4	20.1
Total PCB Congener (U = limit)					13585.2245 J	49392.094 J	47714.296 J	70865.291 J	58864.035 J	10779.838 J	6393.22 J	11035.076 J
Total PCB Congener TEQ 1998 (Avian) (U = limit)					2.7882852	10.736055	7.606879	15.161327	11.805114	1.647544 J	1.3863757	2.2716708 J
Total PCB Congener TEQ 1998 (Fish) (U = limit)					0.02161905	0.0881571	0.07946495	0.122938	0.10229775	0.0161645 J	0.01003355	0.0181659 J
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					0.2755233	1.105926	0.998254	1.488496	1.285475	0.223501 J	0.1550939	0.2516584 J
Total PCB Congener (U = 1/2)					13583.4593 J	49388.692 J	47710.355 J	70861.39 J	58861.841 J	10729.254 J	6296.263 J	11027.758 J
Total PCB Congener (U = 0)			130000	1000000	13581.694 J	49385.29 J	47706.414 J	70857.489 J	58859.648 J	10678.671 J	6199.306 J	11020.44 J
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					2.7881702	10.735789	7.6066745	15.160997	11.8048315	1.646974 J	1.2931557	2.2710508 J
Total PCB Congener TEQ 1998 (Avian) (U = 0)					2.7880552	10.735523	7.60647	15.160667	11.804549	1.646404 J	1.1999357	2.2704308 J
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					0.0216133	0.0881438	0.079454725	0.1229215	0.102283625	0.016136 J	0.00740205	0.0181349 J
Total PCB Congener TEQ 1998 (Fish) (U = 0)					0.02160755	0.0881305	0.0794445	0.122905	0.1022695	0.0161075 J	0.00477055	0.0181039 J
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					0.2720733	1.097946	0.992119	1.478596	1.277	0.206401 J	0.0859586	0.2330584 J
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					0.2686233	1.089966	0.985984	1.468696	1.268525	0.189301 J	0.0168233	0.2144584 J
Total Petroleum Hydrocarbons (mg/kg)												
Diesel range hydrocarbons					--	--	--	--	--	--	--	--
Motor oil range hydrocarbons					--	--	--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)												
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					0.000159331	0.001174437723214 J	0.000890357222222 J	0.001378100299145 J	0.00096424959707 J	7.01082553E-05 J	6.35952E-05	0.0001360281916 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					1.23537E-06	0.0003129779955357 J	0.0003031643141026 J	0.0003572845299145 J	0.0002729669505495 J	6.8785106E-07 J	4.60255E-07	1.08777844E-06 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					1.57442E-05	0.000411614107143 J	0.000367428803419 J	0.000483749401709 J	0.000353501648352 J	9.5106809E-06 J	7.1144E-06	1.50693653E-05 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					0.000159324	0.001174030535714 J	0.00089000275641 J	0.00137773448718 J	0.00096392532967 J	7.0084E-05 J	5.93191E-05	0.0001359910659 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					1.23505E-06	0.0003125820892857 J	0.000302818150641 J	0.0003569321153846 J	0.0002726525137363 J	6.866383E-07 J	3.39544E-07	1.08592216E-06 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					1.5547E-05	0.000410862544643 J	0.000366820897436 J	0.000482974615385 J	0.000352877289377 J	8.7830213E-06 J	3.94306E-06	1.39555928E-05 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					0.000159317	0.001173623348214 J	0.000889648290598 J	0.001377368675214 J	0.000963601062271 J	7.00597447E-05 J	5.50429E-05	0.0001359539401 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					1.23472E-06	0.0003121861830357 J	0.0003024719871795 J	0.0003565797008547 J	0.0002723380769231 J	6.8542553E-07 J	2.18833E-07	1.08406587E-06 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					1.53499E-05	0.000410110982143 J	0.000366212991453 J	0.00048219982906 J	0.000352252930403 J	8.0553617E-06 J	7.71711E-07	1.28418204E-05 J
Dioxin Furans and PCB Congeners (ng/kg)												
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					2.7882852	26.307405 J	20.834359 J	32.247547 J	26.324014 J	1.647544 J	1.3863757	2.2716708 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					0.02161905	7.0107071 J	7.09404495 J	8.360458 J	7.45199775 J	0.0161645 J	0.01003355	0.0181659 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					0.2755233	9.220156 J	8.597834 J	11.319736 J	9.650595 J	0.223501 J	0.1550939	0.2516584 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					2.7881702	26.298284 J	20.8260645 J	32.238987 J	26.3151615 J	1.646974 J	1.2931557	2.2710508 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					0.0216133	7.0018388 J	7.085944725 J	8.3522115 J	7.443413625 J	0.016136 J	0.00740205	0.0181349 J

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-SS-107-2013	JW-SS-108-2013	JW-SS-109-2013	JW-SS-110-2013	JW-SS-110-2013	JW-SS-207-2013	JW-SS-208-2013	JW-SS-209-2013
Sample ID					JW-SS-107-130429	JW-SS-108-130429	JW-SS-109-130429	JW-SS-110-130429	JW-SS-310-130429	JW-SS-207-130429	JW-SS-208-130429	JW-SS-209-130429
Sample Date					4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013	4/29/2013
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE	SE
X					1302378.901	1302611.606	1302793.455	1302729.017	1302729.017	1302337.163942	1302131.302806	1302183.819433
Y					372312.064	372134.198	372034.018	371899.504	371899.504	372986.353233	372599.319231	372279.345789
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**								
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					0.2720733	9.203321 J	8.583609 J	11.301606 J	9.63355 J	0.206401 J	0.0859586	0.2330584 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					2.7880552	26.289163 J	20.81777 J	32.230427 J	26.306309 J	1.646404 J	1.1999357	2.2704308 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					0.02160755	6.9929705 J	7.0778445 J	8.343965 J	7.4348295 J	0.0161075 J	0.00477055	0.0181039 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					0.2686233	9.186486 J	8.569384 J	11.283476 J	9.616505 J	0.189301 J	0.0168233	0.2144584 J

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	PortGardner_08	PortGardner_08
Location ID					JW-SS-211-2013	JW-SS-214-2013	JW-SS-215-2013	JW-SS-216-2013	A2-18B	A2-18B
Sample ID					JW-SS-211-130429	JW-SS-214-130429	JW-SS-215-130429	JW-SS-216-130429	A2-18B-S_8/14/2008	A2-18B-S_9/4/2008
Sample Date					4/29/2013	4/29/2013	4/29/2013	4/29/2013	8/14/2008	9/4/2008
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302289.984247	1302723.710085	1302604.772987	1302181.5	-122.2181852	-122.2181852
Y					371905.343584	371783.257543	371628.867759	371644.3599	48.01191568	48.01191568
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
Conventional Parameters (pct)										
Total organic carbon					**2.53 J**	**2.91 J**	**2.23 J**	**2.2 J**	**2.46**	--
Moisture, percent					--	--	--	--	--	--
Total Solids					**57.66**	**37.05**	**59.04**	**76.68**	**65.9**	--
Total solids (preserved)					--	--	--	--	**61.5**	--
Total volatile solids					--	--	--	--	**6.42**	--
Conventional Parameters (mg/kg)										
Ammonia as nitrogen					--	--	--	--	**5.44 J**	--
Black carbon					--	--	--	--	--	--
Sulfide					--	--	--	--	**24.5 J**	--
Grain Size (pct)										
Cobbles					--	--	--	--	--	--
Gravel					--	--	--	--	**8.1**	--
Sand					--	--	--	--	--	--
Sand, very coarse					--	--	--	--	**0.8**	--
Sand, coarse					--	--	--	--	**1.5**	--
Sand, medium					--	--	--	--	**10.4**	--
Sand, fine					--	--	--	--	**43.4**	--
Sand, very fine					--	--	--	--	**11**	--
Silt					--	--	--	--	--	--
Silt, coarse					--	--	--	--	**6**	--
Silt, medium					--	--	--	--	**6.5**	--
Silt, fine					--	--	--	--	**1.7**	--
Silt, very fine					--	--	--	--	**4.9**	--
Total fines (Reported, not calculated)					--	--	--	--	--	--
Clay					--	--	--	--	--	--
Clay, coarse					--	--	--	--	**1.5**	--
Clay, medium					--	--	--	--	**1.5**	--
Clay, fine					--	--	--	--	**2.6**	--
Metals (mg/kg)										
Antimony					--	--	--	--	--	--
Arsenic	57	93	57	93	--	--	--	--	**11**	--
Cadmium	5.1	6.7	5.1	6.7	--	--	--	--	0.3 U	--
Chromium	260	270	260	270	--	--	--	--	**40.5**	--
Copper	390	390	390	390	--	--	--	--	**28.9**	--
Lead	450	530	450	530	--	--	--	--	**8**	--
Mercury	0.41	0.59	0.41	0.59	--	--	--	--	0.07 U	--
Nickel					--	--	--	--	--	--
Silver	6.1	6.1	6.1	6.1	--	--	--	--	0.5 U	--
Zinc	410	960	410	960	--	--	--	--	**67**	--
Volatile Organics (mg/kg-OC)										
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
Volatile Organics (µg/kg)										
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	PortGardner_08	PortGardner_08
Location ID					JW-SS-211-2013	JW-SS-214-2013	JW-SS-215-2013	JW-SS-216-2013	A2-18B	A2-18B
Sample ID					JW-SS-211-130429	JW-SS-214-130429	JW-SS-215-130429	JW-SS-216-130429	A2-18B-S_8/14/2008	A2-18B-S_9/4/2008
Sample Date					4/29/2013	4/29/2013	4/29/2013	4/29/2013	8/14/2008	9/4/2008
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302289.984247	1302723.710085	1302604.772987	1302181.5	-122.2181852	-122.2181852
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	371905.343584	371783.257543	371628.867759	371644.3599	48.01191568	48.01191568
Analyte										
Semivolatile Organics (mg/kg-OC)										
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	0.813 U	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	0.813 U	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	0.813 U	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	0.813 U	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	0.813 U	--
Diethyl phthalate	61	110			--	--	--	--	0.813 U	--
Dimethyl phthalate	53	53			--	--	--	--	0.813 U	--
Di-n-butyl phthalate	220	1700			--	--	--	--	0.813 U	--
Di-n-octyl phthalate	58	4500			--	--	--	--	0.813 U	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	0.813 U	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	0.813 U	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	0.813 U	--
Semivolatile Organics (µg/kg)										
1,2,4-Trichlorobenzene			31	51	--	--	--	--	20 U	--
1,2-Dichlorobenzene			35	50	--	--	--	--	20 U	--
1,3-Dichlorobenzene					--	--	--	--	20 U	--
1,4-Dichlorobenzene			110	110	--	--	--	--	20 U	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	20 U	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	20 U	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	20 U	--
Benzoic acid	650	650	650	650	--	--	--	--	200 U	--
Benzyl alcohol	57	73	57	73	--	--	--	--	20 UJ	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	20 U	--
Butylbenzyl phthalate			63	900	--	--	--	--	20 U	--
Diethyl phthalate			200	1200	--	--	--	--	20 U	--
Dimethyl phthalate			71	160	--	--	--	--	20 U	--
Di-n-butyl phthalate			1400	1400	--	--	--	--	20 U	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	20 U	--
Hexachlorobenzene			22	70	--	--	--	--	20 U	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	20 U	--
Hexachloroethane					--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	20 U	--
Pentachlorophenol	360	690	360	690	--	--	--	--	98 U	--
Phenol	420	1200	420	1200	--	--	--	--	20 U	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)										
2-Methylnaphthalene	38	64			--	--	--	--	0.813 U	--
Acenaphthene	16	57			--	--	--	--	0.813 U	--
Acenaphthylene	66	66			--	--	--	--	0.813 U	--
Anthracene	220	1200			--	--	--	--	0.813 U	--
Benzo(a)anthracene	110	270			--	--	--	--	0.813 U	--
Benzo(a)pyrene	99	210			--	--	--	--	0.813 U	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	0.813 U	--
Chrysene	110	460			--	--	--	--	0.813 U	--

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	PortGardner_08	PortGardner_08
Location ID					JW-SS-211-2013	JW-SS-214-2013	JW-SS-215-2013	JW-SS-216-2013	A2-18B	A2-18B
Sample ID					JW-SS-211-130429	JW-SS-214-130429	JW-SS-215-130429	JW-SS-216-130429	A2-18B-S_8/14/2008	A2-18B-S_9/4/2008
Sample Date					4/29/2013	4/29/2013	4/29/2013	4/29/2013	8/14/2008	9/4/2008
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302289.984247	1302723.710085	1302604.772987	1302181.5	-122.2181852	-122.2181852
Y					371905.343584	371783.257543	371628.867759	371644.3599	48.01191568	48.01191568
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
Dibenzo(a,h)anthracene	12	33			--	--	--	--	0.813 U	--
Dibenzofuran	15	58			--	--	--	--	0.813 U	--
Fluoranthene	160	1200			--	--	--	--	**1.22**	--
Fluorene	23	79			--	--	--	--	0.813 U	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	0.813 U	--
Naphthalene	99	170			--	--	--	--	0.813 U	--
Phenanthrene	100	480			--	--	--	--	0.813 U	--
Pyrene	1000	1400			--	--	--	--	**1.057**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	0.81301 U	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	0.81301 U	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	0.81301 U	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	0.813 U	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	**2.276**	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	0.813 U	--
Polycyclic Aromatic Hydrocarbons (µg/kg)										
1-Methylnaphthalene					--	--	--	--	20 U	--
2-Methylnaphthalene			670	670	--	--	--	--	20 U	--
Acenaphthene			500	500	--	--	--	--	20 U	--
Acenaphthylene			1300	1300	--	--	--	--	20 U	--
Anthracene			960	960	--	--	--	--	20 U	--
Benzo(a)anthracene			1300	1600	--	--	--	--	20 U	--
Benzo(a)pyrene			1600	1600	--	--	--	--	20 U	--
Benzo(b)fluoranthene					--	--	--	--	20 U	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	20 U	--
Benzo(k)fluoranthene					--	--	--	--	20 U	--
Chrysene			1400	2800	--	--	--	--	20 U	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	20 U	--
Dibenzofuran			540	540	--	--	--	--	20 U	--
Fluoranthene			1700	2500	--	--	--	--	**30**	--
Fluorene			540	540	--	--	--	--	20 U	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	20 U	--
Naphthalene			2100	2100	--	--	--	--	20 U	--
Phenanthrene			1500	1500	--	--	--	--	20 U	--
Pyrene			2600	3300	--	--	--	--	**26**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	20 U	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	20 U	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	20 U	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	20 U	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	**56**	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	20 U	--
Dioxin Furans (ng/kg)										
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					**0.205 J**	**0.872 J**	**0.529 J**	**0.155 J**	--	**0.31 J**
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					**0.74 J**	**2.35 J**	**1.38 J**	**0.388 J**	--	**0.8 J**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**1.43 J**	**4.06 J**	**2.07 J**	**0.707 J**	--	**1.12 J**

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	PortGardner_08	PortGardner_08
Location ID					JW-SS-211-2013	JW-SS-214-2013	JW-SS-215-2013	JW-SS-216-2013	A2-18B	A2-18B
Sample ID					JW-SS-211-130429	JW-SS-214-130429	JW-SS-215-130429	JW-SS-216-130429	A2-18B-S_8/14/2008	A2-18B-S_9/4/2008
Sample Date					4/29/2013	4/29/2013	4/29/2013	4/29/2013	8/14/2008	9/4/2008
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302289.984247	1302723.710085	1302604.772987	1302181.5	-122.2181852	-122.2181852
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	371905.343584	371783.257543	371628.867759	371644.3599	48.01191568	48.01191568
Analyte										
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**3.78 J**	**11.4**	**7.27**	**2.4 J**	--	**4.29 J**
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					**2.36 J**	**9.07**	**4 J**	**1.36 J**	--	**2.87 J**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					**55**	**177**	**85**	**24.2**	--	**56.7**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					**428**	**1150**	**575**	**157**	--	**377**
Total Tetrachlorodibenzo-p-dioxin (TCDD)					**17.1**	**57.5 J**	**52.1 J**	**17.5 J**	--	**43**
Total Pentachlorodibenzo-p-dioxin (PeCDD)					**14.5 J**	**47.9 J**	**45 J**	**19.3**	--	**50**
Total Hexachlorodibenzo-p-dioxin (HxCDD)					**40.6 J**	**111**	**87.6**	**32.5 J**	--	**57.9**
Total Heptachlorodibenzo-p-dioxin (HpCDD)					**127**	**352**	**201**	**54.6**	--	**111**
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					**1.57**	**3.96**	**4.06**	**1.28**	--	**2.16**
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					**0.532 J**	**1.34 J**	**0.989 J**	**0.267 J**	--	**0.53 J**
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					**0.903 J**	**2.68 J**	**1.84 J**	**0.589 J**	--	**0.69 J**
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					**0.784 J**	**2.54 J**	**1.32 J**	**0.287 J**	--	**1.01 J**
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					**0.673 J**	**2.06 J**	**1.14 J**	**0.311 J**	--	**0.56 J**
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					0.1583 U	0.1953 U	0.1747 U	0.1124 U	--	0.08 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					**0.99 J**	**2.65 J**	**1.71 J**	**0.518 J**	--	**0.52 J**
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					**9.74**	**31.9**	**15.6**	**4.48**	--	**11.7**
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					**0.557 J**	**2.19 J**	**1.11 J**	**0.228 J**	--	**1.02 J**
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					**23.1**	**91**	**27.7**	**8.57**	--	**31**
Total Tetrachlorodibenzofuran (TCDF)					**16.7 J**	**47.7 J**	**44.1 J**	**12.2 J**	--	**27.1**
Total Pentachlorodibenzofuran (PeCDF)					**10.9 J**	**32.2 J**	**24.5 J**	**6.96 J**	--	**14.3**
Total Hexachlorodibenzofuran (HxCDF)					**15.6 J**	**53.3 J**	**29.4**	**9.06 J**	--	**17.7**
Total Heptachlorodibenzofuran (HpCDF)					**26.8 J**	**90.3**	**41.8 J**	**12**	--	**34.7**
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					**4.28011 J**	**12.60653 J**	**9.23094 J**	**2.844727 J**	--	**4.8406 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					**2.74161 J**	**8.44823 J**	**4.97599 J**	**1.516627 J**	--	**2.6628 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					**3.19469 J**	**10.14293 J**	**5.86305 J**	**1.764001 J**	--	**3.4105 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					**4.272195 J**	**12.596765 J**	**9.222205 J**	**2.839107 J**	--	**4.8366 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					**2.733695 J**	**8.438465 J**	**4.967255 J**	**1.511007 J**	--	**2.6588 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					**3.186775 J**	**10.133165 J**	**5.854315 J**	**1.758381 J**	--	**3.4065 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					**4.26428 J**	**12.587 J**	**9.21347 J**	**2.833487 J**	--	**4.8326 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					**2.72578 J**	**8.4287 J**	**4.95852 J**	**1.505387 J**	--	**2.6548 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					**3.17886 J**	**10.1234 J**	**5.84558 J**	**1.752761 J**	--	**3.4025 J**
PCB Aroclors (mg/kg-OC)										
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	0.772 U	--
PCB Aroclors (µg/kg)										
Aroclor 1016					--	--	--	--	19 U	--
Aroclor 1221					--	--	--	--	19 U	--
Aroclor 1232					--	--	--	--	19 U	--
Aroclor 1242					--	--	--	--	19 U	--
Aroclor 1248					--	--	--	--	19 U	--
Aroclor 1254					--	--	--	--	19 U	--
Aroclor 1260					--	--	--	--	19 U	--
Aroclor 1262					--	--	--	--	19 U	--
Aroclor 1268					--	--	--	--	19 U	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	19 U	--

Table H-1
Surface Sediment Results

Task					**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**PortGardner_08**	**PortGardner_08**
Location ID					**JW-SS-211-2013**	**JW-SS-214-2013**	**JW-SS-215-2013**	**JW-SS-216-2013**	**A2-18B**	**A2-18B**
Sample ID					**JW-SS-211-130429**	**JW-SS-214-130429**	**JW-SS-215-130429**	**JW-SS-216-130429**	**A2-18B-S_8/14/2008**	**A2-18B-S_9/4/2008**
Sample Date					**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**8/14/2008**	**9/4/2008**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302289.984247**	**1302723.710085**	**1302604.772987**	**1302181.5**	**-122.2181852**	**-122.2181852**
Y					**371905.343584**	**371783.257543**	**371628.867759**	**371644.3599**	**48.01191568**	**48.01191568**
Analyte	**SMS_Marine_SCO_SCUMII**	**SMS_Marine_CSL_SCUMII**	**AET_Marine_SCO_SCUMII**	**AET_Marine_CSL_SCUMII**						
PCB Congeners (mg/kg-OC)										
Total PCB Congener (U = limit)					**0.336916601 J**	**1.18501299 J**	**1.328018251 J**	**0.37184 J**	--	--
Total PCB Congener (U = 1/2)					**0.336610178 J**	**1.184678557 J**	**1.327480874 J**	**0.368641568 J**	--	--
Total PCB Congener (U = 0)	12	65			**0.336303755 J**	**1.184344124 J**	**1.326943498 J**	**0.365443136 J**	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					**7.7462166E-05 J**	**0.000297742**	**0.00026224**	**7.85274E-05**	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					**7.1503557E-07 J**	**2.23026E-06**	**2.22536E-06**	**6.18948E-07**	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					**1.10976047E-05 J**	**2.65114E-05**	**2.94038E-05**	**8.7019E-06**	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					**7.74331146E-05 J**	**0.000297715**	**0.0002622**	**7.85088E-05**	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					**7.74040632E-05 J**	**0.000297688**	**0.00026216**	**7.84902E-05**	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					**7.13583E-07 J**	**2.2289E-06**	**2.22337E-06**	**6.18018E-07**	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					**7.1213043E-07 J**	**2.22754E-06**	**2.22139E-06**	**6.17089E-07**	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					**1.02260632E-05 J**	**2.5697E-05**	**2.82132E-05**	**8.14417E-06**	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					**9.3545217E-06 J**	**2.48825E-05**	**2.70226E-05**	**7.58644E-06**	--	--
PCB Congeners (ng/kg)										
PCB-001					**44.7**	**45.7**	**82.2**	**53.6**	--	--
PCB-002					**34.9**	**40.1**	**52.6**	**20.9**	--	--
PCB-003					**39.1**	**53.8**	**82.9**	**40.4**	--	--
PCB-004					**14.6**	**33.3**	**41.9**	**25.5**	--	--
PCB-005					**1.47 J**	**3.16**	**4.78**	**2.7**	--	--
PCB-006					**12.5**	**27.8**	**36.9**	**19.1**	--	--
PCB-007					**3.14**	**5.97**	**8.17**	**4.78 J**	--	--
PCB-008					**57.9**	**165**	**179**	**85.5**	--	--
PCB-009					**4.43**	**8.09**	**11.7**	**6.89**	--	--
PCB-010					**1.07 J**	**1.92**	**2.53**	**1.58 J**	--	--
PCB-011					**127**	**421**	**394**	80.4 U	--	--
PCB-012/013					**11.3**	**31.7**	**33.1**	**13.2**	--	--
PCB-014					**1.14 J**	**1.5 J**	**2.16**	**0.768 J**	--	--
PCB-015					**55.8**	**140**	**152**	**55**	--	--
PCB-016					**28.5**	**91.8**	**106**	**49.9**	--	--
PCB-017					**31.8**	**104**	**119**	**55**	--	--
PCB-018/030					**60.6**	**220**	**245**	**113**	--	--
PCB-019					**4.17**	**13.9**	**14.5**	**8.16**	--	--
PCB-020/028					**209**	**798**	**706**	**259**	--	--
PCB-021/033					**76.1**	**310**	**272**	**101**	--	--
PCB-022					**58.3**	**212**	**203**	**78.3**	--	--
PCB-023					0.729 U	0.937 U	0.66 U	0.454 U	--	--
PCB-024					**0.802 J**	**2.58**	**3.33**	**1.66**	--	--
PCB-025					**14.8**	**44.5**	**45.2**	**16.3**	--	--
PCB-026/029					**26.5**	**91.5**	**89.1**	**32.4**	--	--
PCB-027					**5.36**	**19.3**	**20.7**	**8.95**	--	--
PCB-031					**152**	**616**	**545**	**199**	--	--
PCB-032					**24.5**	**90.1**	**93.6**	**42.4**	--	--
PCB-034					0.753 U	**3.39 J**	**4.2**	**1.37**	--	--
PCB-035					**7.49**	**32.7**	**22.9**	**6.88**	--	--

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	PortGardner_08	PortGardner_08
Location ID					JW-SS-211-2013	JW-SS-214-2013	JW-SS-215-2013	JW-SS-216-2013	A2-18B	A2-18B
Sample ID					JW-SS-211-130429	JW-SS-214-130429	JW-SS-215-130429	JW-SS-216-130429	A2-18B-S_8/14/2008	A2-18B-S_9/4/2008
Sample Date					4/29/2013	4/29/2013	4/29/2013	4/29/2013	8/14/2008	9/4/2008
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302289.984247	1302723.710085	1302604.772987	1302181.5	-122.2181852	-122.2181852
Y					371905.343584	371783.257543	371628.867759	371644.3599	48.01191568	48.01191568
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
PCB-036					**2.13**	**6.85**	**5.95**	**1.39**	--	--
PCB-037					**73.3**	**280**	**231**	**76.1**	--	--
PCB-038					0.792 U	1.02 U	**1.19 J**	0.493 U	--	--
PCB-039					**1.37 J**	**6.81**	**5.18**	**1.79 J**	--	--
PCB-040/071					**56.2**	**228**	**291**	**106**	--	--
PCB-041					**9.29**	**27.8**	**40.3**	**16.5**	--	--
PCB-042					**36.5**	**123**	**159**	**64.5**	--	--
PCB-043					**4.67**	**17.4**	**21.1**	**8.31**	--	--
PCB-044/047/065					**152**	**591**	**682**	**240**	--	--
PCB-045					**11.1**	**39.4**	**48.1**	**23.4**	--	--
PCB-046					**4.86**	**16.7**	**20.4**	**9.45**	--	--
PCB-048					**23.4**	**85.5**	**102**	**42**	--	--
PCB-049/069					**101**	**376**	**428**	**151**	--	--
PCB-050/053					**12.4**	**46.4**	**53.4**	**23.5**	--	--
PCB-051					**3.71**	**11.9**	**15.3**	**6.09**	--	--
PCB-052					**230**	**1040**	**1050**	**293**	--	--
PCB-054					0.327 U	**0.469 J**	0.387 U	0.262 U	--	--
PCB-055					**3.83**	**11.4**	**13.2**	**4.28**	--	--
PCB-056					**101**	**367**	**390**	**135**	--	--
PCB-057					0.744 U	**2.41**	**3.01**	**1.01 J**	--	--
PCB-058					**0.937 J**	**2.59**	**4.31**	**1.04 J**	--	--
PCB-059/062/075					**11.6**	**38.4**	**48.6**	**20.1**	--	--
PCB-060					**46.8**	**156**	**170**	**65.2**	--	--
PCB-061/070/074/076					**400**	**1720**	**1680**	**498**	--	--
PCB-063					**7.78**	**29.2**	**32.5**	**11.1**	--	--
PCB-064					**55.4**	**208**	**257**	**94.9**	--	--
PCB-066					**248**	**1030**	**970**	**313**	--	--
PCB-067					**6.68**	**20.8**	**23.3**	**8.52**	--	--
PCB-068					**1.58 J**	**5.69**	**7.59**	**2.39**	--	--
PCB-072					**2.72**	**9.04**	**14**	**4.28**	--	--
PCB-073					**0.798 J**	0.372 U	**2.8 J**	**1.5**	--	--
PCB-077					**32**	**149**	**97.8**	**28.1**	--	--
PCB-078					0.842 U	1.61 U	2.19 U	0.775 U	--	--
PCB-079					**4.52**	**21.4**	**20.2**	**4.57**	--	--
PCB-080					0.654 U	1.25 U	1.7 U	0.602 U	--	--
PCB-081					**1.16 J**	**4.61**	**3.34**	**1.52**	--	--
PCB-082					**48**	**232**	**175**	**42.9**	--	--
PCB-083					**23.7**	**107**	**82.9**	**20.6**	--	--
PCB-084					**79.8**	**390**	**343**	**80**	--	--
PCB-085/116					**67.4**	**326**	**249**	**55**	--	--
PCB-086/087/097/108/119/125					**272**	**1370**	**1030**	**225**	--	--
PCB-086/087/097/109/119/125					--	--	--	--	--	--
PCB-088					0.774 U	1.32 U	2.24 U	0.853 U	--	--
PCB-089					**3.1**	**13.9**	**13.6**	**4.34**	--	--

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	PortGardner_08	PortGardner_08
Location ID					JW-SS-211-2013	JW-SS-214-2013	JW-SS-215-2013	JW-SS-216-2013	A2-18B	A2-18B
Sample ID					JW-SS-211-130429	JW-SS-214-130429	JW-SS-215-130429	JW-SS-216-130429	A2-18B-S_8/14/2008	A2-18B-S_9/4/2008
Sample Date					4/29/2013	4/29/2013	4/29/2013	4/29/2013	8/14/2008	9/4/2008
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302289.984247	1302723.710085	1302604.772987	1302181.5	-122.2181852	-122.2181852
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	371905.343584	371783.257543	371628.867759	371644.3599	48.01191568	48.01191568
Analyte										
PCB-090/101/113					**410**	**1920**	**1520**	**329**	--	--
PCB-091					**36.5**	**169**	**149**	**38**	--	--
PCB-092					**77.4**	**356**	**289**	**67.4**	--	--
PCB-093/100					**2.54 J**	**9.21**	**9.99**	**3.3**	--	--
PCB-094					**1.11 J**	**4.95**	**5.17**	**1.46 J**	--	--
PCB-095					**228**	**1110**	**1010**	**225**	--	--
PCB-096					**1.65**	**7.32**	**6.36**	**1.95 J**	--	--
PCB-098					0.648 U	1.1 U	1.87 U	0.713 U	--	--
PCB-099					**226**	**1020**	**807**	**199**	--	--
PCB-102					**8.24**	**37.3**	**35.6**	**10.3**	--	--
PCB-103					**2.63 J**	**8.55**	**9.65**	**3.56**	--	--
PCB-104					0.294 U	0.283 U	0.322 U	0.237 U	--	--
PCB-105					**192**	**921**	**662**	**139**	--	--
PCB-106					0.565 U	0.961 U	1.63 U	0.622 U	--	--
PCB-107					--	--	--	--	--	--
PCB-107/124					**17.6**	**87**	**56.6**	**11.9**	--	--
PCB-108/124					--	--	--	--	--	--
PCB-109					**35.6**	**152**	**111**	**28.1**	--	--
PCB-110					**548**	**2650**	**1980**	**436**	--	--
PCB-111					0.489 U	0.832 U	1.41 U	0.539 U	--	--
PCB-112					0.506 U	0.86 U	1.46 U	**1.71**	--	--
PCB-114					**9.6**	**47.3**	**31.7**	**6.94**	--	--
PCB-115					**10.4**	**37**	**36.8**	**8.29**	--	--
PCB-117					**9.98**	**43.8**	**28.2**	**9.42**	--	--
PCB-118					**442**	**2100**	**1460**	**318**	--	--
PCB-120					0.499 U	0.849 U	1.44 U	0.549 U	--	--
PCB-121					0.486 U	0.826 U	1.4 U	0.535 U	--	--
PCB-122					**6.68 J**	**28.2**	**21.4**	**4.87**	--	--
PCB-123					**7.22**	**34.7**	**23.9**	**4.96**	--	--
PCB-126					**2.11**	**6.03**	**5.19**	**1.48**	--	--
PCB-127					0.611 U	1.03 U	1.71 U	0.679 U	--	--
PCB-128/166					**79.3**	**363**	**257**	**50.4**	--	--
PCB-129/138/163					**541**	**2280**	**1580**	**368**	--	--
PCB-130					**36.6**	**156**	**106**	**24.7**	--	--
PCB-131					**5.41**	**30.6**	**17.3**	**3.72**	--	--
PCB-132					**138**	**621**	**425**	**103**	--	--
PCB-133					**8.45**	**28**	**22.9**	**5.73**	--	--
PCB-134					**25.9**	**121**	**75.7**	**17.4**	--	--
PCB-135/151					**122**	**451**	**384**	**103**	--	--
PCB-136					**46.9**	**183**	**151**	**39**	--	--
PCB-137					**22.9**	**110**	**58.7**	**12.8**	--	--
PCB-139/140					**9.33**	**40**	**24.4**	**5.75**	--	--
PCB-141					**70.4**	**306**	**225**	**55.5**	--	--
PCB-142					0.44 U	0.581 U	0.473 U	0.323 U	--	--

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	PortGardner_08	PortGardner_08
Location ID					JW-SS-211-2013	JW-SS-214-2013	JW-SS-215-2013	JW-SS-216-2013	A2-18B	A2-18B
Sample ID					JW-SS-211-130429	JW-SS-214-130429	JW-SS-215-130429	JW-SS-216-130429	A2-18B-S_8/14/2008	A2-18B-S_9/4/2008
Sample Date					4/29/2013	4/29/2013	4/29/2013	4/29/2013	8/14/2008	9/4/2008
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302289.984247	1302723.710085	1302604.772987	1302181.5	-122.2181852	-122.2181852
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	371905.343584	371783.257543	371628.867759	371644.3599	48.01191568	48.01191568
Analyte										
PCB-143					0.407 U	0.537 U	**4.86**	**1.88**	--	--
PCB-144					**16.5**	**69.7**	**54**	**13.6**	--	--
PCB-145					0.318 U	0.362 U	0.32 U	0.222 U	--	--
PCB-146					**76.2**	**265**	**217**	**58.2**	--	--
PCB-147/149					**308**	**1230**	**970**	**245**	--	--
PCB-148					**1.05 J**	**1.37 J**	**1.65 J**	**0.521 J**	--	--
PCB-150					**0.862 J**	**1.79 J**	**1.32 J**	0.205 U	--	--
PCB-152					0.297 U	**1.51 J**	**0.734 J**	0.208 U	--	--
PCB-153/168					**359**	**1390**	**1090**	**274**	--	--
PCB-154					**6.47**	**18.4**	**15**	**4.83**	--	--
PCB-155					0.273 U	0.31 U	0.274 U	0.191 U	--	--
PCB-156/157					**64.5**	**296**	**183**	**38.2**	--	--
PCB-158					**50.2**	**234**	**151**	**33.2**	--	--
PCB-159					**2.74**	**6.88 J**	**12.3**	**2.79**	--	--
PCB-160					**6.45**	**45.8**	**22.1**	**4.59**	--	--
PCB-161					0.311 U	**1.19 J**	**1.09 J**	0.228 U	--	--
PCB-162					**1.62**	**7.01**	**4.72**	**1.24**	--	--
PCB-164					**33.2**	**143**	**99.5**	**23.1**	--	--
PCB-165					0.358 U	0.472 U	0.385 U	0.263 U	--	--
PCB-167					**18.4**	**83.4**	**56.4**	**11.7**	--	--
PCB-169					1.47 U	1.58 U	1.77 U	0.818 U	--	--
PCB-170					**86.2**	**256**	**265**	**65.2**	--	--
PCB-171/173					**26.1**	**76.2**	**80.9**	**20.7**	--	--
PCB-172					**14.5**	**41.5**	**46.1**	**11.6**	--	--
PCB-174					**75.4**	**207**	**241**	**65.1**	--	--
PCB-175					**3.15**	**9.81**	**11.1**	**2.99**	--	--
PCB-176					**9.16**	**24.4**	**29.6**	**7.55**	--	--
PCB-177					**54**	**137**	**159**	**42.3**	--	--
PCB-178					**19.9**	**44.3**	**52.3**	**14.9**	--	--
PCB-179					**33.9**	**85.3**	**108**	**29.1**	--	--
PCB-180/193					**171**	**484**	**546**	**144**	--	--
PCB-181					**1.13 J**	**4.3**	**3.22**	0.646 U	--	--
PCB-182					**0.956 J**	**2.29**	**2.4**	0.598 U	--	--
PCB-183					**48.4**	**142**	**148**	**38.7**	--	--
PCB-184					0.245 U	0.415 U	0.39 U	0.275 U	--	--
PCB-185					**5.6**	**14.3**	**23.3**	**7.1**	--	--
PCB-186					0.233 U	0.394 U	0.37 U	0.26 U	--	--
PCB-187					**106**	**271**	**303**	**88**	--	--
PCB-188					0.229 U	**0.615 J**	**0.506 J**	0.256 U	--	--
PCB-189					**3.66**	**10.9**	**10.4**	**2.39**	--	--
PCB-190					**16.1**	**46.7**	**48.1**	**12.2**	--	--
PCB-191					**4.44**	**13.1**	**14.4**	**3.38**	--	--
PCB-192					0.716 U	0.937 U	0.989 U	0.588 U	--	--
PCB-194					**46.2**	**113**	**134**	35.3 U	--	--

Table H-1
Surface Sediment Results

Task					**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**PortGardner_08**	**PortGardner_08**
Location ID					**JW-SS-211-2013**	**JW-SS-214-2013**	**JW-SS-215-2013**	**JW-SS-216-2013**	**A2-18B**	**A2-18B**
Sample ID					**JW-SS-211-130429**	**JW-SS-214-130429**	**JW-SS-215-130429**	**JW-SS-216-130429**	**A2-18B-S_8/14/2008**	**A2-18B-S_9/4/2008**
Sample Date					**4/29/2013**	**4/29/2013**	**4/29/2013**	**4/29/2013**	**8/14/2008**	**9/4/2008**
Depth					**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**	**0 - 10 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302289.984247**	**1302723.710085**	**1302604.772987**	**1302181.5**	**-122.2181852**	**-122.2181852**
Y	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**	**371905.343584**	**371783.257543**	**371628.867759**	**371644.3599**	**48.01191568**	**48.01191568**
Analyte										
PCB-195					**16.9**	**39.3**	**49.2**	12.2 U	--	--
PCB-196					**20.9**	**52.6**	**61.5**	**16.9**	--	--
PCB-197					**1.6**	**2.83**	**3.65**	**1.13 J**	--	--
PCB-198/199					**48**	**120**	**137**	**40.7**	--	--
PCB-200					**4.87**	**12.8**	**14.9**	**4.04**	--	--
PCB-201					**6.17**	**16.5**	**17.1**	**5.1**	--	--
PCB-202					**13.2**	**33.6**	**33.3**	**10.1**	--	--
PCB-203					**31.5**	**78.4**	**85.4**	**24.3**	--	--
PCB-204					0.495 U	0.626 U	0.577 U	0.437 U	--	--
PCB-205					**2.19**	**4.63 J**	**6.35**	**1.74**	--	--
PCB-206					**31.3**	**76.4**	**65.6**	**20.8**	--	--
PCB-207					**3.66**	**9.25**	**8.44**	**2.54**	--	--
PCB-208					**8.95**	**22.8**	**20.9**	**6.38**	--	--
PCB-209					**17.1**	**37.1**	**32.4**	**10.7**	--	--
Total PCB Congener (U = limit)					**8523.99 J**	**34483.878 J**	**29614.807 J**	**8180.48 J**	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					**1.9597928 J**	**8.6643**	**5.847947**	**1.7276025**	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					**0.0180904 J**	**0.0649005**	**0.0496255**	**0.01361685**	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = limit)					**0.2807694 J**	**0.771482**	**0.655704**	**0.1914417**	--	--
Total PCB Congener (U = 1/2)					**8516.237 J**	**34474.146 J**	**29602.823 J**	**8110.114 J**	--	--
Total PCB Congener (U = 0)			130000	1000000	**8508.485 J**	**34464.414 J**	**29590.84 J**	**8039.749 J**	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					**1.9590578 J**	**8.66351**	**5.847062**	**1.7271935**	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					**1.9583228 J**	**8.66272**	**5.846177**	**1.7267845**	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					**0.01805365 J**	**0.064861**	**0.04958125**	**0.0135964**	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					**0.0180169 J**	**0.0648215**	**0.049537**	**0.01357595**	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					**0.2587194 J**	**0.747782**	**0.629154**	**0.1791717**	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					**0.2366694 J**	**0.724082**	**0.602604**	**0.1669017**	--	--
Total Petroleum Hydrocarbons (mg/kg)										
Diesel range hydrocarbons					--	--	--	--	--	--
Motor oil range hydrocarbons					--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**0.000246636474308 J**	**0.000730956357388 J**	**0.000676183273543 J**	**0.000207833159091 J**	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**0.0001090790671937 J**	**0.0002925474398625 J**	**0.0002253639237668 J**	**6.95565386364E-05 J**	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**0.000137369936759 J**	**0.000375065704467 J**	**0.000292320807175 J**	**8.8883759091E-05 J**	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**0.000246294577075 J**	**0.000730593642612 J**	**0.000675751883408 J**	**0.000207559113636 J**	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**0.0001087647687747 J**	**0.0002922105154639 J**	**0.000224970235426 J**	**6.93001545455E-05 J**	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**0.000136185549407 J**	**0.000373915704467 J**	**0.000290738520179 J**	**8.8070577273E-05 J**	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**0.000245952679842 J**	**0.000730230927835 J**	**0.000675320493274 J**	**0.000207285068182 J**	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**0.0001084504703557 J**	**0.0002918735910653 J**	**0.0002245765470852 J**	**6.90437704545E-05 J**	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**0.000135001162055 J**	**0.000372765704467 J**	**0.000289156233184 J**	**8.7257395455E-05 J**	--	--
Dioxin Furans and PCB Congeners (ng/kg)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**6.2399028 J**	**21.27083 J**	**15.078887 J**	**4.5723295 J**	--	**4.8406 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**2.7597004 J**	**8.5131305 J**	**5.0256155 J**	**1.53024385 J**	--	**2.6628 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**3.4754594 J**	**10.914412 J**	**6.518754 J**	**1.9554427 J**	--	**3.4105 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**6.2312528 J**	**21.260275 J**	**15.069267 J**	**4.5663005 J**	--	**4.8366 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**2.75174865 J**	**8.503326 J**	**5.01683625 J**	**1.5246034 J**	--	**2.6588 J**

Table H-1
Surface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	PortGardner_08	PortGardner_08
Location ID					JW-SS-211-2013	JW-SS-214-2013	JW-SS-215-2013	JW-SS-216-2013	A2-18B	A2-18B
Sample ID					JW-SS-211-130429	JW-SS-214-130429	JW-SS-215-130429	JW-SS-216-130429	A2-18B-S_8/14/2008	A2-18B-S_9/4/2008
Sample Date					4/29/2013	4/29/2013	4/29/2013	4/29/2013	8/14/2008	9/4/2008
Depth					0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm	0 - 10 cm
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302289.984247	1302723.710085	1302604.772987	1302181.5	-122.2181852	-122.2181852
Y					371905.343584	371783.257543	371628.867759	371644.3599	48.01191568	48.01191568
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**3.4454944 J**	**10.880947 J**	**6.483469 J**	**1.9375527 J**	--	**3.4065 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**6.2226028 J**	**21.24972 J**	**15.059647 J**	**4.5602715 J**	--	**4.8326 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**2.7437969 J**	**8.4935215 J**	**5.008057 J**	**1.51896295 J**	--	**2.6548 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**3.4155294 J**	**10.847482 J**	**6.448184 J**	**1.9196627 J**	--	**3.4025 J**

Table H-1
Surface Sediment Results

Notes:

Total LPAH represents the sum of naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, and anthracene.

Total HPAH represents the sum of fluoranthene, pyrene, benz(a)anthracene, chrysene, benzo(b,j,k)fluoranthenes, benzo(a)pyrene, indeno(1,2,3,-c,d)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene.

TOC in range (0.5% - 3.5%)

🟨 Detected concentration is greater than SMS_Marine_SCO_SCUMII screening level
🟦 Detected concentration is greater than SMS_Marine_CSL_SCUMII screening level

TOC out of range

🟩 Detected concentration is greater than AET_Marine_SCO_SCUMII screening level
🟧 Detected concentration is greater than AET_Marine_CSL_SCUMII screening level

Bold = detected result

µg/kg = micrograms per kilogram dry weight
CAEPA = California Environmental Protection Agency
cm = centimeter
cPAH = carcinogenic polycyclic aromatic hydrocarbon
CSL = cleanup screening level
FD = field duplicate sample
HPAH = high-molecular-weight polycyclic aromatic hydrocarbon
J = estimated value
LPAH = low-molecular-weight polycyclic aromatic hydrocarbon
mg/kg = milligrams per kilogram dry weight
N = normal environmental sample
ng/kg = nanograms per kilogram dry weight
OC = organic carbon
PCB = polychlorinated biphenyl
pct = percent
SCO = sediment cleanup objective
SE = sediment
SMS = Sediment Management Standards
TEQ = toxicity equivalency factor
TOC = total organic carbon
U = compound analyzed but not detected above detection limit
UJ = compound analyzed but not detected above estimated detection limit

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013
Sample ID					JW-EA02-SC05-A-130423	JW-EA02-SC05-B-130423	JW-EA02-SC05-C-130423	JW-EA02-SC05-D-130423	JW-EA02-SC05-E-130423	JW-EA02-SC105-B-130423
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	6 - 7 ft	7 - 7.3 ft	2 - 4 ft
Sample Type					N	N	N	N	N	FD
Matrix					SE	SE	SE	SE	SE	SE
X					1303198.45046	1303198.45046	1303198.45046	1303198.45046	1303198.45046	1303198.45046
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	373770.516973	373770.516973	373770.516973	373770.516973	373770.516973	373770.516973
Analyte										
Conventional Parameters (pct)										
Total organic carbon					**3.19**	**5.04**	**6.32**	**4.35 J**	**8.78**	**6.59**
Moisture, percent					--	--	--	--	--	--
Total Solids					**53.12**	**49.56**	**45.72**	**51.08**	**42.97**	**49.73**
Grain Size (pct)										
Gravel					**1.5**	**1**	**1.1**	--	--	**1.2**
Sand, very coarse					**1**	**0.3**	**0.7**	--	--	**0.6**
Sand, coarse					**2.2**	**0.8**	**1.5**	--	--	**1.3**
Sand, medium					**9.6**	**2.4**	**4.1**	--	--	**2.9**
Sand, fine					**8.5**	**4.5**	**5.7**	--	--	**5.5**
Sand, very fine					**4.4**	**5.8**	**7.1**	--	--	**6.8**
Silt, coarse					**13.1**	**14.4**	**11.6**	--	--	**17**
Silt, medium					**19.8**	**21**	**20.5**	--	--	**17.2**
Silt, fine					**14.9**	**15.7**	**15.9**	--	--	**15.6**
Silt, very fine					**8**	**10.4**	**9.9**	--	--	**10.1**
Clay, coarse					**5.1**	**7**	**6.5**	--	--	**6.7**
Clay, medium					**3.9**	**5.7**	**4.7**	--	--	**5.3**
Clay, fine					**8.1**	**10.9**	**10.6**	--	--	**9.8**
Semivolatile Organics (mg/kg-OC)										
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	0.1103 U	0.0558 U	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	0.1103 U	**0.0273 J**	--
1,4-Dichlorobenzene	3.1	9			--	--	--	**0.0782 J**	**0.0615**	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	**3.448**	1.367 U	--
Butylbenzyl phthalate	4.9	64			--	--	--	0.1103 U	0.0558 U	--
Diethyl phthalate	61	110			--	--	--	1.103 U	0.558 U	--
Dimethyl phthalate	53	53			--	--	--	0.1103 U	**0.968**	--
Di-n-butyl phthalate	220	1700			--	--	--	0.437 U	0.228 U	--
Di-n-octyl phthalate	58	4500			--	--	--	**0.276 J**	0.228 U	--
Hexachlorobenzene	0.38	2.3			--	--	--	0.1103 U	0.0558 U	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	0.1103 U	0.0558 U	--
n-Nitrosodiphenylamine	11	11			--	--	--	0.437 U	0.228 U	--
Semivolatile Organics (µg/kg)										
1,2,4-Trichlorobenzene			31	51	--	--	--	4.8 U	4.9 U	--
1,2-Dichlorobenzene			35	50	--	--	--	4.8 U	**2.4 J**	--
1,4-Dichlorobenzene			110	110	--	--	--	**3.4 J**	**5.4**	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	**7.3 J**	**14 J**	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	**13**	4.9 UJ	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	**260**	**760**	--
Benzoic acid	650	650	650	650	--	--	--	**690 J**	**430 J**	--
Benzyl alcohol	57	73	57	73	--	--	--	**160**	20 U	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	**150**	120 U	--
Butylbenzyl phthalate			63	900	--	--	--	4.8 U	4.9 U	--
Diethyl phthalate			200	1200	--	--	--	48 U	49 U	--
Dimethyl phthalate			71	160	--	--	--	4.8 U	**85**	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					**JW-EA02-SC05-2013**	**JW-EA02-SC05-2013**	**JW-EA02-SC05-2013**	**JW-EA02-SC05-2013**	**JW-EA02-SC05-2013**	**JW-EA02-SC05-2013**
Sample ID					**JW-EA02-SC05-A-130423**	**JW-EA02-SC05-B-130423**	**JW-EA02-SC05-C-130423**	**JW-EA02-SC05-D-130423**	**JW-EA02-SC05-E-130423**	**JW-EA02-SC105-B-130423**
Sample Date					**4/23/2013**	**4/23/2013**	**4/23/2013**	**4/23/2013**	**4/23/2013**	**4/23/2013**
Depth					**0 - 2 ft**	**2 - 4 ft**	**4 - 6 ft**	**6 - 7 ft**	**7 - 7.3 ft**	**2 - 4 ft**
Sample Type					**N**	**N**	**N**	**N**	**N**	**FD**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1303198.45046**	**1303198.45046**	**1303198.45046**	**1303198.45046**	**1303198.45046**	**1303198.45046**
Y					**373770.516973**	**373770.516973**	**373770.516973**	**373770.516973**	**373770.516973**	**373770.516973**
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**						
Di-n-butyl phthalate			1400	1400	--	--	--	19 U	20 U	--
Di-n-octyl phthalate			6200	6200	--	--	--	**12 J**	20 U	--
Hexachlorobenzene			22	70	--	--	--	4.8 U	4.9 U	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	4.8 U	4.9 U	--
Hexachloroethane					--	--	--	19 U	20 U	--
n-Nitrosodiphenylamine			28	40	--	--	--	19 U	20 U	--
Pentachlorophenol	360	690	360	690	--	--	--	**31 J**	**21 J**	--
Phenol	420	1200	420	1200	--	--	--	**280**	**160**	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)										
2-Methylnaphthalene	38	64			--	--	--	**1.931**	**0.661**	--
Acenaphthene	16	57			--	--	--	**1.103**	**0.809**	--
Acenaphthylene	66	66			--	--	--	**0.69**	0.228 U	--
Anthracene	220	1200			--	--	--	**2.023**	**1.481**	--
Benzo(a)anthracene	110	270			--	--	--	**2.529**	**1.367**	--
Benzo(a)pyrene	99	210			--	--	--	**1.655**	**1.014**	--
Benzo(g,h,i)perylene	31	78			--	--	--	**1.195**	**0.444**	--
Chrysene	110	460			--	--	--	**4.598**	**2.392**	--
Dibenzo(a,h)anthracene	12	33			--	--	--	**0.276**	**0.194**	--
Dibenzofuran	15	58			--	--	--	**1.908**	**0.968**	--
Fluoranthene	160	1200			--	--	--	**9.885**	**6.264**	--
Fluorene	23	79			--	--	--	**1.908**	**1.253**	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	**0.851**	**0.376**	--
Naphthalene	99	170			--	--	--	**5.057**	**1.595**	--
Phenanthrene	100	480			--	--	--	**5.517**	**3.759**	--
Pyrene	1000	1400			--	--	--	**9.195**	**5.809**	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	**4.368**	**2.278**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	**2.50345**	**1.459**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	**2.50345**	**1.459**	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	**2.50345**	**1.459**	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	**34.552**	**20.137**	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	**16.299**	**8.895**	--
Polycyclic Aromatic Hydrocarbons (µg/kg)										
2-Methylnaphthalene			670	670	--	--	--	**84**	**58**	--
Acenaphthene			500	500	--	--	--	**48**	**71**	--
Acenaphthylene			1300	1300	--	--	--	**30**	20 U	--
Anthracene			960	960	--	--	--	**88**	**130**	--
Benzo(a)anthracene			1300	1600	--	--	--	**110**	**120**	--
Benzo(a)pyrene			1600	1600	--	--	--	**72**	**89**	--
Benzo(b,j,k)fluoranthenes					--	--	--	**190**	**200**	--
Benzo(g,h,i)perylene			670	720	--	--	--	**52**	**39**	--
Chrysene			1400	2800	--	--	--	**200**	**210**	--
Dibenzo(a,h)anthracene			230	230	--	--	--	**12**	**17**	--
Dibenzofuran			540	540	--	--	--	**83**	**85**	--
Fluoranthene			1700	2500	--	--	--	**430**	**550**	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013
Sample ID					JW-EA02-SC05-A-130423	JW-EA02-SC05-B-130423	JW-EA02-SC05-C-130423	JW-EA02-SC05-D-130423	JW-EA02-SC05-E-130423	JW-EA02-SC105-B-130423
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	6 - 7 ft	7 - 7.3 ft	2 - 4 ft
Sample Type					N	N	N	N	N	FD
Matrix					SE	SE	SE	SE	SE	SE
X					1303198.45046	1303198.45046	1303198.45046	1303198.45046	1303198.45046	1303198.45046
Y					373770.516973	373770.516973	373770.516973	373770.516973	373770.516973	373770.516973
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
Fluorene			540	540	--	--	--	83	110	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	37	33	--
Naphthalene			2100	2100	--	--	--	220	140	--
Phenanthrene			1500	1500	--	--	--	240	330	--
Pyrene			2600	3300	--	--	--	400	510	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	108.9	128.1	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	108.9	128.1	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	190	200	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	108.9	128.1	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	1503	1768	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	709	781	--
Dioxin Furans (mg/kg-OC)										
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					0.00023751818182 J	0.0005653630952 J	0.000605756	0.00143145494253 J	--	0.00038449286798 J
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					0.00017800250784 J	0.000426484127 J	0.000468517	0.00105554689655 J	--	0.00028680698027 J
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					0.00030156802508 J	0.0006832242063 J	0.000748353	0.00200990091954 J	--	0.00045819544765 J
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					0.00023725815047 J	0.0005649325397 J	0.000605467	0.00143081942529 J	--	0.00038424264036 J
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					0.00017774247649 J	0.0004260535714 J	0.000468228	0.00105491137931 J	--	0.00028655675266 J
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					0.00030130799373 J	0.0006827936508 J	0.000748064	0.0020092654023 J	--	0.00045794522003 J
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					0.00023699811912 J	0.0005645019841 J	0.000605179	0.00143018390805 J	--	0.00038399241275 J
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					0.00017748244514 J	0.0004256230159 J	0.00046794	0.00105427586207 J	--	0.00028630652504 J
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					0.00030104796238 J	0.0006823630952 J	0.000747775	0.00200862988506 J	--	0.00045769499241 J
Dioxin Furans (ng/kg)										
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					0.278 J	0.869	1.01	1.39 J	--	0.773
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					1.38 J	4.78 J	6.57	8.36	--	4.35
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					2.34	8.53	10.6	16.9	--	7.69
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					17.2	72.9	114	136	--	61.9
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					6.58	21.7	27.2	43.2	--	20
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					278	863	1060	2940	--	756
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					2450	5410	6600	35500 J	--	5070
Total Tetrachlorodibenzo-p-dioxin (TCDD)					18.6 J	66.6 J	71.2 J	120 J	--	53.4 J
Total Pentachlorodibenzo-p-dioxin (PeCDD)					23.8 J	95.5 J	96.6 J	155	--	76.8 J
Total Hexachlorodibenzo-p-dioxin (HxCDD)					147	459	594	878	--	403
Total Heptachlorodibenzo-p-dioxin (HpCDD)					561	1620	2000	5700	--	1430
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					1.56	5.79	6.24	14.8	--	5.51
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					0.747 J	2.49	3.55	4.18 J	--	2.17 J
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					1.68 J	6.52	9.78	11.6	--	5.51
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					2.02 J	8.63	11.8	18.4	--	6.68
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					1.83 J	8.94	13.9	17.2	--	7.61
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					0.1659 U	0.434 U	0.3648 U	0.5529 U	--	0.3298 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					2.88	15.4	25.1	30.4	--	12.9
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					41.4	210	292	559	--	185
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					2.13 J	8.99	14.6	31.5	--	8.39
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					92.4	265	363	1250	--	257
Total Tetrachlorodibenzofuran (TCDF)					19 J	60.2 J	78.1 J	106 J	--	53.7 J

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013
Sample ID					JW-EA02-SC05-A-130423	JW-EA02-SC05-B-130423	JW-EA02-SC05-C-130423	JW-EA02-SC05-D-130423	JW-EA02-SC05-E-130423	JW-EA02-SC105-B-130423
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	6 - 7 ft	7 - 7.3 ft	2 - 4 ft
Sample Type					N	N	N	N	N	FD
Matrix					SE	SE	SE	SE	SE	SE
X					1303198.45046	1303198.45046	1303198.45046	1303198.45046	1303198.45046	1303198.45046
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	373770.516973	373770.516973	373770.516973	373770.516973	373770.516973	373770.516973
Analyte										
Total Pentachlorodibenzofuran (PeCDF)					**23 J**	**116**	**185 J**	**213 J**	--	**106 J**
Total Hexachlorodibenzofuran (HxCDF)					**61.5 J**	**366**	**532**	**765**	--	**288**
Total Heptachlorodibenzofuran (HpCDF)					**120**	**585**	**831**	**1840**	--	**511**
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					**7.57683 J**	**28.4943 J**	**38.28378**	**62.26829 J**	--	**25.33808 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					**5.67828 J**	**21.4948 J**	**29.61028**	**45.91629 J**	--	**18.90058 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					**9.62002 J**	**34.4345 J**	**47.29588**	**87.43069 J**	--	**30.19508 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					**7.568535 J**	**28.4726 J**	**38.26554**	**62.240645 J**	--	**25.32159 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					**5.669985 J**	**21.4731 J**	**29.59204**	**45.888645 J**	--	**18.88409 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					**9.611725 J**	**34.4128 J**	**47.27764**	**87.403045 J**	--	**30.17859 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					**7.56024 J**	**28.4509 J**	**38.2473**	**62.213 J**	--	**25.3051 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					**5.66169 J**	**21.4514 J**	**29.5738**	**45.861 J**	--	**18.8676 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					**9.60343 J**	**34.3911 J**	**47.2594**	**87.3754 J**	--	**30.1621 J**
PCB Aroclors (mg/kg-OC)										
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	**0.5353**	--
PCB Aroclors (µg/kg)										
Aroclor 1016					--	--	--	--	9.8 U	--
Aroclor 1221					--	--	--	--	9.8 U	--
Aroclor 1232					--	--	--	--	9.8 U	--
Aroclor 1242					--	--	--	--	9.8 U	--
Aroclor 1248					--	--	--	--	**28**	--
Aroclor 1254					--	--	--	--	**19**	--
Aroclor 1260					--	--	--	--	24 U	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	**47**	--
PCB Congeners (mg/kg-OC)										
Total PCB Congener (U = limit)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--
Total PCB Congener (U = 0)	12	65			--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--
PCB Congeners (ng/kg)										
PCB-001					--	--	--	--	--	--
PCB-002					--	--	--	--	--	--
PCB-003					--	--	--	--	--	--
PCB-004					--	--	--	--	--	--
PCB-005					--	--	--	--	--	--
PCB-006					--	--	--	--	--	--
PCB-007					--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013
Sample ID					JW-EA02-SC05-A-130423	JW-EA02-SC05-B-130423	JW-EA02-SC05-C-130423	JW-EA02-SC05-D-130423	JW-EA02-SC05-E-130423	JW-EA02-SC105-B-130423
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	6 - 7 ft	7 - 7.3 ft	2 - 4 ft
Sample Type					N	N	N	N	N	FD
Matrix					SE	SE	SE	SE	SE	SE
X					1303198.45046	1303198.45046	1303198.45046	1303198.45046	1303198.45046	1303198.45046
Y					373770.516973	373770.516973	373770.516973	373770.516973	373770.516973	373770.516973
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-008					--	--	--	--	--	--
PCB-009					--	--	--	--	--	--
PCB-010					--	--	--	--	--	--
PCB-011					--	--	--	--	--	--
PCB-012/013					--	--	--	--	--	--
PCB-014					--	--	--	--	--	--
PCB-015					--	--	--	--	--	--
PCB-016					--	--	--	--	--	--
PCB-017					--	--	--	--	--	--
PCB-018/030					--	--	--	--	--	--
PCB-019					--	--	--	--	--	--
PCB-020/028					--	--	--	--	--	--
PCB-021/033					--	--	--	--	--	--
PCB-022					--	--	--	--	--	--
PCB-023					--	--	--	--	--	--
PCB-024					--	--	--	--	--	--
PCB-025					--	--	--	--	--	--
PCB-026/029					--	--	--	--	--	--
PCB-027					--	--	--	--	--	--
PCB-031					--	--	--	--	--	--
PCB-032					--	--	--	--	--	--
PCB-034					--	--	--	--	--	--
PCB-035					--	--	--	--	--	--
PCB-036					--	--	--	--	--	--
PCB-037					--	--	--	--	--	--
PCB-038					--	--	--	--	--	--
PCB-039					--	--	--	--	--	--
PCB-040/071					--	--	--	--	--	--
PCB-041					--	--	--	--	--	--
PCB-042					--	--	--	--	--	--
PCB-043					--	--	--	--	--	--
PCB-044/047/065					--	--	--	--	--	--
PCB-045					--	--	--	--	--	--
PCB-046					--	--	--	--	--	--
PCB-048					--	--	--	--	--	--
PCB-049/069					--	--	--	--	--	--
PCB-050/053					--	--	--	--	--	--
PCB-051					--	--	--	--	--	--
PCB-052					--	--	--	--	--	--
PCB-054					--	--	--	--	--	--
PCB-055					--	--	--	--	--	--
PCB-056					--	--	--	--	--	--
PCB-057					--	--	--	--	--	--
PCB-058					--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013
Sample ID					JW-EA02-SC05-A-130423	JW-EA02-SC05-B-130423	JW-EA02-SC05-C-130423	JW-EA02-SC05-D-130423	JW-EA02-SC05-E-130423	JW-EA02-SC105-B-130423
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	6 - 7 ft	7 - 7.3 ft	2 - 4 ft
Sample Type					N	N	N	N	N	FD
Matrix					SE	SE	SE	SE	SE	SE
X					1303198.45046	1303198.45046	1303198.45046	1303198.45046	1303198.45046	1303198.45046
Y					373770.516973	373770.516973	373770.516973	373770.516973	373770.516973	373770.516973
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-059/062/075					--	--	--	--	--	--
PCB-060					--	--	--	--	--	--
PCB-061/070/074/076					--	--	--	--	--	--
PCB-063					--	--	--	--	--	--
PCB-064					--	--	--	--	--	--
PCB-066					--	--	--	--	--	--
PCB-067					--	--	--	--	--	--
PCB-068					--	--	--	--	--	--
PCB-072					--	--	--	--	--	--
PCB-073					--	--	--	--	--	--
PCB-077					--	--	--	--	--	--
PCB-078					--	--	--	--	--	--
PCB-079					--	--	--	--	--	--
PCB-080					--	--	--	--	--	--
PCB-081					--	--	--	--	--	--
PCB-082					--	--	--	--	--	--
PCB-083					--	--	--	--	--	--
PCB-084					--	--	--	--	--	--
PCB-085/116					--	--	--	--	--	--
PCB-086/087/097/108/119/125					--	--	--	--	--	--
PCB-088					--	--	--	--	--	--
PCB-089					--	--	--	--	--	--
PCB-090/101/113					--	--	--	--	--	--
PCB-091					--	--	--	--	--	--
PCB-092					--	--	--	--	--	--
PCB-093/100					--	--	--	--	--	--
PCB-094					--	--	--	--	--	--
PCB-095					--	--	--	--	--	--
PCB-096					--	--	--	--	--	--
PCB-098					--	--	--	--	--	--
PCB-099					--	--	--	--	--	--
PCB-102					--	--	--	--	--	--
PCB-103					--	--	--	--	--	--
PCB-104					--	--	--	--	--	--
PCB-105					--	--	--	--	--	--
PCB-106					--	--	--	--	--	--
PCB-107/124					--	--	--	--	--	--
PCB-109					--	--	--	--	--	--
PCB-110					--	--	--	--	--	--
PCB-111					--	--	--	--	--	--
PCB-112					--	--	--	--	--	--
PCB-114					--	--	--	--	--	--
PCB-115					--	--	--	--	--	--
PCB-117					--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013
Sample ID					JW-EA02-SC05-A-130423	JW-EA02-SC05-B-130423	JW-EA02-SC05-C-130423	JW-EA02-SC05-D-130423	JW-EA02-SC05-E-130423	JW-EA02-SC105-B-130423
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	6 - 7 ft	7 - 7.3 ft	2 - 4 ft
Sample Type					N	N	N	N	N	FD
Matrix					SE	SE	SE	SE	SE	SE
X					1303198.45046	1303198.45046	1303198.45046	1303198.45046	1303198.45046	1303198.45046
Y					373770.516973	373770.516973	373770.516973	373770.516973	373770.516973	373770.516973
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-118					--	--	--	--	--	--
PCB-120					--	--	--	--	--	--
PCB-121					--	--	--	--	--	--
PCB-122					--	--	--	--	--	--
PCB-123					--	--	--	--	--	--
PCB-126					--	--	--	--	--	--
PCB-127					--	--	--	--	--	--
PCB-128/166					--	--	--	--	--	--
PCB-129/138/163					--	--	--	--	--	--
PCB-130					--	--	--	--	--	--
PCB-131					--	--	--	--	--	--
PCB-132					--	--	--	--	--	--
PCB-133					--	--	--	--	--	--
PCB-134					--	--	--	--	--	--
PCB-135/151					--	--	--	--	--	--
PCB-136					--	--	--	--	--	--
PCB-137					--	--	--	--	--	--
PCB-139/140					--	--	--	--	--	--
PCB-141					--	--	--	--	--	--
PCB-142					--	--	--	--	--	--
PCB-143					--	--	--	--	--	--
PCB-144					--	--	--	--	--	--
PCB-145					--	--	--	--	--	--
PCB-146					--	--	--	--	--	--
PCB-147/149					--	--	--	--	--	--
PCB-148					--	--	--	--	--	--
PCB-150					--	--	--	--	--	--
PCB-152					--	--	--	--	--	--
PCB-153/168					--	--	--	--	--	--
PCB-154					--	--	--	--	--	--
PCB-155					--	--	--	--	--	--
PCB-156/157					--	--	--	--	--	--
PCB-158					--	--	--	--	--	--
PCB-159					--	--	--	--	--	--
PCB-160					--	--	--	--	--	--
PCB-161					--	--	--	--	--	--
PCB-162					--	--	--	--	--	--
PCB-164					--	--	--	--	--	--
PCB-165					--	--	--	--	--	--
PCB-167					--	--	--	--	--	--
PCB-169					--	--	--	--	--	--
PCB-170					--	--	--	--	--	--
PCB-171/173					--	--	--	--	--	--
PCB-172					--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013
Sample ID					JW-EA02-SC05-A-130423	JW-EA02-SC05-B-130423	JW-EA02-SC05-C-130423	JW-EA02-SC05-D-130423	JW-EA02-SC05-E-130423	JW-EA02-SC105-B-130423
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	6 - 7 ft	7 - 7.3 ft	2 - 4 ft
Sample Type					N	N	N	N	N	FD
Matrix					SE	SE	SE	SE	SE	SE
X					1303198.45046	1303198.45046	1303198.45046	1303198.45046	1303198.45046	1303198.45046
Y					373770.516973	373770.516973	373770.516973	373770.516973	373770.516973	373770.516973
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-174					--	--	--	--	--	--
PCB-175					--	--	--	--	--	--
PCB-176					--	--	--	--	--	--
PCB-177					--	--	--	--	--	--
PCB-178					--	--	--	--	--	--
PCB-179					--	--	--	--	--	--
PCB-180/193					--	--	--	--	--	--
PCB-181					--	--	--	--	--	--
PCB-182					--	--	--	--	--	--
PCB-183					--	--	--	--	--	--
PCB-184					--	--	--	--	--	--
PCB-185					--	--	--	--	--	--
PCB-186					--	--	--	--	--	--
PCB-187					--	--	--	--	--	--
PCB-188					--	--	--	--	--	--
PCB-189					--	--	--	--	--	--
PCB-190					--	--	--	--	--	--
PCB-191					--	--	--	--	--	--
PCB-192					--	--	--	--	--	--
PCB-194					--	--	--	--	--	--
PCB-195					--	--	--	--	--	--
PCB-196					--	--	--	--	--	--
PCB-197					--	--	--	--	--	--
PCB-198/199					--	--	--	--	--	--
PCB-200					--	--	--	--	--	--
PCB-201					--	--	--	--	--	--
PCB-202					--	--	--	--	--	--
PCB-203					--	--	--	--	--	--
PCB-204					--	--	--	--	--	--
PCB-205					--	--	--	--	--	--
PCB-206					--	--	--	--	--	--
PCB-207					--	--	--	--	--	--
PCB-208					--	--	--	--	--	--
PCB-209					--	--	--	--	--	--
Total PCB Congener (U = limit)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013	JW-EA02-SC05-2013
Sample ID					JW-EA02-SC05-A-130423	JW-EA02-SC05-B-130423	JW-EA02-SC05-C-130423	JW-EA02-SC05-D-130423	JW-EA02-SC05-E-130423	JW-EA02-SC105-B-130423
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	6 - 7 ft	7 - 7.3 ft	2 - 4 ft
Sample Type					N	N	N	N	N	FD
Matrix					SE	SE	SE	SE	SE	SE
X					1303198.45046	1303198.45046	1303198.45046	1303198.45046	1303198.45046	1303198.45046
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373770.516973	373770.516973	373770.516973	373770.516973	373770.516973	373770.516973
Analyte										
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--
Radionuclides (pci/g)										
Cesium 137					--	--	--	--	--	--
Lead 210					--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					0.00023751818182 J	0.0005653630952 J	0.000605756	0.00143145494253 J	--	0.00038449286798 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					0.00017800250784 J	0.000426484127 J	0.000468517	0.00105554689655 J	--	0.00028680698027 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					0.00030156802508 J	0.0006832242063 J	0.000748353	0.00200990091954 J	--	0.00045819544765 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					0.00023725815047 J	0.0005649325397 J	0.000605467	0.00143081942529 J	--	0.00038424264036 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					0.00017774247649 J	0.0004260535714 J	0.000468228	0.00105491137931 J	--	0.00028655675266 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					0.00030130799373 J	0.0006827936508 J	0.000748064	0.0020092654023 J	--	0.00045794522003 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					0.00023699811912 J	0.0005645019841 J	0.000605179	0.00143018390805 J	--	0.00038399241275 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					0.00017748244514 J	0.0004256230159 J	0.00046794	0.00105427586207 J	--	0.00028630652504 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					0.00030104796238 J	0.0006823630952 J	0.000747775	0.00200862988506 J	--	0.00045769499241 J
Dioxin Furans and PCB Congeners (ng/kg)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					7.57683 J	28.4943 J	38.28378	62.26829 J	--	25.33808 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					5.67828 J	21.4948 J	29.61028	45.91629 J	--	18.90058 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					9.62002 J	34.4345 J	47.29588	87.43069 J	--	30.19508 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					7.568535 J	28.4726 J	38.26554	62.240645 J	--	25.32159 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					5.669985 J	21.4731 J	29.59204	45.888645 J	--	18.88409 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					9.611725 J	34.4128 J	47.27764	87.403045 J	--	30.17859 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					7.56024 J	28.4509 J	38.2473	62.213 J	--	25.3051 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					5.66169 J	21.4514 J	29.5738	45.861 J	--	18.8676 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					9.60343 J	34.3911 J	47.2594	87.3754 J	--	30.1621 J

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA06-SC21-2013
Sample ID					JW-EA04-SC13-A-130423	JW-EA04-SC13-B-130423	JW-EA04-SC13-C-130423	JW-EA04-SC13-D-130423	JW-EA04-SC13-EF-130423	JW-EA06-SC21-A-130423
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	6 - 7 ft	7 - 9 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302771.36466	1302771.36466	1302771.36466	1302771.36466	1302771.36466	1302293.75554
Y					374224.242676	374224.242676	374224.242676	374224.242676	374224.242676	373635.149742
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
Conventional Parameters (pct)										
Total organic carbon					**1.02**	**3.51**	**1.85**	**2.55 J**	**4.46**	**2.43 J**
Moisture, percent					--	--	--	--	--	--
Total Solids					**51.93**	**58.03**	**72.34**	**60.73**	**76.93**	**49.73**
Grain Size (pct)										
Gravel					**0.8**	**0.9**	**1.7**	--	--	--
Sand, very coarse					**0.9**	**1.2**	**2.2**	--	--	--
Sand, coarse					**1.3**	**2.6**	**6.3**	--	--	--
Sand, medium					**3.3**	**6.4**	**21.2**	--	--	--
Sand, fine					**3.8**	**7.4**	**18.4**	--	--	--
Sand, very fine					**8.8**	**12.7**	**8.7**	--	--	--
Silt, coarse					**20.5**	**21.7**	**8.9**	--	--	--
Silt, medium					**23.4**	**16.2**	**10.6**	--	--	--
Silt, fine					**14.4**	**10.9**	**7.4**	--	--	--
Silt, very fine					**6.8**	**6.5**	**4.3**	--	--	--
Clay, coarse					**5.1**	**4.4**	**3.1**	--	--	--
Clay, medium					**3.5**	**3.4**	**2.3**	--	--	--
Clay, fine					**7.6**	**5.9**	**4.9**	--	--	--
Semivolatile Organics (mg/kg-OC)										
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	0.1882 U	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	0.1882 U	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	0.1882 U	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	**0.98**	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	0.1882 U	--	--
Diethyl phthalate	61	110			--	--	--	1.843 U	--	--
Dimethyl phthalate	53	53			--	--	--	0.1882 U	--	--
Di-n-butyl phthalate	220	1700			--	--	--	0.745 U	--	--
Di-n-octyl phthalate	58	4500			--	--	--	0.745 U	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	0.1882 U	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	0.745 U	--	--
Semivolatile Organics (µg/kg)										
1,2,4-Trichlorobenzene			31	51	--	--	--	4.8 U	--	--
1,2-Dichlorobenzene			35	50	--	--	--	4.8 U	--	--
1,4-Dichlorobenzene			110	110	--	--	--	4.8 U	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	19 U	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	**16**	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	**1600**	--	--
Benzoic acid	650	650	650	650	--	--	--	**580 J**	--	--
Benzyl alcohol	57	73	57	73	--	--	--	**190**	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	**25**	--	--
Butylbenzyl phthalate			63	900	--	--	--	4.8 U	--	--
Diethyl phthalate			200	1200	--	--	--	47 U	--	--
Dimethyl phthalate			71	160	--	--	--	4.8 U	--	--

Table H-2
Subsurface Sediment Results

Task					**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**
Location ID					**JW-EA04-SC13-2013**	**JW-EA04-SC13-2013**	**JW-EA04-SC13-2013**	**JW-EA04-SC13-2013**	**JW-EA04-SC13-2013**	**JW-EA06-SC21-2013**
Sample ID					**JW-EA04-SC13-A-130423**	**JW-EA04-SC13-B-130423**	**JW-EA04-SC13-C-130423**	**JW-EA04-SC13-D-130423**	**JW-EA04-SC13-EF-130423**	**JW-EA06-SC21-A-130423**
Sample Date					**4/23/2013**	**4/23/2013**	**4/23/2013**	**4/23/2013**	**4/23/2013**	**4/23/2013**
Depth					**0 - 2 ft**	**2 - 4 ft**	**4 - 6 ft**	**6 - 7 ft**	**7 - 9 ft**	**0 - 2 ft**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302771.36466**	**1302771.36466**	**1302771.36466**	**1302771.36466**	**1302771.36466**	**1302293.75554**
Y					**374224.242676**	**374224.242676**	**374224.242676**	**374224.242676**	**374224.242676**	**373635.149742**
Analyte	**SMS_Marine_SCO_SCUMII**	**SMS_Marine_CSL_SCUMII**	**AET_Marine_SCO_SCUMII**	**AET_Marine_CSL_SCUMII**						
Di-n-butyl phthalate			1400	1400	--	--	--	19 U	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	19 U	--	--
Hexachlorobenzene			22	70	--	--	--	4.8 U	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--
Hexachloroethane					--	--	--	19 U	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	19 U	--	--
Pentachlorophenol	360	690	360	690	--	--	--	**15 J**	--	--
Phenol	420	1200	420	1200	--	--	--	**190**	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)										
2-Methylnaphthalene	38	64			--	--	--	**14.118**	--	--
Acenaphthene	16	57			--	--	--	**16.078**	--	--
Acenaphthylene	66	66			--	--	--	**5.49**	--	--
Anthracene	220	1200			--	--	--	**6.275**	--	--
Benzo(a)anthracene	110	270			--	--	--	**5.49**	--	--
Benzo(a)pyrene	99	210			--	--	--	**2.824**	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	**2.353**	--	--
Chrysene	110	460			--	--	--	**7.843**	--	--
Dibenzo(a,h)anthracene	12	33			--	--	--	**0.2667**	--	--
Dibenzofuran	15	58			--	--	--	**11.373**	--	--
Fluoranthene	160	1200			--	--	--	**34.51**	--	--
Fluorene	23	79			--	--	--	**14.51**	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	**1.333**	--	--
Naphthalene	99	170			--	--	--	**37.647**	--	--
Phenanthrene	100	480			--	--	--	**47.059**	--	--
Pyrene	1000	1400			--	--	--	**29.412**	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	**6.275**	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	**4.238431**	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	**4.238431**	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	**4.238431**	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	**90.3059**	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	**127.059**	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)										
2-Methylnaphthalene			670	670	--	--	--	**360**	--	--
Acenaphthene			500	500	--	--	--	**410**	--	--
Acenaphthylene			1300	1300	--	--	--	**140**	--	--
Anthracene			960	960	--	--	--	**160**	--	--
Benzo(a)anthracene			1300	1600	--	--	--	**140**	--	--
Benzo(a)pyrene			1600	1600	--	--	--	**72**	--	--
Benzo(b,j,k)fluoranthenes					--	--	--	**160**	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	**60**	--	--
Chrysene			1400	2800	--	--	--	**200**	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	**6.8**	--	--
Dibenzofuran			540	540	--	--	--	**290**	--	--
Fluoranthene			1700	2500	--	--	--	**880**	--	--

Table H-2
Subsurface Sediment Results

Task					**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**
Location ID					**JW-EA04-SC13-2013**	**JW-EA04-SC13-2013**	**JW-EA04-SC13-2013**	**JW-EA04-SC13-2013**	**JW-EA04-SC13-2013**	**JW-EA06-SC21-2013**
Sample ID					**JW-EA04-SC13-A-130423**	**JW-EA04-SC13-B-130423**	**JW-EA04-SC13-C-130423**	**JW-EA04-SC13-D-130423**	**JW-EA04-SC13-EF-130423**	**JW-EA06-SC21-A-130423**
Sample Date					**4/23/2013**	**4/23/2013**	**4/23/2013**	**4/23/2013**	**4/23/2013**	**4/23/2013**
Depth					**0 - 2 ft**	**2 - 4 ft**	**4 - 6 ft**	**6 - 7 ft**	**7 - 9 ft**	**0 - 2 ft**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302771.36466**	**1302771.36466**	**1302771.36466**	**1302771.36466**	**1302771.36466**	**1302293.75554**
Y	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**	**374224.242676**	**374224.242676**	**374224.242676**	**374224.242676**	**374224.242676**	**373635.149742**
Analyte										
Fluorene			540	540	--	--	--	**370**	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	**34**	--	--
Naphthalene			2100	2100	--	--	--	**960**	--	--
Phenanthrene			1500	1500	--	--	--	**1200**	--	--
Pyrene			2600	3300	--	--	--	**750**	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	**108.08**	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	**108.08**	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	**160**	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	**108.08**	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	**2302.8**	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	**3240**	--	--
Dioxin Furans (mg/kg-OC)										
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					**0.00130991372549 J**	**0.000879034**	**0.00027283675676 J**	**0.00052498588235 J**	**2.240197309E-05 J**	**0.00077554691358 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					**0.0008821 J**	**0.000642267**	**0.00015988540541 J**	**0.00028079372549 J**	**1.143627803E-05 J**	**0.00051803662551 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					**0.00119911960784 J**	**0.00083864**	**0.00021678162162 J**	**0.00037492705882 J**	**1.293183857E-05 J**	**0.00119357572016 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					**0.00130909411765 J**	**0.00087846**	**0.00027262783784 J**	**0.00052448117647 J**	**1.981825112E-05 J**	**0.00077500390947 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					**0.00088128039216 J**	**0.000641693**	**0.00015967648649 J**	**0.00028028901961 J**	**8.89930493E-06 J**	**0.0005174936214 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					**0.0011983 J**	**0.000838067**	**0.0002165727027 J**	**0.00037442235294 J**	**1.041356502E-05 J**	**0.00119303271605 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					**0.0013082745098 J**	**0.000877886**	**0.00027241891892 J**	**0.00052397647059 J**	**1.723452915E-05 J**	**0.00077446090535 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					**0.00088046078431 J**	**0.00064112**	**0.00015946756757 J**	**0.00027978431373 J**	**6.36233184E-06 J**	**0.00051695061728 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					**0.00119748039216 J**	**0.000837493**	**0.00021636378378 J**	**0.00037391764706 J**	**7.89529148E-06 J**	**0.00119248971193 J**
Dioxin Furans (ng/kg)										
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					**0.445**	**0.717**	**0.173 J**	**0.842**	0.0918 U	**0.506 J**
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					**2.1 J**	**4.75**	**0.7 J**	**1.52 J**	0.1206 U	**2 J**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**3.03**	**7.57**	**1.06 J**	**2.55 J**	**0.113 J**	**3.95**
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**23**	**60.3**	**6.56**	**10.1**	**0.374 J**	**95.2**
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					**7.23**	**14.6**	**2.37**	**5.26**	**0.27 J**	**28.4**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					**216**	**465**	**77.5**	**215**	**7.96**	**711**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					**1350**	**2300**	**553**	**1670**	**55.6**	**5370**
Total Tetrachlorodibenzo-p-dioxin (TCDD)					**31.6 J**	**77.3 J**	**24.3**	**42.8 J**	**2.67 J**	**43.7 J**
Total Pentachlorodibenzo-p-dioxin (PeCDD)					**37.7 J**	**99.5**	**21.3 J**	**37.6 J**	**1.09 J**	**45.7 J**
Total Hexachlorodibenzo-p-dioxin (HxCDD)					**150**	**363**	**58.3**	**107**	**4.53 J**	**578**
Total Heptachlorodibenzo-p-dioxin (HpCDD)					**455**	**888**	**169**	**487**	**18.1**	**1430**
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					**3.53**	**6.19**	**1.86**	**5.8**	**0.411 J**	**3.62**
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					**1.26 J**	**2.85**	**0.426 J**	**1.02 J**	0.0834 U	**1.6 J**
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					**3.32**	**8.76**	**1.13 J**	**2.68 J**	**0.242 J**	**3.92**
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					**3.48**	**9.99**	**1.09 J**	**2.31 J**	**0.177 J**	**4.43**
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					**4.15**	**13.7**	**1.09 J**	**1.73 J**	**0.103 J**	**3.99**
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					0.1672 U	0.4028 U	0.0773 U	0.2574 U	0.0859 U	0.2639 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					**7.04**	**22.9**	**1.81 J**	**2.85 J**	**0.139 J**	**8.88**
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					**85.4**	**220**	**23.3**	**53.7**	**2.35 J**	**157**
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					**3.51**	**9.92**	**1.06 J**	**3.72**	0.1138 U	**5.91**
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					**118**	**171**	**31.5**	**177**	**3.5 J**	**168**
Total Tetrachlorodibenzofuran (TCDF)					**35.1 J**	**68.6 J**	**15.1 J**	**56.3 J**	**3.89 J**	**39.9 J**

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA06-SC21-2013
Sample ID					JW-EA04-SC13-A-130423	JW-EA04-SC13-B-130423	JW-EA04-SC13-C-130423	JW-EA04-SC13-D-130423	JW-EA04-SC13-EF-130423	JW-EA06-SC21-A-130423
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	6 - 7 ft	7 - 9 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302771.36466	1302771.36466	1302771.36466	1302771.36466	1302771.36466	1302293.75554
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	374224.242676	374224.242676	374224.242676	374224.242676	374224.242676	373635.149742
Analyte										
Total Pentachlorodibenzofuran (PeCDF)					54.4 J	146	15.6 J	35.3 J	1.77 J	56 J
Total Hexachlorodibenzofuran (HxCDF)					153 J	473	40.9	69.2 J	3.25 J	196
Total Heptachlorodibenzofuran (HpCDF)					221	524	63.3	196	6.89	424
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					13.36112 J	30.85408	5.04748 J	13.38714 J	0.999128 J	18.84579 J
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					8.99742 J	22.54358	2.95788 J	7.16024 J	0.510058 J	12.58829 J
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					12.23102 J	29.43628	4.01046 J	9.56064 J	0.57676 J	29.00389 J
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					13.35276 J	30.83394	5.043615 J	13.37427 J	0.883894 J	18.832595 J
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					8.98906 J	22.52344	2.954015 J	7.14737 J	0.396909 J	12.575095 J
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					12.22266 J	29.41614	4.006595 J	9.54777 J	0.464445 J	28.990695 J
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					13.3444 J	30.8138	5.03975 J	13.3614 J	0.76866 J	18.8194 J
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					8.9807 J	22.5033	2.95015 J	7.1345 J	0.28376 J	12.5619 J
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					12.2143 J	29.396	4.00273 J	9.5349 J	0.35213 J	28.9775 J
PCB Aroclors (mg/kg-OC)										
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--
PCB Aroclors (µg/kg)										
Aroclor 1016					--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--
PCB Congeners (mg/kg-OC)										
Total PCB Congener (U = limit)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--
Total PCB Congener (U = 0)	12	65			--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--
PCB Congeners (ng/kg)										
PCB-001					--	--	--	--	--	--
PCB-002					--	--	--	--	--	--
PCB-003					--	--	--	--	--	--
PCB-004					--	--	--	--	--	--
PCB-005					--	--	--	--	--	--
PCB-006					--	--	--	--	--	--
PCB-007					--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA06-SC21-2013
Sample ID					JW-EA04-SC13-A-130423	JW-EA04-SC13-B-130423	JW-EA04-SC13-C-130423	JW-EA04-SC13-D-130423	JW-EA04-SC13-EF-130423	JW-EA06-SC21-A-130423
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	6 - 7 ft	7 - 9 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302771.36466	1302771.36466	1302771.36466	1302771.36466	1302771.36466	1302293.75554
Y					374224.242676	374224.242676	374224.242676	374224.242676	374224.242676	373635.149742
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
PCB-008					--	--	--	--	--	--
PCB-009					--	--	--	--	--	--
PCB-010					--	--	--	--	--	--
PCB-011					--	--	--	--	--	--
PCB-012/013					--	--	--	--	--	--
PCB-014					--	--	--	--	--	--
PCB-015					--	--	--	--	--	--
PCB-016					--	--	--	--	--	--
PCB-017					--	--	--	--	--	--
PCB-018/030					--	--	--	--	--	--
PCB-019					--	--	--	--	--	--
PCB-020/028					--	--	--	--	--	--
PCB-021/033					--	--	--	--	--	--
PCB-022					--	--	--	--	--	--
PCB-023					--	--	--	--	--	--
PCB-024					--	--	--	--	--	--
PCB-025					--	--	--	--	--	--
PCB-026/029					--	--	--	--	--	--
PCB-027					--	--	--	--	--	--
PCB-031					--	--	--	--	--	--
PCB-032					--	--	--	--	--	--
PCB-034					--	--	--	--	--	--
PCB-035					--	--	--	--	--	--
PCB-036					--	--	--	--	--	--
PCB-037					--	--	--	--	--	--
PCB-038					--	--	--	--	--	--
PCB-039					--	--	--	--	--	--
PCB-040/071					--	--	--	--	--	--
PCB-041					--	--	--	--	--	--
PCB-042					--	--	--	--	--	--
PCB-043					--	--	--	--	--	--
PCB-044/047/065					--	--	--	--	--	--
PCB-045					--	--	--	--	--	--
PCB-046					--	--	--	--	--	--
PCB-048					--	--	--	--	--	--
PCB-049/069					--	--	--	--	--	--
PCB-050/053					--	--	--	--	--	--
PCB-051					--	--	--	--	--	--
PCB-052					--	--	--	--	--	--
PCB-054					--	--	--	--	--	--
PCB-055					--	--	--	--	--	--
PCB-056					--	--	--	--	--	--
PCB-057					--	--	--	--	--	--
PCB-058					--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA06-SC21-2013
Sample ID					JW-EA04-SC13-A-130423	JW-EA04-SC13-B-130423	JW-EA04-SC13-C-130423	JW-EA04-SC13-D-130423	JW-EA04-SC13-EF-130423	JW-EA06-SC21-A-130423
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	6 - 7 ft	7 - 9 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302771.36466	1302771.36466	1302771.36466	1302771.36466	1302771.36466	1302293.75554
Y					374224.242676	374224.242676	374224.242676	374224.242676	374224.242676	373635.149742
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
PCB-059/062/075					--	--	--	--	--	--
PCB-060					--	--	--	--	--	--
PCB-061/070/074/076					--	--	--	--	--	--
PCB-063					--	--	--	--	--	--
PCB-064					--	--	--	--	--	--
PCB-066					--	--	--	--	--	--
PCB-067					--	--	--	--	--	--
PCB-068					--	--	--	--	--	--
PCB-072					--	--	--	--	--	--
PCB-073					--	--	--	--	--	--
PCB-077					--	--	--	--	--	--
PCB-078					--	--	--	--	--	--
PCB-079					--	--	--	--	--	--
PCB-080					--	--	--	--	--	--
PCB-081					--	--	--	--	--	--
PCB-082					--	--	--	--	--	--
PCB-083					--	--	--	--	--	--
PCB-084					--	--	--	--	--	--
PCB-085/116					--	--	--	--	--	--
PCB-086/087/097/108/119/125					--	--	--	--	--	--
PCB-088					--	--	--	--	--	--
PCB-089					--	--	--	--	--	--
PCB-090/101/113					--	--	--	--	--	--
PCB-091					--	--	--	--	--	--
PCB-092					--	--	--	--	--	--
PCB-093/100					--	--	--	--	--	--
PCB-094					--	--	--	--	--	--
PCB-095					--	--	--	--	--	--
PCB-096					--	--	--	--	--	--
PCB-098					--	--	--	--	--	--
PCB-099					--	--	--	--	--	--
PCB-102					--	--	--	--	--	--
PCB-103					--	--	--	--	--	--
PCB-104					--	--	--	--	--	--
PCB-105					--	--	--	--	--	--
PCB-106					--	--	--	--	--	--
PCB-107/124					--	--	--	--	--	--
PCB-109					--	--	--	--	--	--
PCB-110					--	--	--	--	--	--
PCB-111					--	--	--	--	--	--
PCB-112					--	--	--	--	--	--
PCB-114					--	--	--	--	--	--
PCB-115					--	--	--	--	--	--
PCB-117					--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA06-SC21-2013
Sample ID					JW-EA04-SC13-A-130423	JW-EA04-SC13-B-130423	JW-EA04-SC13-C-130423	JW-EA04-SC13-D-130423	JW-EA04-SC13-EF-130423	JW-EA06-SC21-A-130423
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	6 - 7 ft	7 - 9 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302771.36466	1302771.36466	1302771.36466	1302771.36466	1302771.36466	1302293.75554
Y					374224.242676	374224.242676	374224.242676	374224.242676	374224.242676	373635.149742
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
PCB-118					--	--	--	--	--	--
PCB-120					--	--	--	--	--	--
PCB-121					--	--	--	--	--	--
PCB-122					--	--	--	--	--	--
PCB-123					--	--	--	--	--	--
PCB-126					--	--	--	--	--	--
PCB-127					--	--	--	--	--	--
PCB-128/166					--	--	--	--	--	--
PCB-129/138/163					--	--	--	--	--	--
PCB-130					--	--	--	--	--	--
PCB-131					--	--	--	--	--	--
PCB-132					--	--	--	--	--	--
PCB-133					--	--	--	--	--	--
PCB-134					--	--	--	--	--	--
PCB-135/151					--	--	--	--	--	--
PCB-136					--	--	--	--	--	--
PCB-137					--	--	--	--	--	--
PCB-139/140					--	--	--	--	--	--
PCB-141					--	--	--	--	--	--
PCB-142					--	--	--	--	--	--
PCB-143					--	--	--	--	--	--
PCB-144					--	--	--	--	--	--
PCB-145					--	--	--	--	--	--
PCB-146					--	--	--	--	--	--
PCB-147/149					--	--	--	--	--	--
PCB-148					--	--	--	--	--	--
PCB-150					--	--	--	--	--	--
PCB-152					--	--	--	--	--	--
PCB-153/168					--	--	--	--	--	--
PCB-154					--	--	--	--	--	--
PCB-155					--	--	--	--	--	--
PCB-156/157					--	--	--	--	--	--
PCB-158					--	--	--	--	--	--
PCB-159					--	--	--	--	--	--
PCB-160					--	--	--	--	--	--
PCB-161					--	--	--	--	--	--
PCB-162					--	--	--	--	--	--
PCB-164					--	--	--	--	--	--
PCB-165					--	--	--	--	--	--
PCB-167					--	--	--	--	--	--
PCB-169					--	--	--	--	--	--
PCB-170					--	--	--	--	--	--
PCB-171/173					--	--	--	--	--	--
PCB-172					--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA06-SC21-2013
Sample ID					JW-EA04-SC13-A-130423	JW-EA04-SC13-B-130423	JW-EA04-SC13-C-130423	JW-EA04-SC13-D-130423	JW-EA04-SC13-EF-130423	JW-EA06-SC21-A-130423
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	6 - 7 ft	7 - 9 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302771.36466	1302771.36466	1302771.36466	1302771.36466	1302771.36466	1302293.75554
Y					374224.242676	374224.242676	374224.242676	374224.242676	374224.242676	373635.149742
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-174					--	--	--	--	--	--
PCB-175					--	--	--	--	--	--
PCB-176					--	--	--	--	--	--
PCB-177					--	--	--	--	--	--
PCB-178					--	--	--	--	--	--
PCB-179					--	--	--	--	--	--
PCB-180/193					--	--	--	--	--	--
PCB-181					--	--	--	--	--	--
PCB-182					--	--	--	--	--	--
PCB-183					--	--	--	--	--	--
PCB-184					--	--	--	--	--	--
PCB-185					--	--	--	--	--	--
PCB-186					--	--	--	--	--	--
PCB-187					--	--	--	--	--	--
PCB-188					--	--	--	--	--	--
PCB-189					--	--	--	--	--	--
PCB-190					--	--	--	--	--	--
PCB-191					--	--	--	--	--	--
PCB-192					--	--	--	--	--	--
PCB-194					--	--	--	--	--	--
PCB-195					--	--	--	--	--	--
PCB-196					--	--	--	--	--	--
PCB-197					--	--	--	--	--	--
PCB-198/199					--	--	--	--	--	--
PCB-200					--	--	--	--	--	--
PCB-201					--	--	--	--	--	--
PCB-202					--	--	--	--	--	--
PCB-203					--	--	--	--	--	--
PCB-204					--	--	--	--	--	--
PCB-205					--	--	--	--	--	--
PCB-206					--	--	--	--	--	--
PCB-207					--	--	--	--	--	--
PCB-208					--	--	--	--	--	--
PCB-209					--	--	--	--	--	--
Total PCB Congener (U = limit)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA04-SC13-2013	JW-EA06-SC21-2013
Sample ID					JW-EA04-SC13-A-130423	JW-EA04-SC13-B-130423	JW-EA04-SC13-C-130423	JW-EA04-SC13-D-130423	JW-EA04-SC13-EF-130423	JW-EA06-SC21-A-130423
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/23/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	6 - 7 ft	7 - 9 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302771.36466	1302771.36466	1302771.36466	1302771.36466	1302771.36466	1302293.75554
Y					374224.242676	374224.242676	374224.242676	374224.242676	374224.242676	373635.149742
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--
Radionuclides (pci/g)										
Cesium 137					--	--	--	--	--	--
Lead 210					--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					0.00130991372549 J	0.000879034	0.00027283675676 J	0.00052498588235 J	2.240197309E-05 J	0.00077554691358 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					0.0008821 J	0.000642267	0.00015988540541 J	0.00028079372549 J	1.143627803E-05 J	0.00051803662551 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					0.00119911960784 J	0.00083864	0.00021678162162 J	0.00037492705882 J	1.293183857E-05 J	0.00119357572016 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					0.00130909411765 J	0.00087846	0.00027262783784 J	0.00052448117647 J	1.981825112E-05 J	0.00077500390947 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					0.00088128039216 J	0.000641693	0.00015967648649 J	0.00028028901961 J	8.89930493E-06 J	0.0005174936214 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					0.0011983 J	0.000838067	0.0002165727027 J	0.00037442235294 J	1.041356502E-05 J	0.00119303271605 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					0.0013082745098 J	0.000877886	0.00027241891892 J	0.00052397647059 J	1.723452915E-05 J	0.00077446090535 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					0.00088046078431 J	0.00064112	0.00015946756757 J	0.00027978431373 J	6.36233184E-06 J	0.00051695061728 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					0.00119748039216 J	0.000837493	0.00021636378378 J	0.00037391764706 J	7.89529148E-06 J	0.00119248971193 J
Dioxin Furans and PCB Congeners (ng/kg)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					13.36112 J	30.85408	5.04748 J	13.38714 J	0.999128 J	18.84579 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					8.99742 J	22.54358	2.95788 J	7.16024 J	0.510058 J	12.58829 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					12.23102 J	29.43628	4.01046 J	9.56064 J	0.57676 J	29.00389 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					13.35276 J	30.83394	5.043615 J	13.37427 J	0.883894 J	18.832595 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					8.98906 J	22.52344	2.954015 J	7.14737 J	0.396909 J	12.575095 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					12.22266 J	29.41614	4.006595 J	9.54777 J	0.464445 J	28.990695 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					13.3444 J	30.8138	5.03975 J	13.3614 J	0.76866 J	18.8194 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					8.9807 J	22.5033	2.95015 J	7.1345 J	0.28376 J	12.5619 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					12.2143 J	29.396	4.00273 J	9.5349 J	0.35213 J	28.9775 J

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA06-SC21-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013426	JW-EA07-SC27-2013
Sample ID					JW-EA06-SC21-B-130423	JW-EA06-SC23-A-130423	JW-EA06-SC23-B-130423	JW-EA06-SC23-C-130423	JW-EA06-SC23-A-130426	JW-EA07-SC27-A-130429
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/26/2013	4/29/2013
Depth					2 - 4 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft	0 - 1 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302293.75554	1302384.62796	1302384.62796	1302384.62796	1302395.40758	1302622.479
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373635.149742	373531.546624	373531.546624	373531.546624	373522.961899	373317.7446
Analyte										
Conventional Parameters (pct)										
Total organic carbon					**2.55 J**	**2.07**	**2.61**	**0.83**	**2.24 J**	**2.29**
Moisture, percent					--	--	--	--	--	--
Total Solids					**70.81**	**65.46**	**72.99**	**82.47**	**85.81**	**58.3**
Grain Size (pct)										
Gravel					--	**1.2**	**3.7**	**1.4**	--	**2.7**
Sand, very coarse					--	**1.3**	**2**	**4**	--	**1.5**
Sand, coarse					--	**4.6**	**9**	**21**	--	**1.5**
Sand, medium					--	**10.9**	**22.5**	**42.9**	--	**3.9**
Sand, fine					--	**8.8**	**18.5**	**21**	--	**4.5**
Sand, very fine					--	**8.4**	**9**	**4.2**	--	**4.9**
Silt, coarse					--	**16.8**	**11**	**2.5**	--	**14.2**
Silt, medium					--	**17.5**	**8.3**	**0.8**	--	**17.7**
Silt, fine					--	**11.9**	**5.8**	**0.7**	--	**18.3**
Silt, very fine					--	**7.4**	**3.3**	**0.4**	--	**9.6**
Clay, coarse					--	**3.5**	**2.3**	**0.4**	--	**5.6**
Clay, medium					--	**2.3**	**1.7**	**0.3**	--	**4.2**
Clay, fine					--	**5.6**	**3.1**	**0.5**	--	**11.3**
Semivolatile Organics (mg/kg-OC)										
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--
Semivolatile Organics (µg/kg)										
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA06-SC21-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013426	JW-EA07-SC27-2013
Sample ID					JW-EA06-SC21-B-130423	JW-EA06-SC23-A-130423	JW-EA06-SC23-B-130423	JW-EA06-SC23-C-130423	JW-EA06-SC23-A-130426	JW-EA07-SC27-A-130429
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/26/2013	4/29/2013
Depth					2 - 4 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft	0 - 1 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302293.75554	1302384.62796	1302384.62796	1302384.62796	1302395.40758	1302622.479
Y					373635.149742	373531.546624	373531.546624	373531.546624	373522.961899	373317.7446
Analyte	**SMS_Marine_SCO_SCUMII**	**SMS_Marine_CSL_SCUMII**	**AET_Marine_SCO_SCUMII**	**AET_Marine_CSL_SCUMII**						
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)										
2-Methylnaphthalene	38	64			--	--	--	--	--	--
Acenaphthene	16	57			--	--	--	--	--	--
Acenaphthylene	66	66			--	--	--	--	--	--
Anthracene	220	1200			--	--	--	--	--	--
Benzo(a)anthracene	110	270			--	--	--	--	--	--
Benzo(a)pyrene	99	210			--	--	--	--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	--
Chrysene	110	460			--	--	--	--	--	--
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	--
Dibenzofuran	15	58			--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	--
Fluorene	23	79			--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	--
Naphthalene	99	170			--	--	--	--	--	--
Phenanthrene	100	480			--	--	--	--	--	--
Pyrene	1000	1400			--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)										
2-Methylnaphthalene			670	670	--	--	--	--	--	--
Acenaphthene			500	500	--	--	--	--	--	--
Acenaphthylene			1300	1300	--	--	--	--	--	--
Anthracene			960	960	--	--	--	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--	--	--	--
Benzo(b,j,k)fluoranthenes					--	--	--	--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	--
Chrysene			1400	2800	--	--	--	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	--
Dibenzofuran			540	540	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA06-SC21-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013426	JW-EA07-SC27-2013
Sample ID					JW-EA06-SC21-B-130423	JW-EA06-SC23-A-130423	JW-EA06-SC23-B-130423	JW-EA06-SC23-C-130423	JW-EA06-SC23-A-130426	JW-EA07-SC27-A-130429
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/26/2013	4/29/2013
Depth					2 - 4 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft	0 - 1 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302293.75554	1302384.62796	1302384.62796	1302384.62796	1302395.40758	1302622.479
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373635.149742	373531.546624	373531.546624	373531.546624	373522.961899	373317.7446
Analyte										
Fluorene			540	540	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	--
Naphthalene			2100	2100	--	--	--	--	--	--
Phenanthrene			1500	1500	--	--	--	--	--	--
Pyrene			2600	3300	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	--
Dioxin Furans (mg/kg-OC)										
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					**0.00086835921569 J**	**0.00097670966184 J**	**0.00121134137931 J**	**6.460084337E-05 J**	--	**0.00129672751092 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					**0.00040013176471 J**	**0.00060968067633 J**	**0.00063512681992 J**	**5.003518072E-05 J**	--	**0.00099567947598 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					**0.0005334454902 J**	**0.00181927487923 J**	**0.0008959697318 J**	**4.827156627E-05 J**	--	**0.00223930829694 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					**0.00086784235294 J**	**0.00097607705314 J**	**0.00121087758621 J**	**3.282385542E-05 J**	--	**0.00129600349345 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					**0.00039961490196 J**	**0.00060904806763 J**	**0.00063466302682 J**	**2.55410241E-05 J**	--	**0.00099495545852 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					**0.00053292862745 J**	**0.00181864227053 J**	**0.0008955059387 J**	**2.609584337E-05 J**	--	**0.00223858427948 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					**0.0008673254902 J**	**0.00097544444444 J**	**0.0012104137931 J**	**1.04686747E-06 J**	--	**0.00129527947598 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					**0.00039909803922 J**	**0.00060841545894 J**	**0.00063419923372 J**	**1.04686747E-06 J**	--	**0.00099423144105 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					**0.00053241176471 J**	**0.00181800966184 J**	**0.00089504214559 J**	**3.92012048E-06 J**	--	**0.00223786026201 J**
Dioxin Furans (ng/kg)										
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					**1.12 J**	**0.45 J**	**1.38**	0.1286 U	--	**0.686**
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					**2.32 J**	**2.04 J**	**1.83 J**	0.1287 U	--	**3.94**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**2.95 J**	**3.36**	**2.39**	0.1313 U	--	**10.5**
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**15.7**	**140**	**23.8**	0.1494 U	--	**185**
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					**6.67**	**43.5**	**6.63**	0.1375 U	--	**55.2**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					**273**	**1070**	**660**	**2.27**	--	**1250**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					**2010**	**3240**	**5430**	**15.5**	--	**3240**
Total Tetrachlorodibenzo-p-dioxin (TCDD)					**76.5 J**	**33.1**	**74.1 J**	**0.582 J**	--	**70.7 J**
Total Pentachlorodibenzo-p-dioxin (PeCDD)					**60.7**	**41.6 J**	**88.6 J**	0.1287 U	--	**72**
Total Hexachlorodibenzo-p-dioxin (HxCDD)					**142 J**	**940**	**214**	**1.16 J**	--	**1200**
Total Heptachlorodibenzo-p-dioxin (HpCDD)					**538**	**2260**	**1150**	**4.64**	--	**2480**
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					**11**	**3.8**	**9.69**	0.1285 U	--	**4.13**
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					**2.14 J**	**1.19 J**	**3.25**	0.0836 U	--	**2.15 J**
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					**4.22**	**3.05**	**12.3**	0.0827 U	--	**5.24**
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					**3.52 J**	**4.48**	**13.9**	0.0642 U	--	**8.1**
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					**2.42 J**	**3.46**	**5**	0.0642 U	--	**6.64**
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					0.2636 U	0.2619 U	0.2421 U	0.0827 U	--	0.3316 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					**4.39**	**8.3**	**6.56**	0.0652 U	--	**14.1**
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					**69.6**	**172**	**121**	**0.471 J**	--	**298**
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					**4.63**	**6**	**6.74**	0.1199 U	--	**9.41**
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					**220**	**167**	**199**	**1.59 J**	--	**238**
Total Tetrachlorodibenzofuran (TCDF)					**102 J**	**34 J**	**110**	0.1285 U	--	**52 J**

Table H-2
Subsurface Sediment Results

Task					**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**
Location ID					**JW-EA06-SC21-2013**	**JW-EA06-SC23-2013**	**JW-EA06-SC23-2013**	**JW-EA06-SC23-2013**	**JW-EA06-SC23-2013426**	**JW-EA07-SC27-2013**
Sample ID					**JW-EA06-SC21-B-130423**	**JW-EA06-SC23-A-130423**	**JW-EA06-SC23-B-130423**	**JW-EA06-SC23-C-130423**	**JW-EA06-SC23-A-130426**	**JW-EA07-SC27-A-130429**
Sample Date					**4/23/2013**	**4/23/2013**	**4/23/2013**	**4/23/2013**	**4/26/2013**	**4/29/2013**
Depth					**2 - 4 ft**	**0 - 2 ft**	**2 - 4 ft**	**4 - 6 ft**	**0 - 2 ft**	**0 - 1 ft**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302293.75554**	**1302384.62796**	**1302384.62796**	**1302384.62796**	**1302395.40758**	**1302622.479**
Y **Analyte**	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**	**373635.149742**	**373531.546624**	**373531.546624**	**373531.546624**	**373522.961899**	**373317.7446**
Total Pentachlorodibenzofuran (PeCDF)					**54.1 J**	**42.7 J**	**140**	0.0832 U	--	**89.1 J**
Total Hexachlorodibenzofuran (HxCDF)					**94.7 J**	**213**	**309**	**0.357**	--	**383**
Total Heptachlorodibenzofuran (HpCDF)					**266**	**473**	**418**	**1.69**	--	**822**
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					**22.14316 J**	**20.21789 J**	**31.61601 J**	**0.536187 J**	--	**29.69506 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					**10.20336 J**	**12.62039 J**	**16.57681 J**	**0.415292 J**	--	**22.80106 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					**13.60286 J**	**37.65899 J**	**23.38481 J**	**0.400654 J**	--	**51.28016 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					**22.12998 J**	**20.204795 J**	**31.603905 J**	**0.272438 J**	--	**29.67848 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					**10.19018 J**	**12.607295 J**	**16.564705 J**	**0.2119905 J**	--	**22.78448 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					**13.58968 J**	**37.645895 J**	**23.372705 J**	**0.2165955 J**	--	**51.26358 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					**22.1168 J**	**20.1917 J**	**31.5918 J**	**0.008689 J**	--	**29.6619 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					**10.177 J**	**12.5942 J**	**16.5526 J**	**0.008689 J**	--	**22.7679 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					**13.5765 J**	**37.6328 J**	**23.3606 J**	**0.032537 J**	--	**51.247 J**
PCB Aroclors (mg/kg-OC)										
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--
PCB Aroclors (µg/kg)										
Aroclor 1016					--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--
PCB Congeners (mg/kg-OC)										
Total PCB Congener (U = limit)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--
Total PCB Congener (U = 0)	12	65			--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--
PCB Congeners (ng/kg)										
PCB-001					--	--	--	--	--	--
PCB-002					--	--	--	--	--	--
PCB-003					--	--	--	--	--	--
PCB-004					--	--	--	--	--	--
PCB-005					--	--	--	--	--	--
PCB-006					--	--	--	--	--	--
PCB-007					--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA06-SC21-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013426	JW-EA07-SC27-2013
Sample ID					JW-EA06-SC21-B-130423	JW-EA06-SC23-A-130423	JW-EA06-SC23-B-130423	JW-EA06-SC23-C-130423	JW-EA06-SC23-A-130426	JW-EA07-SC27-A-130429
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/26/2013	4/29/2013
Depth					2 - 4 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft	0 - 1 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302293.75554	1302384.62796	1302384.62796	1302384.62796	1302395.40758	1302622.479
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373635.149742	373531.546624	373531.546624	373531.546624	373522.961899	373317.7446
Analyte										
PCB-008					--	--	--	--	--	--
PCB-009					--	--	--	--	--	--
PCB-010					--	--	--	--	--	--
PCB-011					--	--	--	--	--	--
PCB-012/013					--	--	--	--	--	--
PCB-014					--	--	--	--	--	--
PCB-015					--	--	--	--	--	--
PCB-016					--	--	--	--	--	--
PCB-017					--	--	--	--	--	--
PCB-018/030					--	--	--	--	--	--
PCB-019					--	--	--	--	--	--
PCB-020/028					--	--	--	--	--	--
PCB-021/033					--	--	--	--	--	--
PCB-022					--	--	--	--	--	--
PCB-023					--	--	--	--	--	--
PCB-024					--	--	--	--	--	--
PCB-025					--	--	--	--	--	--
PCB-026/029					--	--	--	--	--	--
PCB-027					--	--	--	--	--	--
PCB-031					--	--	--	--	--	--
PCB-032					--	--	--	--	--	--
PCB-034					--	--	--	--	--	--
PCB-035					--	--	--	--	--	--
PCB-036					--	--	--	--	--	--
PCB-037					--	--	--	--	--	--
PCB-038					--	--	--	--	--	--
PCB-039					--	--	--	--	--	--
PCB-040/071					--	--	--	--	--	--
PCB-041					--	--	--	--	--	--
PCB-042					--	--	--	--	--	--
PCB-043					--	--	--	--	--	--
PCB-044/047/065					--	--	--	--	--	--
PCB-045					--	--	--	--	--	--
PCB-046					--	--	--	--	--	--
PCB-048					--	--	--	--	--	--
PCB-049/069					--	--	--	--	--	--
PCB-050/053					--	--	--	--	--	--
PCB-051					--	--	--	--	--	--
PCB-052					--	--	--	--	--	--
PCB-054					--	--	--	--	--	--
PCB-055					--	--	--	--	--	--
PCB-056					--	--	--	--	--	--
PCB-057					--	--	--	--	--	--
PCB-058					--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA06-SC21-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013426	JW-EA07-SC27-2013
Sample ID					JW-EA06-SC21-B-130423	JW-EA06-SC23-A-130423	JW-EA06-SC23-B-130423	JW-EA06-SC23-C-130423	JW-EA06-SC23-A-130426	JW-EA07-SC27-A-130429
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/26/2013	4/29/2013
Depth					2 - 4 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft	0 - 1 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302293.75554	1302384.62796	1302384.62796	1302384.62796	1302395.40758	1302622.479
Y					373635.149742	373531.546624	373531.546624	373531.546624	373522.961899	373317.7446
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
PCB-059/062/075					--	--	--	--	--	--
PCB-060					--	--	--	--	--	--
PCB-061/070/074/076					--	--	--	--	--	--
PCB-063					--	--	--	--	--	--
PCB-064					--	--	--	--	--	--
PCB-066					--	--	--	--	--	--
PCB-067					--	--	--	--	--	--
PCB-068					--	--	--	--	--	--
PCB-072					--	--	--	--	--	--
PCB-073					--	--	--	--	--	--
PCB-077					--	--	--	--	--	--
PCB-078					--	--	--	--	--	--
PCB-079					--	--	--	--	--	--
PCB-080					--	--	--	--	--	--
PCB-081					--	--	--	--	--	--
PCB-082					--	--	--	--	--	--
PCB-083					--	--	--	--	--	--
PCB-084					--	--	--	--	--	--
PCB-085/116					--	--	--	--	--	--
PCB-086/087/097/108/119/125					--	--	--	--	--	--
PCB-088					--	--	--	--	--	--
PCB-089					--	--	--	--	--	--
PCB-090/101/113					--	--	--	--	--	--
PCB-091					--	--	--	--	--	--
PCB-092					--	--	--	--	--	--
PCB-093/100					--	--	--	--	--	--
PCB-094					--	--	--	--	--	--
PCB-095					--	--	--	--	--	--
PCB-096					--	--	--	--	--	--
PCB-098					--	--	--	--	--	--
PCB-099					--	--	--	--	--	--
PCB-102					--	--	--	--	--	--
PCB-103					--	--	--	--	--	--
PCB-104					--	--	--	--	--	--
PCB-105					--	--	--	--	--	--
PCB-106					--	--	--	--	--	--
PCB-107/124					--	--	--	--	--	--
PCB-109					--	--	--	--	--	--
PCB-110					--	--	--	--	--	--
PCB-111					--	--	--	--	--	--
PCB-112					--	--	--	--	--	--
PCB-114					--	--	--	--	--	--
PCB-115					--	--	--	--	--	--
PCB-117					--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA06-SC21-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013426	JW-EA07-SC27-2013
Sample ID					JW-EA06-SC21-B-130423	JW-EA06-SC23-A-130423	JW-EA06-SC23-B-130423	JW-EA06-SC23-C-130423	JW-EA06-SC23-A-130426	JW-EA07-SC27-A-130429
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/26/2013	4/29/2013
Depth					2 - 4 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft	0 - 1 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302293.75554	1302384.62796	1302384.62796	1302384.62796	1302395.40758	1302622.479
Y					373635.149742	373531.546624	373531.546624	373531.546624	373522.961899	373317.7446
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
PCB-118					--	--	--	--	--	--
PCB-120					--	--	--	--	--	--
PCB-121					--	--	--	--	--	--
PCB-122					--	--	--	--	--	--
PCB-123					--	--	--	--	--	--
PCB-126					--	--	--	--	--	--
PCB-127					--	--	--	--	--	--
PCB-128/166					--	--	--	--	--	--
PCB-129/138/163					--	--	--	--	--	--
PCB-130					--	--	--	--	--	--
PCB-131					--	--	--	--	--	--
PCB-132					--	--	--	--	--	--
PCB-133					--	--	--	--	--	--
PCB-134					--	--	--	--	--	--
PCB-135/151					--	--	--	--	--	--
PCB-136					--	--	--	--	--	--
PCB-137					--	--	--	--	--	--
PCB-139/140					--	--	--	--	--	--
PCB-141					--	--	--	--	--	--
PCB-142					--	--	--	--	--	--
PCB-143					--	--	--	--	--	--
PCB-144					--	--	--	--	--	--
PCB-145					--	--	--	--	--	--
PCB-146					--	--	--	--	--	--
PCB-147/149					--	--	--	--	--	--
PCB-148					--	--	--	--	--	--
PCB-150					--	--	--	--	--	--
PCB-152					--	--	--	--	--	--
PCB-153/168					--	--	--	--	--	--
PCB-154					--	--	--	--	--	--
PCB-155					--	--	--	--	--	--
PCB-156/157					--	--	--	--	--	--
PCB-158					--	--	--	--	--	--
PCB-159					--	--	--	--	--	--
PCB-160					--	--	--	--	--	--
PCB-161					--	--	--	--	--	--
PCB-162					--	--	--	--	--	--
PCB-164					--	--	--	--	--	--
PCB-165					--	--	--	--	--	--
PCB-167					--	--	--	--	--	--
PCB-169					--	--	--	--	--	--
PCB-170					--	--	--	--	--	--
PCB-171/173					--	--	--	--	--	--
PCB-172					--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA06-SC21-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013426	JW-EA07-SC27-2013
Sample ID					JW-EA06-SC21-B-130423	JW-EA06-SC23-A-130423	JW-EA06-SC23-B-130423	JW-EA06-SC23-C-130423	JW-EA06-SC23-A-130426	JW-EA07-SC27-A-130429
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/26/2013	4/29/2013
Depth					2 - 4 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft	0 - 1 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302293.75554	1302384.62796	1302384.62796	1302384.62796	1302395.40758	1302622.479
Y					373635.149742	373531.546624	373531.546624	373531.546624	373522.961899	373317.7446
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-174					--	--	--	--	--	--
PCB-175					--	--	--	--	--	--
PCB-176					--	--	--	--	--	--
PCB-177					--	--	--	--	--	--
PCB-178					--	--	--	--	--	--
PCB-179					--	--	--	--	--	--
PCB-180/193					--	--	--	--	--	--
PCB-181					--	--	--	--	--	--
PCB-182					--	--	--	--	--	--
PCB-183					--	--	--	--	--	--
PCB-184					--	--	--	--	--	--
PCB-185					--	--	--	--	--	--
PCB-186					--	--	--	--	--	--
PCB-187					--	--	--	--	--	--
PCB-188					--	--	--	--	--	--
PCB-189					--	--	--	--	--	--
PCB-190					--	--	--	--	--	--
PCB-191					--	--	--	--	--	--
PCB-192					--	--	--	--	--	--
PCB-194					--	--	--	--	--	--
PCB-195					--	--	--	--	--	--
PCB-196					--	--	--	--	--	--
PCB-197					--	--	--	--	--	--
PCB-198/199					--	--	--	--	--	--
PCB-200					--	--	--	--	--	--
PCB-201					--	--	--	--	--	--
PCB-202					--	--	--	--	--	--
PCB-203					--	--	--	--	--	--
PCB-204					--	--	--	--	--	--
PCB-205					--	--	--	--	--	--
PCB-206					--	--	--	--	--	--
PCB-207					--	--	--	--	--	--
PCB-208					--	--	--	--	--	--
PCB-209					--	--	--	--	--	--
Total PCB Congener (U = limit)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA06-SC21-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013	JW-EA06-SC23-2013426	JW-EA07-SC27-2013
Sample ID					JW-EA06-SC21-B-130423	JW-EA06-SC23-A-130423	JW-EA06-SC23-B-130423	JW-EA06-SC23-C-130423	JW-EA06-SC23-A-130426	JW-EA07-SC27-A-130429
Sample Date					4/23/2013	4/23/2013	4/23/2013	4/23/2013	4/26/2013	4/29/2013
Depth					2 - 4 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft	0 - 1 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302293.75554	1302384.62796	1302384.62796	1302384.62796	1302395.40758	1302622.479
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	373635.149742	373531.546624	373531.546624	373531.546624	373522.961899	373317.7446
Analyte										
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--
Radionuclides (pci/g)										
Cesium 137					--	--	--	--	--	--
Lead 210					--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					0.00086835921569 J	0.00097670966184 J	0.00121134137931 J	6.460084337E-05 J	--	0.00129672751092 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					0.00040013176471 J	0.00060968067633 J	0.00063512681992 J	5.003518072E-05 J	--	0.00099567947598 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					0.0005334454902 J	0.00181927487923 J	0.0008959697318 J	4.827156627E-05 J	--	0.00223930829694 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					0.00086784235294 J	0.00097607705314 J	0.00121087758621 J	3.282385542E-05 J	--	0.00129600349345 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					0.00039961490196 J	0.00060904806763 J	0.00063466302682 J	2.55410241E-05 J	--	0.00099495545852 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					0.00053292862745 J	0.00181864227053 J	0.0008955059387 J	2.609584337E-05 J	--	0.00223858427948 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					0.0008673254902 J	0.00097544444444 J	0.0012104137931 J	1.04686747E-06 J	--	0.00129527947598 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					0.00039909803922 J	0.00060841545894 J	0.00063419923372 J	1.04686747E-06 J	--	0.00099423144105 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					0.00053241176471 J	0.00181800966184 J	0.00089504214559 J	3.92012048E-06 J	--	0.00223786026201 J
Dioxin Furans and PCB Congeners (ng/kg)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					22.14316 J	20.21789 J	31.61601 J	0.536187 J	--	29.69506 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					10.20336 J	12.62039 J	16.57681 J	0.415292 J	--	22.80106 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					13.60286 J	37.65899 J	23.38481 J	0.400654 J	--	51.28016 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					22.12998 J	20.204795 J	31.603905 J	0.272438 J	--	29.67848 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					10.19018 J	12.607295 J	16.564705 J	0.2119905 J	--	22.78448 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					13.58968 J	37.645895 J	23.372705 J	0.2165955 J	--	51.26358 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					22.1168 J	20.1917 J	31.5918 J	0.008689 J	--	29.6619 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					10.177 J	12.5942 J	16.5526 J	0.008689 J	--	22.7679 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					13.5765 J	37.6328 J	23.3606 J	0.032537 J	--	51.247 J

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA07-SC27-2013	JW-EA07-SC27-2013	JW-EA07-SC28-2013	JW-EA07-SC28-2013	JW-EA07-SC28-2013	JW-EA09-SC36-2013
Sample ID					JW-EA07-SC27-B-130429	JW-EA07-SC27-C-130429	JW-EA07-SC28-A-130426	JW-EA07-SC28-B-130426	JW-EA07-SC28-C-130426	JW-EA09-SC36-A-130426
Sample Date					4/29/2013	4/29/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
Depth					1 - 2 ft	2 - 2.6 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302622.479	1302622.479	1302470.87217	1302470.87217	1302470.87217	1302770.78155
Y					373317.7446	373317.7446	373174.526718	373174.526718	373174.526718	372460.088498
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
Conventional Parameters (pct)										
Total organic carbon					**3.5**	**2.54**	--	**0.8 J**	**0.45 J**	**1.84 J**
Moisture, percent					--	--	--	--	--	--
Total Solids					**69.06**	**70.96**	--	**80.86**	**78.07**	**72.68**
Grain Size (pct)										
Gravel					**3.1**	**3.2**	--	--	--	--
Sand, very coarse					**2.6**	**1.5**	--	--	--	--
Sand, coarse					**3.2**	**2.2**	--	--	--	--
Sand, medium					**7.9**	**6.8**	--	--	--	--
Sand, fine					**9.2**	**9.6**	--	--	--	--
Sand, very fine					**8.8**	**8.5**	--	--	--	--
Silt, coarse					**16.7**	**17**	--	--	--	--
Silt, medium					**16.5**	**13.8**	--	--	--	--
Silt, fine					**12.8**	**14.9**	--	--	--	--
Silt, very fine					**7.1**	**9.1**	--	--	--	--
Clay, coarse					**4.2**	**4**	--	--	--	--
Clay, medium					**3**	**2.9**	--	--	--	--
Clay, fine					**4.8**	**6.5**	--	--	--	--
Semivolatile Organics (mg/kg-OC)										
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--
Semivolatile Organics (µg/kg)										
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA07-SC27-2013	JW-EA07-SC27-2013	JW-EA07-SC28-2013	JW-EA07-SC28-2013	JW-EA07-SC28-2013	JW-EA09-SC36-2013
Sample ID					JW-EA07-SC27-B-130429	JW-EA07-SC27-C-130429	JW-EA07-SC28-A-130426	JW-EA07-SC28-B-130426	JW-EA07-SC28-C-130426	JW-EA09-SC36-A-130426
Sample Date					4/29/2013	4/29/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
Depth					1 - 2 ft	2 - 2.6 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302622.479	1302622.479	1302470.87217	1302470.87217	1302470.87217	1302770.78155
Y					373317.7446	373317.7446	373174.526718	373174.526718	373174.526718	372460.088498
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)										
2-Methylnaphthalene	38	64			--	--	--	--	--	--
Acenaphthene	16	57			--	--	--	--	--	--
Acenaphthylene	66	66			--	--	--	--	--	--
Anthracene	220	1200			--	--	--	--	--	--
Benzo(a)anthracene	110	270			--	--	--	--	--	--
Benzo(a)pyrene	99	210			--	--	--	--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	--
Chrysene	110	460			--	--	--	--	--	--
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	--
Dibenzofuran	15	58			--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	--
Fluorene	23	79			--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	--
Naphthalene	99	170			--	--	--	--	--	--
Phenanthrene	100	480			--	--	--	--	--	--
Pyrene	1000	1400			--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)										
2-Methylnaphthalene			670	670	--	--	--	--	--	--
Acenaphthene			500	500	--	--	--	--	--	--
Acenaphthylene			1300	1300	--	--	--	--	--	--
Anthracene			960	960	--	--	--	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--	--	--	--
Benzo(b,j,k)fluoranthenes					--	--	--	--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	--
Chrysene			1400	2800	--	--	--	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	--
Dibenzofuran			540	540	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA07-SC27-2013	JW-EA07-SC27-2013	JW-EA07-SC28-2013	JW-EA07-SC28-2013	JW-EA07-SC28-2013	JW-EA09-SC36-2013
Sample ID					JW-EA07-SC27-B-130429	JW-EA07-SC27-C-130429	JW-EA07-SC28-A-130426	JW-EA07-SC28-B-130426	JW-EA07-SC28-C-130426	JW-EA09-SC36-A-130426
Sample Date					4/29/2013	4/29/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
Depth					1 - 2 ft	2 - 2.6 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302622.479	1302622.479	1302470.87217	1302470.87217	1302470.87217	1302770.78155
Y					373317.7446	373317.7446	373174.526718	373174.526718	373174.526718	372460.088498
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
Fluorene			540	540	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	--
Naphthalene			2100	2100	--	--	--	--	--	--
Phenanthrene			1500	1500	--	--	--	--	--	--
Pyrene			2600	3300	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	--
Dioxin Furans (mg/kg-OC)										
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					**0.00211533057143 J**	**0.00139058**	--	**0.00018873044125 J**	**0.00013061530444 J**	**0.00041511793478 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					**0.00156954485714 J**	**0.000707608**	--	**6.970356625E-05 J**	**8.667086E-05 J**	**0.00019876195652 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					**0.00299511628571 J**	**0.000973482**	--	**6.679657375E-05 J**	**7.976502444E-05 J**	**0.00022262065217 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					**0.00211480528571 J**	**0.001390115**	--	**0.00016877834563 J**	**9.088631889E-05 J**	**0.00041465788043 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					**0.00156901957143 J**	**0.000707143**	--	**4.603053313E-05 J**	**4.474187444E-05 J**	**0.00019830190217 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					**0.002994591 J**	**0.000973017**	--	**4.534078688E-05 J**	**4.325117889E-05 J**	**0.00022216059783 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					**0.00211428 J**	**0.00138965**	--	**0.00014882625 J**	**5.115733333E-05 J**	**0.00041419782609 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					**0.00156849428571 J**	**0.000706677**	--	**2.23575E-05 J**	**2.81288889E-06 J**	**0.00019784184783 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					**0.00299406571429 J**	**0.000972551**	--	**2.3885E-05 J**	**6.73733333E-06 J**	**0.00022170054348 J**
Dioxin Furans (ng/kg)										
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					**1.44 J**	**2.43**	**1.79**	0.1051 U	0.1182 U	**0.434 J**
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					**7.83**	**4.28**	**2.94 J**	0.157 U	0.1015 U	**1.06 J**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**18.5**	**4.65**	**3.25 J**	0.1642 U	0.1568 U	**0.985 J**
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**327**	**50.4**	**12.6**	0.1758 U	0.1622 U	**4**
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					**82.4**	**17.3**	**5.79**	0.1595 U	0.156 U	**2.36 J**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					**2410**	**370**	**172**	**1.13 J**	**0.542 J**	**44.6**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					**6440**	**1490**	**1160**	**14.9**	**6.66**	**308**
Total Tetrachlorodibenzo-p-dioxin (TCDD)					**125 J**	**190**	**122 J**	**3.12 J**	**0.866 J**	**45.8 J**
Total Pentachlorodibenzo-p-dioxin (PeCDD)					**163 J**	**157 J**	**99.1**	**1.36 J**	0.1015 U	**34 J**
Total Hexachlorodibenzo-p-dioxin (HxCDD)					**2010**	**403**	**142**	**1.69**	0.341 U	**49.4 J**
Total Heptachlorodibenzo-p-dioxin (HpCDD)					**4600**	**709**	**341**	**2.97**	**1.45**	**96.1**
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					**12.4**	**14**	**11.7**	**0.939**	**0.229 J**	**3.44**
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					**5.63**	**4.46**	**3.59**	**0.284 J**	0.0694 U	**0.976 J**
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					**15.9**	**8.72**	**5.86**	**0.211 J**	0.0665 U	**1.79 J**
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					**26.4**	**4.6**	**3.19 J**	**0.0959 J**	0.0893 U	**0.941 J**
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					**20.3**	**3.82**	**2.57 J**	0.0884 U	0.0861 U	**0.833 J**
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					0.3677 U	0.2364 U	0.2935 U	0.0994 U	0.1064 U	0.1693 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					**48.2**	**6.44**	**3.77**	0.0955 U	0.0916 U	**1.2 J**
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					**1050**	**90.1**	**58.7**	0.134 U	0.0912 U	**9.32**
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					**31.6**	**3.59**	**3.05 J**	0.1532 U	0.109 U	**0.683 J**
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					**718**	**127**	**148**	0.1353 U	0.1687 U	**15.6**
Total Tetrachlorodibenzofuran (TCDF)					**163 J**	**220 J**	**149 J**	**6.19 J**	**0.653 J**	**44.2 J**

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA07-SC27-2013	JW-EA07-SC27-2013	JW-EA07-SC28-2013	JW-EA07-SC28-2013	JW-EA07-SC28-2013	JW-EA09-SC36-2013
Sample ID					JW-EA07-SC27-B-130429	JW-EA07-SC27-C-130429	JW-EA07-SC28-A-130426	JW-EA07-SC28-B-130426	JW-EA07-SC28-C-130426	JW-EA09-SC36-A-130426
Sample Date					4/29/2013	4/29/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
Depth					1 - 2 ft	2 - 2.6 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302622.479	1302622.479	1302470.87217	1302470.87217	1302470.87217	1302770.78155
Y Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373317.7446	373317.7446	373174.526718	373174.526718	373174.526718	372460.088498
Total Pentachlorodibenzofuran (PeCDF)					**301 J**	**114 J**	**72.8 J**	**1.28 J**	0.0679 U	**20.4 J**
Total Hexachlorodibenzofuran (HxCDF)					**1400**	**134**	**72.5**	**0.0959**	0.0929 U	**19.5 J**
Total Heptachlorodibenzofuran (HpCDF)					**2930**	**250 J**	**165**	0.1433 U	0.0996 U	**25.3**
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					**74.03657 J**	**35.32074**	**25.41915 J**	**1.50984353 J**	**0.58776887 J**	**7.63817 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					**54.93407 J**	**17.97324**	**12.13605 J**	**0.55762853 J**	**0.39001887 J**	**3.65722 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					**104.82907 J**	**24.72644**	**13.64195 J**	**0.53437259 J**	**0.35894261 J**	**4.09622 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					**74.018185 J**	**35.30892**	**25.404475 J**	**1.35022677 J**	**0.40898843 J**	**7.629705 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					**54.915685 J**	**17.96142**	**12.121375 J**	**0.36824427 J**	**0.20133844 J**	**3.648755 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					**104.810685 J**	**24.71462**	**13.627275 J**	**0.36272629 J**	**0.19463031 J**	**4.087755 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					**73.9998 J**	**35.2971**	**25.3898 J**	**1.19061 J**	**0.230208 J**	**7.62124 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					**54.8973 J**	**17.9496**	**12.1067 J**	**0.17886 J**	**0.012658 J**	**3.64029 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					**104.7923 J**	**24.7028**	**13.6126 J**	**0.19108 J**	**0.030318 J**	**4.07929 J**
PCB Aroclors (mg/kg-OC)										
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--
PCB Aroclors (µg/kg)										
Aroclor 1016					--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--
PCB Congeners (mg/kg-OC)										
Total PCB Congener (U = limit)					--	--	--	--	--	**1.121726739 J**
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	**0.000214354**
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	**1.90776E-06**
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	**3.40962E-05**
Total PCB Congener (U = 1/2)					--	--	--	--	--	**1.121393397 J**
Total PCB Congener (U = 0)	12	65			--	--	--	--	--	**1.121060054 J**
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	**0.00021432**
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	**0.000214286**
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	**1.90608E-06**
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	**1.90439E-06**
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	**2.48222E-05**
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	**2.38113E-05**
PCB Congeners (ng/kg)										
PCB-001					--	--	--	--	--	**18.9**
PCB-002					--	--	--	--	--	**21.2**
PCB-003					--	--	--	--	--	**27.1**
PCB-004					--	--	--	--	--	**22.7**
PCB-005					--	--	--	--	--	**1.82**
PCB-006					--	--	--	--	--	**14.2**
PCB-007					--	--	--	--	--	**2.75**

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA07-SC27-2013	JW-EA07-SC27-2013	JW-EA07-SC28-2013	JW-EA07-SC28-2013	JW-EA07-SC28-2013	JW-EA09-SC36-2013
Sample ID					JW-EA07-SC27-B-130429	JW-EA07-SC27-C-130429	JW-EA07-SC28-A-130426	JW-EA07-SC28-B-130426	JW-EA07-SC28-C-130426	JW-EA09-SC36-A-130426
Sample Date					4/29/2013	4/29/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
Depth					1 - 2 ft	2 - 2.6 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302622.479	1302622.479	1302470.87217	1302470.87217	1302470.87217	1302770.78155
Y					373317.7446	373317.7446	373174.526718	373174.526718	373174.526718	372460.088498
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-008					--	--	--	--	--	**74.3**
PCB-009					--	--	--	--	--	**4.13**
PCB-010					--	--	--	--	--	**1.41**
PCB-011					--	--	--	--	--	**214**
PCB-012/013					--	--	--	--	--	**18.5**
PCB-014					--	--	--	--	--	**1.63**
PCB-015					--	--	--	--	--	**78.3**
PCB-016					--	--	--	--	--	**73.5**
PCB-017					--	--	--	--	--	**74.3**
PCB-018/030					--	--	--	--	--	**168**
PCB-019					--	--	--	--	--	**13.3**
PCB-020/028					--	--	--	--	--	**400**
PCB-021/033					--	--	--	--	--	**146**
PCB-022					--	--	--	--	--	**118**
PCB-023					--	--	--	--	--	0.635 U
PCB-024					--	--	--	--	--	**1.9**
PCB-025					--	--	--	--	--	**23.5**
PCB-026/029					--	--	--	--	--	**49.6**
PCB-027					--	--	--	--	--	**13.7**
PCB-031					--	--	--	--	--	**313**
PCB-032					--	--	--	--	--	**63.7**
PCB-034					--	--	--	--	--	**2.17**
PCB-035					--	--	--	--	--	**14.5**
PCB-036					--	--	--	--	--	**3**
PCB-037					--	--	--	--	--	**135**
PCB-038					--	--	--	--	--	0.69 U
PCB-039					--	--	--	--	--	**2.92**
PCB-040/071					--	--	--	--	--	**186**
PCB-041					--	--	--	--	--	**27.7**
PCB-042					--	--	--	--	--	**97.9**
PCB-043					--	--	--	--	--	**14**
PCB-044/047/065					--	--	--	--	--	**428**
PCB-045					--	--	--	--	--	**35.1**
PCB-046					--	--	--	--	--	**16**
PCB-048					--	--	--	--	--	**62.9**
PCB-049/069					--	--	--	--	--	**261**
PCB-050/053					--	--	--	--	--	**40.2**
PCB-051					--	--	--	--	--	**12.3**
PCB-052					--	--	--	--	--	**672**
PCB-054					--	--	--	--	--	0.296 U
PCB-055					--	--	--	--	--	**8.07**
PCB-056					--	--	--	--	--	**230**
PCB-057					--	--	--	--	--	**1.65 J**
PCB-058					--	--	--	--	--	**2.26**

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA07-SC27-2013	JW-EA07-SC27-2013	JW-EA07-SC28-2013	JW-EA07-SC28-2013	JW-EA07-SC28-2013	JW-EA09-SC36-2013
Sample ID					JW-EA07-SC27-B-130429	JW-EA07-SC27-C-130429	JW-EA07-SC28-A-130426	JW-EA07-SC28-B-130426	JW-EA07-SC28-C-130426	JW-EA09-SC36-A-130426
Sample Date					4/29/2013	4/29/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
Depth					1 - 2 ft	2 - 2.6 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302622.479	1302622.479	1302470.87217	1302470.87217	1302470.87217	1302770.78155
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	373317.7446	373317.7446	373174.526718	373174.526718	373174.526718	372460.088498
Analyte										
PCB-059/062/075					--	--	--	--	--	**28.6**
PCB-060					--	--	--	--	--	**115**
PCB-061/070/074/076					--	--	--	--	--	**900**
PCB-063					--	--	--	--	--	**18.1**
PCB-064					--	--	--	--	--	**154**
PCB-066					--	--	--	--	--	**529**
PCB-067					--	--	--	--	--	**12.7**
PCB-068					--	--	--	--	--	**4.54**
PCB-072					--	--	--	--	--	**8.49**
PCB-073					--	--	--	--	--	**2.07**
PCB-077					--	--	--	--	--	**64.4**
PCB-078					--	--	--	--	--	0.99 U
PCB-079					--	--	--	--	--	**10.3**
PCB-080					--	--	--	--	--	0.769 U
PCB-081					--	--	--	--	--	**2.71**
PCB-082					--	--	--	--	--	**124**
PCB-083					--	--	--	--	--	**52.7**
PCB-084					--	--	--	--	--	**218**
PCB-085/116					--	--	--	--	--	**160**
PCB-086/087/097/108/119/125					--	--	--	--	--	**692**
PCB-088					--	--	--	--	--	**128**
PCB-089					--	--	--	--	--	**11.7**
PCB-090/101/113					--	--	--	--	--	**1010**
PCB-091					--	--	--	--	--	0.546 U
PCB-092					--	--	--	--	--	**195**
PCB-093/100					--	--	--	--	--	**5.81**
PCB-094					--	--	--	--	--	**3.4**
PCB-095					--	--	--	--	--	**625**
PCB-096					--	--	--	--	--	**4.89**
PCB-098					--	--	--	--	--	0.63 U
PCB-099					--	--	--	--	--	**532**
PCB-102					--	--	--	--	--	**24.9**
PCB-103					--	--	--	--	--	**5.66**
PCB-104					--	--	--	--	--	0.231 U
PCB-105					--	--	--	--	--	**427**
PCB-106					--	--	--	--	--	0.55 U
PCB-107/124					--	--	--	--	--	**38**
PCB-109					--	--	--	--	--	**74.4**
PCB-110					--	--	--	--	--	**1310**
PCB-111					--	--	--	--	--	0.476 U
PCB-112					--	--	--	--	--	0.492 U
PCB-114					--	--	--	--	--	**20.3**
PCB-115					--	--	--	--	--	**23**
PCB-117					--	--	--	--	--	**25.9**

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA07-SC27-2013	JW-EA07-SC27-2013	JW-EA07-SC28-2013	JW-EA07-SC28-2013	JW-EA07-SC28-2013	JW-EA09-SC36-2013
Sample ID					JW-EA07-SC27-B-130429	JW-EA07-SC27-C-130429	JW-EA07-SC28-A-130426	JW-EA07-SC28-B-130426	JW-EA07-SC28-C-130426	JW-EA09-SC36-A-130426
Sample Date					4/29/2013	4/29/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
Depth					1 - 2 ft	2 - 2.6 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302622.479	1302622.479	1302470.87217	1302470.87217	1302470.87217	1302770.78155
Y					373317.7446	373317.7446	373174.526718	373174.526718	373174.526718	372460.088498
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-118					--	--	--	--	--	**962**
PCB-120					--	--	--	--	--	0.485 U
PCB-121					--	--	--	--	--	0.473 U
PCB-122					--	--	--	--	--	**13.8**
PCB-123					--	--	--	--	--	**18.1**
PCB-126					--	--	--	--	--	**3.82**
PCB-127					--	--	--	--	--	0.569 U
PCB-128/166					--	--	--	--	--	**197**
PCB-129/138/163					--	--	--	--	--	**1310**
PCB-130					--	--	--	--	--	**83.4**
PCB-131					--	--	--	--	--	**14.1**
PCB-132					--	--	--	--	--	**352**
PCB-133					--	--	--	--	--	**16.5**
PCB-134					--	--	--	--	--	**63.7**
PCB-135/151					--	--	--	--	--	**322**
PCB-136					--	--	--	--	--	**122**
PCB-137					--	--	--	--	--	**55.9**
PCB-139/140					--	--	--	--	--	**20**
PCB-141					--	--	--	--	--	**208**
PCB-142					--	--	--	--	--	0.382 U
PCB-143					--	--	--	--	--	**3.52**
PCB-144					--	--	--	--	--	**46.4**
PCB-145					--	--	--	--	--	0.247 U
PCB-146					--	--	--	--	--	**170**
PCB-147/149					--	--	--	--	--	**806**
PCB-148					--	--	--	--	--	**0.617 J**
PCB-150					--	--	--	--	--	**0.881 J**
PCB-152					--	--	--	--	--	**0.714 J**
PCB-153/168					--	--	--	--	--	**896**
PCB-154					--	--	--	--	--	**9.82**
PCB-155					--	--	--	--	--	0.212 U
PCB-156/157					--	--	--	--	--	**148**
PCB-158					--	--	--	--	--	**130**
PCB-159					--	--	--	--	--	**10.8**
PCB-160					--	--	--	--	--	**19.4**
PCB-161					--	--	--	--	--	**0.403 J**
PCB-162					--	--	--	--	--	**3.61**
PCB-164					--	--	--	--	--	**78.2**
PCB-165					--	--	--	--	--	0.31 U
PCB-167					--	--	--	--	--	**44.2**
PCB-169					--	--	--	--	--	1.24 U
PCB-170					--	--	--	--	--	**262**
PCB-171/173					--	--	--	--	--	**80.3**
PCB-172					--	--	--	--	--	**44.5**

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA07-SC27-2013	JW-EA07-SC27-2013	JW-EA07-SC28-2013	JW-EA07-SC28-2013	JW-EA07-SC28-2013	JW-EA09-SC36-2013
Sample ID					JW-EA07-SC27-B-130429	JW-EA07-SC27-C-130429	JW-EA07-SC28-A-130426	JW-EA07-SC28-B-130426	JW-EA07-SC28-C-130426	JW-EA09-SC36-A-130426
Sample Date					4/29/2013	4/29/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
Depth					1 - 2 ft	2 - 2.6 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302622.479	1302622.479	1302470.87217	1302470.87217	1302470.87217	1302770.78155
Y					373317.7446	373317.7446	373174.526718	373174.526718	373174.526718	372460.088498
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
PCB-174					--	--	--	--	--	**250**
PCB-175					--	--	--	--	--	**11.2**
PCB-176					--	--	--	--	--	**29.1**
PCB-177					--	--	--	--	--	**149**
PCB-178					--	--	--	--	--	**47.4**
PCB-179					--	--	--	--	--	**101**
PCB-180/193					--	--	--	--	--	**543**
PCB-181					--	--	--	--	--	**2.56 J**
PCB-182					--	--	--	--	--	**1.79**
PCB-183					--	--	--	--	--	**155**
PCB-184					--	--	--	--	--	0.303 U
PCB-185					--	--	--	--	--	**22.5**
PCB-186					--	--	--	--	--	0.287 U
PCB-187					--	--	--	--	--	**281**
PCB-188					--	--	--	--	--	0.282 U
PCB-189					--	--	--	--	--	**9.57**
PCB-190					--	--	--	--	--	**49.9**
PCB-191					--	--	--	--	--	**14.2**
PCB-192					--	--	--	--	--	0.759 U
PCB-194					--	--	--	--	--	**128**
PCB-195					--	--	--	--	--	**50.8**
PCB-196					--	--	--	--	--	**61.1**
PCB-197					--	--	--	--	--	**4.4 J**
PCB-198/199					--	--	--	--	--	**133**
PCB-200					--	--	--	--	--	**14.4**
PCB-201					--	--	--	--	--	**16.6**
PCB-202					--	--	--	--	--	**30.2**
PCB-203					--	--	--	--	--	**78.4**
PCB-204					--	--	--	--	--	0.413 U
PCB-205					--	--	--	--	--	**6.29**
PCB-206					--	--	--	--	--	**68**
PCB-207					--	--	--	--	--	**8.33**
PCB-208					--	--	--	--	--	**25**
PCB-209					--	--	--	--	--	**44.4**
Total PCB Congener (U = limit)					--	--	--	--	--	**20639.772 J**
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	**3.9441087**
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	**0.03510285**
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	**0.62737**
Total PCB Congener (U = 1/2)					--	--	--	--	--	**20633.639 J**
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	--	**20627.505 J**
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	**3.9434887**
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	**3.9428687**
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	**0.03507185**
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	**0.03504085**

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA07-SC27-2013	JW-EA07-SC27-2013	JW-EA07-SC28-2013	JW-EA07-SC28-2013	JW-EA07-SC28-2013	JW-EA09-SC36-2013
Sample ID					JW-EA07-SC27-B-130429	JW-EA07-SC27-C-130429	JW-EA07-SC28-A-130426	JW-EA07-SC28-B-130426	JW-EA07-SC28-C-130426	JW-EA09-SC36-A-130426
Sample Date					4/29/2013	4/29/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
Depth					1 - 2 ft	2 - 2.6 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302622.479	1302622.479	1302470.87217	1302470.87217	1302470.87217	1302770.78155
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	373317.7446	373317.7446	373174.526718	373174.526718	373174.526718	372460.088498
Analyte										
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	0.4567281
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	0.4381281
Radionuclides (pci/g)										
Cesium 137					--	--	--	--	--	--
Lead 210					--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					0.00211533057143 J	0.00139058	--	0.00018873044125 J	0.00013061530444 J	0.000629471668478 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					0.00156954485714 J	0.000707608	--	6.970356625E-05 J	8.667086E-05 J	0.0002006697201087 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					0.00299511628571 J	0.000973482	--	6.679657375E-05 J	7.976502444E-05 J	0.000248453701087 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					0.00211480528571 J	0.001390115	--	0.00016877834563 J	9.088631889E-05 J	0.000628977918478 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					0.00156901957143 J	0.000707143	--	4.603053313E-05 J	4.474187444E-05 J	0.0002002079809783 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					0.002994591 J	0.000973017	--	4.534078688E-05 J	4.325117889E-05 J	0.000246982777174 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					0.00211428 J	0.00138965	--	0.00014882625 J	5.115733333E-05 J	0.000628484168478 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					0.00156849428571 J	0.000706677	--	2.23575E-05 J	2.81288889E-06 J	0.0001997462418478 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					0.00299406571429 J	0.000972551	--	2.3885E-05 J	6.73733333E-06 J	0.000245511853261 J
Dioxin Furans and PCB Congeners (ng/kg)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					74.03657 J	35.32074	25.41915 J	1.50984353 J	0.58776887 J	11.5822787 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					54.93407 J	17.97324	12.13605 J	0.55762853 J	0.39001887 J	3.69232285 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					104.82907 J	24.72644	13.64195 J	0.53437259 J	0.35894261 J	4.5715481 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					74.018185 J	35.30892	25.404475 J	1.35022677 J	0.40898843 J	11.5731937 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					54.915685 J	17.96142	12.121375 J	0.36824427 J	0.20133844 J	3.68382685 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					104.810685 J	24.71462	13.627275 J	0.36272629 J	0.19463031 J	4.5444831 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					73.9998 J	35.2971	25.3898 J	1.19061 J	0.230208 J	11.5641087 J
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					54.8973 J	17.9496	12.1067 J	0.17886 J	0.012658 J	3.67533085 J
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					104.7923 J	24.7028	13.6126 J	0.19108 J	0.030318 J	4.5174181 J

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA09-SC36-2013	JW-EA09-SC36-2013	JW-EA09-SC38-2013	JW-EA09-SC38-2013	JW-EA09-SC38-2013	JW-EA09-SC38-2013
Sample ID					JW-EA09-SC36-B-130426	JW-EA09-SC36-C-130426	JW-EA09-SC138-C-130426	JW-EA09-SC38-A-130426	JW-EA09-SC38-B-130426	JW-EA09-SC38-C-130426
Sample Date					4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
Depth					2 - 4 ft	4 - 6 ft	4 - 6 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft
Sample Type					N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302770.78155	1302770.78155	1302764.45674	1302764.45674	1302764.45674	1302764.45674
Y					372460.088498	372460.088498	372227.923047	372227.923047	372227.923047	372227.923047
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII						
Conventional Parameters (pct)										
Total organic carbon					**0.468**	**0.44**	**0.623**	**1.44**	**0.306**	**0.525**
Moisture, percent					--	--	--	--	--	--
Total Solids					**78.92**	**79.36**	**76.86**	**70.97**	**74.44**	**72.96**
Grain Size (pct)										
Gravel					--	--	**0.2**	**0.9**	**0.3**	**0.4**
Sand, very coarse					--	--	**0.6**	**0.4**	**0.4**	**0.5**
Sand, coarse					--	--	**1.4**	**1**	**1.2**	**1.3**
Sand, medium					--	--	**29.1**	**10.6**	**17.7**	**28.2**
Sand, fine					--	--	**45.9**	**28.2**	**41.7**	**45**
Sand, very fine					--	--	**12.4**	**32.6**	**28.1**	**13**
Silt, coarse					--	--	**4.5**	**5.5**	**6**	**5.6**
Silt, medium					--	--	**1.7**	**5.7**	**1.2**	**1.7**
Silt, fine					--	--	**1.2**	**5.2**	**1**	**1.3**
Silt, very fine					--	--	**0.8**	**3.1**	**0.6**	**0.7**
Clay, coarse					--	--	**0.6**	**1.8**	**0.5**	**0.6**
Clay, medium					--	--	**0.5**	**1.4**	**0.5**	**0.5**
Clay, fine					--	--	**1.1**	**3.4**	**1**	**1.2**
Semivolatile Organics (mg/kg-OC)										
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--
Semivolatile Organics (µg/kg)										
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA09-SC36-2013	JW-EA09-SC36-2013	JW-EA09-SC38-2013	JW-EA09-SC38-2013	JW-EA09-SC38-2013	JW-EA09-SC38-2013
Sample ID					JW-EA09-SC36-B-130426	JW-EA09-SC36-C-130426	JW-EA09-SC138-C-130426	JW-EA09-SC38-A-130426	JW-EA09-SC38-B-130426	JW-EA09-SC38-C-130426
Sample Date					4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
Depth					2 - 4 ft	4 - 6 ft	4 - 6 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft
Sample Type					N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302770.78155	1302770.78155	1302764.45674	1302764.45674	1302764.45674	1302764.45674
Y					372460.088498	372460.088498	372227.923047	372227.923047	372227.923047	372227.923047
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)										
2-Methylnaphthalene	38	64			--	--	--	--	--	--
Acenaphthene	16	57			--	--	--	--	--	--
Acenaphthylene	66	66			--	--	--	--	--	--
Anthracene	220	1200			--	--	--	--	--	--
Benzo(a)anthracene	110	270			--	--	--	--	--	--
Benzo(a)pyrene	99	210			--	--	--	--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	--
Chrysene	110	460			--	--	--	--	--	--
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	--
Dibenzofuran	15	58			--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	--
Fluorene	23	79			--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	--
Naphthalene	99	170			--	--	--	--	--	--
Phenanthrene	100	480			--	--	--	--	--	--
Pyrene	1000	1400			--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)										
2-Methylnaphthalene			670	670	--	--	--	--	--	--
Acenaphthene			500	500	--	--	--	--	--	--
Acenaphthylene			1300	1300	--	--	--	--	--	--
Anthracene			960	960	--	--	--	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--	--	--	--
Benzo(b,j,k)fluoranthenes					--	--	--	--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	--
Chrysene			1400	2800	--	--	--	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	--
Dibenzofuran			540	540	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA09-SC36-2013	JW-EA09-SC36-2013	JW-EA09-SC38-2013	JW-EA09-SC38-2013	JW-EA09-SC38-2013	JW-EA09-SC38-2013
Sample ID					JW-EA09-SC36-B-130426	JW-EA09-SC36-C-130426	JW-EA09-SC138-C-130426	JW-EA09-SC38-A-130426	JW-EA09-SC38-B-130426	JW-EA09-SC38-C-130426
Sample Date					4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
Depth					2 - 4 ft	4 - 6 ft	4 - 6 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft
Sample Type					N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302770.78155	1302770.78155	1302764.45674	1302764.45674	1302764.45674	1302764.45674
Y					372460.088498	372460.088498	372227.923047	372227.923047	372227.923047	372227.923047
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
Fluorene			540	540	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	--
Naphthalene			2100	2100	--	--	--	--	--	--
Phenanthrene			1500	1500	--	--	--	--	--	--
Pyrene			2600	3300	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	--
Dioxin Furans (mg/kg-OC)										
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	**0.00010069815409 J**	**0.000322129375 J**	**0.00014042314379 J**	**8.765151238E-05 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	**8.080152488E-05 J**	**0.00014612243056 J**	**0.00011508686928 J**	**7.369189333E-05 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	**7.267199037E-05 J**	**0.00014664493056 J**	**0.00010225962745 J**	**6.53284419E-05 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	**5.041946228E-05 J**	**0.00031214288194 J**	**7.032251961E-05 J**	**4.389585143E-05 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	**4.047114767E-05 J**	**0.0001361359375 J**	**5.765438235E-05 J**	**3.69160419E-05 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	**3.677580257E-05 J**	**0.0001366584375 J**	**5.183782026E-05 J**	**3.311117333E-05 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	**1.4077047E-07 J**	**0.00030215638889 J**	**2.2189542E-07 J**	**1.4019048E-07 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	**1.4077047E-07 J**	**0.00012614944444 J**	**2.2189542E-07 J**	**1.4019048E-07 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	**8.7961477E-07 J**	**0.00012667194444 J**	**1.41601307E-06 J**	**8.9390476E-07 J**
Dioxin Furans (ng/kg)										
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	0.1451 U	**0.472 J**	0.09 U	0.1028 U
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	0.1544 U	0.2647 U	0.116 U	0.1158 U
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	0.1664 U	**0.598 J**	0.1298 U	0.156 U
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	0.165 U	**1.47 J**	0.1239 U	0.1442 U
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	0.1594 U	**1.06 J**	0.1191 U	0.1567 U
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	**0.407 J**	**18.9**	**0.328 J**	**0.355 J**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					--	--	**4.7 J**	**115**	**3.51 J**	**3.81 J**
Total Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	**0.588 J**	**42.8 J**	**0.525**	**0.362 J**
Total Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	0.1544 U	**31.3**	0.116 U	0.1158 U
Total Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	0.1633 U	**34.1 J**	**0.218**	0.1522 U
Total Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	**1.11**	**40.3**	**0.834**	**1.04**
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					--	--	0.1299 U	**2.11**	0.0865 U	0.0911 U
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	0.1037 U	**0.574 J**	0.0719 U	0.0778 U
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	0.1118 U	**1.35 J**	0.0789 U	0.0779 U
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	0.1092 U	**0.332 J**	0.0719 U	0.087 U
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	0.1073 U	**0.375 J**	0.0674 U	0.084 U
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					--	--	0.132 U	0.204 U	0.0823 U	0.1127 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	0.1086 U	**0.617 J**	0.0656 U	0.0882 U
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					--	--	0.1663 U	**4.73**	0.097 U	0.0917 U
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					--	--	0.1593 U	0.2511 U	0.1078 U	0.1018 U
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					--	--	0.265 U	**9.52**	0.1882 U	0.1744 U
Total Tetrachlorodibenzofuran (TCDF)					--	--	0.1299 U	**32.8 J**	0.0865 U	0.0911 U

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA09-SC36-2013	JW-EA09-SC36-2013	JW-EA09-SC38-2013	JW-EA09-SC38-2013	JW-EA09-SC38-2013	JW-EA09-SC38-2013
Sample ID					JW-EA09-SC36-B-130426	JW-EA09-SC36-C-130426	JW-EA09-SC138-C-130426	JW-EA09-SC38-A-130426	JW-EA09-SC38-B-130426	JW-EA09-SC38-C-130426
Sample Date					4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
Depth					2 - 4 ft	4 - 6 ft	4 - 6 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft
Sample Type					N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302770.78155	1302770.78155	1302764.45674	1302764.45674	1302764.45674	1302764.45674
Y					372460.088498	372460.088498	372227.923047	372227.923047	372227.923047	372227.923047
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII						
Total Pentachlorodibenzofuran (PeCDF)					--	--	0.1077 U	**15.9 J**	0.0753 U	0.0778 U
Total Hexachlorodibenzofuran (HxCDF)					--	--	0.1135 U	**8.05 J**	0.0713 U	0.0922 U
Total Heptachlorodibenzofuran (HpCDF)					--	--	0.1631 U	**11.3**	0.1023 U	0.0966 U
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	**0.6273495 J**	**4.638663 J**	**0.42969482 J**	**0.46017044 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	**0.5033935 J**	**2.104163 J**	**0.35216582 J**	**0.38688244 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	**0.4527465 J**	**2.111687 J**	**0.31291446 J**	**0.34297432 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	**0.31411325 J**	**4.4948575 J**	**0.21518691 J**	**0.23045322 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	**0.25213525 J**	**1.9603575 J**	**0.17642241 J**	**0.19380922 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	**0.22911325 J**	**1.9678815 J**	**0.15862373 J**	**0.17383366 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	**0.000877 J**	**4.351052 J**	**0.000679 J**	**0.000736 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	**0.000877 J**	**1.816552 J**	**0.000679 J**	**0.000736 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	**0.00548 J**	**1.824076 J**	**0.004333 J**	**0.004693 J**
PCB Aroclors (mg/kg-OC)										
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--
PCB Aroclors (µg/kg)										
Aroclor 1016					--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--
PCB Congeners (mg/kg-OC)										
Total PCB Congener (U = limit)					**0.0141023504 J**	**0.0111690682 J**	**0.010228411 J**	**1.641807708 J**	**0.028283007 J**	**0.013656381 J**
Total PCB Congener TEQ 1998 (Avian) (U = limit)					**8.06236752E-06 J**	**4.330705E-06 J**	5.04012841E-06 U	**0.000202604**	**2.755730392E-05 J**	9.2952381E-06 U
Total PCB Congener TEQ 1998 (Fish) (U = limit)					**1.58475427E-07 J**	**8.29284091E-08 J**	1.1717496E-07 U	**1.67468E-06**	**4.49357843E-07 J**	2.50476191E-07 U
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					**3.26001496E-06 J**	**1.684723409E-06 J**	2.3434992E-06 U	**2.7809E-05**	**7.90844444E-06 J**	5.00952381E-06 U
Total PCB Congener (U = 1/2)					**0.0085409188 J**	**0.0069240568 J**	**0.00595313 J**	**1.641623438 J**	**0.017035784 J**	**0.00706819 J**
Total PCB Congener (U = 0)	12	65			**0.0029794872 J**	**0.0026790455 J**	**0.001677849 J**	**1.641439167 J**	**0.005788562 J**	**0.00048 J**
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					**4.03462393E-06 J**	**2.170113864E-06 J**	5.04012841E-06 U	**0.000202595**	**1.378541667E-05 J**	9.2952381E-06 U
Total PCB Congener TEQ 1998 (Avian) (U = 0)					**6.88034E-09 J**	**9.522727E-09 J**	5.04012841E-06 U	**0.000202585**	**1.352941E-08 J**	9.2952381E-06 U
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					**7.9409722E-08 J**	**4.17022727E-08 J**	1.1717496E-07 U	**1.67418E-06**	**2.25017157E-07 J**	2.50476191E-07 U
Total PCB Congener TEQ 1998 (Fish) (U = 0)					**3.44017E-10 J**	**4.761364E-10 J**	1.1717496E-07 U	**1.67369E-06**	**6.76471E-10 J**	2.50476191E-07 U
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					**2.13722756E-06 J**	**1.091956818E-06 J**	2.3434992E-06 U	**1.8743E-05**	**4.41167157E-06 J**	5.00952381E-06 U
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					**2.0641E-09 J**	**2.856818E-09 J**	2.3434992E-06 U	**1.84472E-05**	**4.05882E-09 J**	5.00952381E-06 U
PCB Congeners (ng/kg)										
PCB-001					0.709 U	0.502 U	0.228 U	**8.01**	0.384 U	0.442 U
PCB-002					**1.92**	**1.04**	**2.5**	**15.8**	**1.72**	**1.49**
PCB-003					0.976 U	0.569 U	**1.75 J**	**15.4**	**1.08**	0.383 U
PCB-004					0.565 UJ	**0.263 J**	0.206 UJ	**14.6 J**	0.385 UJ	0.337 UJ
PCB-005					0.289 UJ	0.186 UJ	0.292 U	**1.2**	0.326 U	0.348 U
PCB-006					0.284 UJ	0.184 UJ	0.296 U	**10.3**	0.331 U	0.354 U
PCB-007					0.264 UJ	0.17 UJ	0.275 U	**1.46**	0.307 U	0.329 U

Table H-2
Subsurface Sediment Results

Task					**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**
Location ID					**JW-EA09-SC36-2013**	**JW-EA09-SC36-2013**	**JW-EA09-SC38-2013**	**JW-EA09-SC38-2013**	**JW-EA09-SC38-2013**	**JW-EA09-SC38-2013**
Sample ID					**JW-EA09-SC36-B-130426**	**JW-EA09-SC36-C-130426**	**JW-EA09-SC138-C-130426**	**JW-EA09-SC38-A-130426**	**JW-EA09-SC38-B-130426**	**JW-EA09-SC38-C-130426**
Sample Date					**4/26/2013**	**4/26/2013**	**4/26/2013**	**4/26/2013**	**4/26/2013**	**4/26/2013**
Depth					**2 - 4 ft**	**4 - 6 ft**	**4 - 6 ft**	**0 - 2 ft**	**2 - 4 ft**	**4 - 6 ft**
Sample Type					**N**	**N**	**FD**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302770.78155**	**1302770.78155**	**1302764.45674**	**1302764.45674**	**1302764.45674**	**1302764.45674**
Y					**372460.088498**	**372460.088498**	**372227.923047**	**372227.923047**	**372227.923047**	**372227.923047**
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**						
PCB-008					0.278 UJ	**0.352 J**	**0.323 J**	**65.2**	0.32 U	0.343 U
PCB-009					0.311 UJ	0.201 UJ	0.313 U	**2.66**	0.349 U	0.374 U
PCB-010					0.379 UJ	0.115 UJ	0.142 U	**0.555 J**	0.266 U	0.233 U
PCB-011					2.84 UJ	3.39 UJ	2.65 U	**245**	4.19 U	2.74 U
PCB-012/013					0.276 UJ	0.178 UJ	0.277 U	**11.9**	0.31 U	0.331 U
PCB-014					0.242 UJ	0.156 UJ	0.244 U	**1.57**	0.272 U	0.291 U
PCB-015					0.258 UJ	**0.253 J**	0.269 U	**56.2**	0.301 U	0.322 U
PCB-016					0.368 U	0.301 U	0.59 U	**59.1**	0.695 U	0.869 U
PCB-017					0.29 U	0.237 U	0.447 U	**66**	0.526 U	0.658 U
PCB-018/030					0.249 U	**0.467 J**	**0.601 J**	**135**	**0.497 J**	0.572 U
PCB-019					0.328 U	0.268 U	0.505 U	**9.32**	0.596 U	0.745 U
PCB-020/028					0.537 U	0.829 U	0.784 U	**347**	1.27 U	0.729 U
PCB-021/033					0.338 U	**0.515 J**	0.39 U	**133**	**0.549 J**	0.573 U
PCB-022					0.367 U	0.236 U	0.417 U	**98.3**	0.474 U	0.612 U
PCB-023					0.347 U	0.223 U	0.401 U	0.425 U	0.456 U	0.589 U
PCB-024					0.225 U	0.183 U	0.35 U	**1.57**	0.413 U	0.516 U
PCB-025					0.342 U	0.22 U	0.393 U	**18**	0.446 U	0.576 U
PCB-026/029					0.349 U	0.224 U	0.393 U	**37.1**	0.447 U	0.577 U
PCB-027					0.217 U	0.177 U	0.334 U	**9.45**	0.394 U	0.493 U
PCB-031					**0.429 J**	**0.668 J**	0.655 U	**278**	0.985 U	0.557 U
PCB-032					0.202 U	0.165 U	0.317 U	**56.3**	0.374 U	0.468 U
PCB-034					0.357 U	0.23 U	0.403 U	**1.68**	0.458 U	0.591 U
PCB-035					0.368 U	0.236 U	0.406 U	**12.3**	0.462 U	0.596 U
PCB-036					0.338 U	0.217 U	0.371 U	**3.26**	0.421 U	0.544 U
PCB-037					0.355 U	0.228 U	0.417 U	**112**	0.474 U	0.612 U
PCB-038					0.36 U	0.231 U	0.392 U	**1.17**	0.446 U	0.576 U
PCB-039					0.326 U	0.209 U	0.356 U	**1.97**	0.405 U	0.523 U
PCB-040/071					0.205 U	**0.217 J**	**0.312 J**	**229**	**0.527 J**	0.326 U
PCB-041					0.247 U	0.133 U	0.307 U	**22.2**	0.338 U	0.395 U
PCB-042					0.229 U	0.123 U	0.283 U	**346**	0.311 U	0.363 U
PCB-043					0.24 U	0.129 U	0.302 U	**11.9**	0.332 U	0.387 U
PCB-044/047/065					7.81 U	4.36 U	0.838 U	**1130**	0.949 U	0.769 U
PCB-045					0.227 U	0.122 U	0.29 U	**37.6**	0.319 U	0.373 U
PCB-046					0.249 U	0.134 U	0.327 U	**18.2**	0.359 U	0.42 U
PCB-048					0.205 U	0.111 U	0.259 U	**61.6**	0.284 U	0.332 U
PCB-049/069					0.301 U	0.4 U	0.465 U	**1130**	0.556 U	0.424 U
PCB-050/053					0.205 U	0.111 U	0.265 U	**65.8**	0.291 U	0.34 U
PCB-051					1.69 U	0.848 U	0.274 U	**34.8**	0.301 U	0.352 U
PCB-052					0.591 U	0.744 U	1.11 U	**1950**	1.49 U	0.902 U
PCB-054					0.146 U	0.0805 U	0.159 U	**0.426 J**	0.26 U	0.259 U
PCB-055					**0.334 J**	0.0863 U	0.312 U	**4.53**	0.423 U	0.485 U
PCB-056					0.174 U	**0.297 J**	0.317 U	**219**	**0.525 J**	0.493 U
PCB-057					0.165 U	0.0858 U	0.308 U	**1.41**	0.418 U	0.478 U
PCB-058					0.158 U	0.0821 U	0.301 U	**4.5**	0.408 U	0.468 U

Table H-2
Subsurface Sediment Results

Task					**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**
Location ID					**JW-EA09-SC36-2013**	**JW-EA09-SC36-2013**	**JW-EA09-SC38-2013**	**JW-EA09-SC38-2013**	**JW-EA09-SC38-2013**	**JW-EA09-SC38-2013**
Sample ID					**JW-EA09-SC36-B-130426**	**JW-EA09-SC36-C-130426**	**JW-EA09-SC138-C-130426**	**JW-EA09-SC38-A-130426**	**JW-EA09-SC38-B-130426**	**JW-EA09-SC38-C-130426**
Sample Date					**4/26/2013**	**4/26/2013**	**4/26/2013**	**4/26/2013**	**4/26/2013**	**4/26/2013**
Depth					**2 - 4 ft**	**4 - 6 ft**	**4 - 6 ft**	**0 - 2 ft**	**2 - 4 ft**	**4 - 6 ft**
Sample Type					**N**	**N**	**FD**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302770.78155**	**1302770.78155**	**1302764.45674**	**1302764.45674**	**1302764.45674**	**1302764.45674**
Y	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**	**372460.088498**	**372460.088498**	**372227.923047**	**372227.923047**	**372227.923047**	**372227.923047**
Analyte										
PCB-059/062/075					0.154 U	0.083 U	0.191 U	**39.2**	0.21 U	0.246 U
PCB-060					0.165 U	**0.153 J**	0.307 U	**92.5**	0.417 U	0.477 U
PCB-061/070/074/076					0.162 U	1.03 U	1.59 U	**1480**	2.41 U	0.463 U
PCB-063					0.149 U	0.0773 U	0.276 U	**27.2**	0.374 U	0.428 U
PCB-064					0.145 U	**0.223 J**	**0.388 J**	**346**	**0.478 J**	0.229 U
PCB-066					0.171 U	**0.644 J**	**0.865 J**	**873**	**1.28**	**1.03**
PCB-067					0.152 U	0.0788 U	0.294 U	**9.03**	0.399 U	0.457 U
PCB-068					0.806 U	0.679 U	0.277 U	**12.8**	0.376 U	0.43 U
PCB-072					0.159 U	0.0827 U	0.3 U	**23.2**	0.407 U	0.466 U
PCB-073					0.162 U	0.0873 U	0.203 U	0.215 U	0.223 U	0.26 U
PCB-077					0.17 U	0.0858 U	0.291 U	**49.7**	0.39 U	0.508 U
PCB-078					0.172 U	0.0893 U	0.309 U	0.503 U	0.418 U	0.479 U
PCB-079					0.141 U	0.073 U	0.266 U	**8.76**	0.361 U	0.413 U
PCB-080					0.144 U	0.0747 U	0.262 U	0.427 U	0.355 U	0.407 U
PCB-081					0.165 U	0.0858 U	0.314 U	**1.71**	0.426 U	0.488 U
PCB-082					0.229 U	**0.146 J**	0.23 U	**89.7**	0.262 U	0.405 U
PCB-083					0.219 U	0.108 U	0.234 U	**94.4**	0.266 U	0.412 U
PCB-084					0.222 U	**0.207 J**	0.238 U	**609**	0.271 U	0.419 U
PCB-085/116					0.163 U	**0.142 J**	**0.208 J**	**132**	**0.371 J**	0.315 U
PCB-086/087/097/108/119/125					**0.517 J**	**0.557 J**	0.899 U	**716**	1.29 U	0.301 U
PCB-088					0.208 U	0.102 U	0.223 U	0.774 U	0.254 U	0.393 U
PCB-089					0.209 U	0.103 U	0.221 U	**9.05**	0.252 U	0.389 U
PCB-090/101/113					0.922 U	0.913 U	1.25 U	**1440**	1.98 U	0.956 U
PCB-091					0.172 U	0.0847 U	0.18 U	**504**	0.205 U	0.317 U
PCB-092					0.198 U	**0.133 J**	**0.253 J**	**307**	0.231 U	0.358 U
PCB-093/100					0.185 U	0.0909 U	0.201 U	**16**	0.229 U	0.354 U
PCB-094					0.204 U	0.1 U	0.215 U	**6.38**	0.245 U	0.379 U
PCB-095					0.192 U	0.708 U	0.99 U	**1630**	0.229 U	0.354 U
PCB-096					0.121 U	0.069 U	0.158 U	**12.5**	0.191 U	0.244 U
PCB-098					0.191 U	0.0941 U	0.234 U	**4.95**	0.266 U	0.411 U
PCB-099					**0.422 J**	**0.332 J**	0.702 U	**923**	0.677 U	0.516 U
PCB-102					0.188 U	0.0924 U	0.17 U	**29.8**	0.193 U	0.299 U
PCB-103					0.18 U	0.0886 U	0.188 U	**20.8**	0.215 U	0.332 U
PCB-104					0.1 U	0.0572 U	0.133 U	**0.264 J**	0.16 U	0.204 U
PCB-105					**0.322 J**	**0.286 J**	0.54 U	**275**	0.818 U	0.39 U
PCB-106					0.154 U	0.0756 U	0.144 U	0.499 U	0.164 U	0.253 U
PCB-107/124					0.151 U	0.0743 U	0.146 U	**21.6**	0.166 U	0.257 U
PCB-109					0.144 U	0.0709 U	0.135 U	**94.3**	0.154 U	0.238 U
PCB-110					0.937 U	1.04 U	1.4 U	**1640**	**2.24**	0.809 U
PCB-111					0.138 U	0.068 U	0.137 U	**1.09 J**	0.156 U	0.241 U
PCB-112					0.147 U	0.0722 U	0.147 U	**1.64**	0.167 U	0.258 U
PCB-114					0.144 U	0.0698 U	0.136 U	**11.5**	0.16 U	0.234 U
PCB-115					0.129 U	0.0635 U	0.156 U	**56.3**	0.177 U	0.274 U
PCB-117					0.16 U	0.0789 U	0.141 U	**30.9**	0.161 U	0.249 U

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA09-SC36-2013	JW-EA09-SC36-2013	JW-EA09-SC38-2013	JW-EA09-SC38-2013	JW-EA09-SC38-2013	JW-EA09-SC38-2013
Sample ID					JW-EA09-SC36-B-130426	JW-EA09-SC36-C-130426	JW-EA09-SC138-C-130426	JW-EA09-SC38-A-130426	JW-EA09-SC38-B-130426	JW-EA09-SC38-C-130426
Sample Date					4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
Depth					2 - 4 ft	4 - 6 ft	4 - 6 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft
Sample Type					N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302770.78155	1302770.78155	1302764.45674	1302764.45674	1302764.45674	1302764.45674
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372460.088498	372460.088498	372227.923047	372227.923047	372227.923047	372227.923047
Analyte										
PCB-118					0.795 U	0.71 U	1.41 U	**1130**	2.1 U	1.02 U
PCB-120					0.137 U	0.0674 U	0.135 U	**9.46**	0.154 U	0.237 U
PCB-121					0.14 U	0.069 U	0.143 U	0.495 U	0.162 U	0.251 U
PCB-122					0.161 U	0.0785 U	0.157 U	**6.16**	0.185 U	0.271 U
PCB-123					0.144 U	0.0708 U	0.137 U	**8.32**	0.156 U	0.241 U
PCB-126					0.124 U	0.0601 U	0.146 U	**2.15**	0.219 U	0.263 U
PCB-127					0.142 U	0.0746 U	0.139 U	**0.563 J**	0.153 U	0.242 U
PCB-128/166					0.194 U	0.0909 U	**0.32 J**	**94.8**	**0.346 J**	0.238 U
PCB-129/138/163					1.96 U	1.7 U	1.75 U	**621**	3.42 U	1.5 U
PCB-130					0.216 U	0.104 U	0.225 U	**38.1**	0.272 U	0.284 U
PCB-131					0.206 U	0.099 U	0.223 U	**6.94**	0.27 U	0.282 U
PCB-132					**0.574 J**	**0.53 J**	**0.525 J**	**191**	**1.14**	0.278 U
PCB-133					0.189 U	0.0911 U	0.207 U	**10.2**	0.25 U	0.261 U
PCB-134					0.237 U	0.114 U	0.238 U	**49.3**	0.288 U	0.301 U
PCB-135/151					**0.723 J**	**0.694 J**	**0.374 J**	**214**	**0.956 J**	0.261 U
PCB-136					**0.375 J**	**0.304 J**	0.141 U	**123**	**0.369 J**	0.196 U
PCB-137					0.187 U	0.0901 U	0.172 U	**22.7**	0.209 U	0.218 U
PCB-139/140					0.179 U	0.086 U	0.192 U	**12.1**	0.232 U	0.242 U
PCB-141					**0.48 J**	**0.476 J**	**0.247 J**	**66.7**	**0.459 J**	0.253 U
PCB-142					0.204 U	0.0981 U	0.227 U	0.182 U	0.275 U	0.287 U
PCB-143					0.182 U	0.0878 U	0.211 U	**1.95**	0.256 U	0.267 U
PCB-144					0.186 U	**0.113 J**	0.199 U	**20.5**	0.241 U	0.252 U
PCB-145					0.142 U	0.0643 U	0.136 U	**0.266 J**	0.18 U	0.189 U
PCB-146					**0.329 J**	**0.258 J**	**0.217 J**	**98.6**	0.225 U	0.235 U
PCB-147/149					1.43 U	1.57 U	1.14 U	**465**	2.14 U	0.803 U
PCB-148					0.181 U	0.0873 U	0.2 U	**0.996**	0.242 U	0.253 U
PCB-150					0.134 U	0.0606 U	0.13 U	**1.85**	0.171 U	0.18 U
PCB-152					0.133 U	0.0605 U	0.132 U	**1.02 J**	0.174 U	0.183 U
PCB-153/168					1.81 U	1.54 U	1.59 U	**540**	2.1 U	1.05 U
PCB-154					0.168 U	0.0808 U	0.18 U	**8.25**	0.217 U	0.227 U
PCB-155					0.124 U	0.0563 U	0.126 U	0.11 U	0.166 U	0.175 U
PCB-156/157					0.239 U	**0.133 J**	0.208 U	**59.8**	**0.414 J**	0.295 U
PCB-158					0.138 U	**0.172 J**	**0.141 J**	**57.2**	**0.315 J**	0.177 U
PCB-159					0.162 U	0.0759 U	0.146 U	**2.31**	0.146 U	0.198 U
PCB-160					0.141 U	0.068 U	0.149 U	0.12 U	0.181 U	0.189 U
PCB-161					0.14 U	0.0673 U	0.149 U	0.12 U	0.18 U	0.188 U
PCB-162					0.16 U	0.0747 U	0.145 U	**1.82**	0.145 U	0.197 U
PCB-164					**0.183 J**	0.0689 U	0.158 U	**39.3**	**0.227 J**	0.2 U
PCB-165					0.157 U	0.0754 U	0.167 U	0.135 U	0.203 U	0.212 U
PCB-167					0.157 U	0.0733 U	0.134 U	**17.5**	0.134 U	0.182 U
PCB-169					0.249 U	0.117 U	0.151 U	0.284 U	0.16 U	0.217 U
PCB-170					**0.77 J**	**0.517 J**	**0.37 J**	**74.4**	**0.779 J**	0.359 U
PCB-171/173					0.209 U	0.118 U	0.239 U	**26.3**	**0.433 J**	0.375 U
PCB-172					0.201 U	0.114 U	0.228 U	**14**	0.32 U	0.357 U

Table H-2
Subsurface Sediment Results

Task					**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**
Location ID					**JW-EA09-SC36-2013**	**JW-EA09-SC36-2013**	**JW-EA09-SC38-2013**	**JW-EA09-SC38-2013**	**JW-EA09-SC38-2013**	**JW-EA09-SC38-2013**
Sample ID					**JW-EA09-SC36-B-130426**	**JW-EA09-SC36-C-130426**	**JW-EA09-SC138-C-130426**	**JW-EA09-SC38-A-130426**	**JW-EA09-SC38-B-130426**	**JW-EA09-SC38-C-130426**
Sample Date					**4/26/2013**	**4/26/2013**	**4/26/2013**	**4/26/2013**	**4/26/2013**	**4/26/2013**
Depth					**2 - 4 ft**	**4 - 6 ft**	**4 - 6 ft**	**0 - 2 ft**	**2 - 4 ft**	**4 - 6 ft**
Sample Type					**N**	**N**	**FD**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302770.78155**	**1302770.78155**	**1302764.45674**	**1302764.45674**	**1302764.45674**	**1302764.45674**
Y					**372460.088498**	**372460.088498**	**372227.923047**	**372227.923047**	**372227.923047**	**372227.923047**
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**						
PCB-174					0.892 U	0.675 U	0.363 U	**79.7**	**1.14**	0.371 U
PCB-175					0.191 U	0.108 U	0.217 U	**3.8**	0.304 U	0.34 U
PCB-176					0.0853 U	**0.0948 J**	0.124 U	**8.9**	0.162 U	0.224 U
PCB-177					**0.507 J**	**0.313 J**	**0.295 J**	**47.6**	**0.814 J**	0.379 U
PCB-178					**0.125 J**	**0.146 J**	0.173 U	**16.9**	0.226 U	0.313 U
PCB-179					**0.397 J**	**0.36 J**	0.132 U	**34.9**	**0.467 J**	0.239 U
PCB-180/193					**1.99**	1.29 U	0.909 U	**156**	1.63 U	0.606 U
PCB-181					0.184 U	0.104 U	0.209 U	0.237 U	0.293 U	0.327 U
PCB-182					0.177 U	0.0996 U	0.199 U	**0.454 J**	0.28 U	0.312 U
PCB-183					**0.467 J**	**0.273 J**	**0.411 J**	**49.8**	**0.587 J**	0.324 U
PCB-184					0.0941 U	0.0685 U	0.137 U	0.153 U	0.18 U	0.249 U
PCB-185					0.178 U	**0.107 J**	0.202 U	**5.21**	0.284 U	0.317 U
PCB-186					0.0906 U	0.066 U	0.131 U	0.147 U	0.172 U	0.238 U
PCB-187					**1.12**	0.636 U	0.62 U	**101**	1.21 U	0.594 U
PCB-188					0.085 U	0.0619 U	0.124 U	0.139 U	0.163 U	0.225 U
PCB-189					0.142 U	0.0681 U	0.121 U	**3.11**	0.225 U	0.234 U
PCB-190					**0.212 J**	0.0883 U	0.167 U	**13.3**	0.217 U	0.264 U
PCB-191					0.15 U	0.0849 U	0.161 U	**3.24**	0.226 U	0.253 U
PCB-192					0.157 U	0.0888 U	0.173 U	0.196 U	0.242 U	0.271 U
PCB-194					**0.581 J**	**0.303 J**	0.273 U	**41.1**	0.435 U	0.428 U
PCB-195					**0.234 J**	0.121 U	0.3 U	**14.4**	0.478 U	0.471 U
PCB-196					**0.271 J**	0.105 U	0.176 U	**20.6**	0.343 U	0.328 U
PCB-197					0.115 U	0.0731 U	0.132 U	**1.93**	0.258 U	0.246 U
PCB-198/199					**0.441 J**	0.11 U	**0.353 J**	**53**	0.35 U	0.334 U
PCB-200					0.129 U	0.0823 U	0.15 U	**5.51**	0.292 U	0.279 U
PCB-201					0.124 U	0.0786 U	0.139 U	**6.72**	0.27 U	0.258 U
PCB-202					0.138 U	0.0879 U	0.153 U	**13.9**	0.298 U	0.285 U
PCB-203					**0.221 J**	0.102 U	0.171 U	**28.3**	0.332 U	0.317 U
PCB-204					0.132 U	0.0842 U	0.146 U	0.146 U	0.285 U	0.272 U
PCB-205					0.179 U	0.0927 U	0.197 U	**1.49**	0.313 U	0.309 U
PCB-206					0.544 U	0.243 U	0.59 U	**51.4**	0.972 U	1 U
PCB-207					0.307 U	0.151 U	0.406 U	**6.29**	0.636 U	0.653 U
PCB-208					0.319 U	0.157 U	0.41 U	**19.7**	0.643 U	0.66 U
PCB-209					0.184 U	**0.099 J**	0.247 U	**73.3**	0.361 U	0.489 U
Total PCB Congener (U = limit)					**65.999 J**	**49.1439 J**	**63.723 J**	**23642.031 J**	**86.546 J**	**71.696 J**
Total PCB Congener TEQ 1998 (Avian) (U = limit)					**0.03773188 J**	**0.019055102 J**	0.0314 U	**2.9175033**	**0.08432535 J**	0.0488 U
Total PCB Congener TEQ 1998 (Fish) (U = limit)					**0.000741665 J**	**0.000364885 J**	0.00073 U	**0.02411535**	**0.001375035 J**	0.001315 U
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					**0.01525687 J**	**0.007412783 J**	0.0146 U	**0.400449**	**0.02419984 J**	0.0263 U
Total PCB Congener (U = 1/2)					**39.9715 J**	**30.4658 J**	**37.088 J**	**23639.377 J**	**52.13 J**	**37.108 J**
Total PCB Congener (U = 0)			130000	1000000	**13.944 J**	**11.7878 J**	**10.453 J**	**23636.724 J**	**17.713 J**	**2.52 J**
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					**0.01888204 J**	**0.009548501 J**	0.0314 U	**2.9173613**	**0.04218338 J**	0.0488 U
Total PCB Congener TEQ 1998 (Avian) (U = 0)					**3.22E-05 J**	**4.19E-05 J**	0.0314 U	**2.9172193**	**4.14E-05 J**	0.0488 U
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					**0.000371638 J**	**0.00018349 J**	0.00073 U	**0.02410825**	**0.000688553 J**	0.001315 U
Total PCB Congener TEQ 1998 (Fish) (U = 0)					**1.61E-06 J**	**2.095E-06 J**	0.00073 U	**0.02410115**	**2.07E-06 J**	0.001315 U

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA09-SC36-2013	JW-EA09-SC36-2013	JW-EA09-SC38-2013	JW-EA09-SC38-2013	JW-EA09-SC38-2013	JW-EA09-SC38-2013
Sample ID					JW-EA09-SC36-B-130426	JW-EA09-SC36-C-130426	JW-EA09-SC138-C-130426	JW-EA09-SC38-A-130426	JW-EA09-SC38-B-130426	JW-EA09-SC38-C-130426
Sample Date					4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
Depth					2 - 4 ft	4 - 6 ft	4 - 6 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft
Sample Type					N	N	FD	N	N	N
Matrix					SE	SE	SE	SE	SE	SE
X					1302770.78155	1302770.78155	1302764.45674	1302764.45674	1302764.45674	1302764.45674
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372460.088498	372460.088498	372227.923047	372227.923047	372227.923047	372227.923047
Analyte										
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					**0.01000223 J**	**0.00480461 J**	0.0146 U	**0.2698999**	**0.01349972 J**	0.0263 U
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					**9.66E-06 J**	**1.257E-05 J**	0.0146 U	**0.2656399**	**1.242E-05 J**	0.0263 U
Radionuclides (pci/g)										
Cesium 137					--	--	--	--	--	--
Lead 210					--	--	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**8.06236752E-06 J**	**4.330705E-06 J**	**0.000110458574639 J**	**0.000524733770833 J**	**0.000167980447712 J**	**0.000106856401905 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**1.58475427E-07 J**	**8.29284091E-08 J**	**8.09519390048E-05 J**	**0.0001477971076389 J**	**0.0001155362271242 J**	**7.40030609524E-05 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**4.27239103E-06 J**	**2.181056818E-06 J**	**7.5775341894E-05 J**	**0.0001656838125 J**	**0.000111078911765 J**	**7.1630361905E-05 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**4.03462393E-06 J**	**2.170113864E-06 J**	**5.5299672552E-05 J**	**0.000514737416667 J**	**8.4107936275E-05 J**	**5.3498296191E-05 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**7.9409722E-08 J**	**4.17022727E-08 J**	**4.05463547352E-05 J**	**0.0001378101215278 J**	**5.78793995098E-05 J**	**3.70716257143E-05 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**2.13722756E-06 J**	**1.091956818E-06 J**	**3.8327478331E-05 J**	**0.000155401486111 J**	**5.624949183E-05 J**	**3.6262133333E-05 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**6.88034E-09 J**	**9.522727E-09 J**	**1.40770466E-07 J**	**0.0005047410625 J**	**2.35424837E-07 J**	**1.40190476E-07 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**3.44017E-10 J**	**4.761364E-10 J**	**1.407704655E-07 J**	**0.0001278231354167 J**	**2.225718954E-07 J**	**1.401904762E-07 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**2.0641E-09 J**	**2.856818E-09 J**	**8.79614767E-07 J**	**0.000145119159722 J**	**1.420071895E-06 J**	**8.93904762E-07 J**
Dioxin Furans and PCB Congeners (ng/kg)										
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**0.03773188 J**	**0.019055102 J**	**0.68815692 J**	**7.5561663 J**	**0.51402017 J**	**0.56099611 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**0.000741665 J**	**0.000364885 J**	**0.50433058 J**	**2.12827835 J**	**0.353540855 J**	**0.38851607 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**0.01999479 J**	**0.00959665 J**	**0.47208038 J**	**2.3858469 J**	**0.33990147 J**	**0.3760594 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**0.01888204 J**	**0.009548501 J**	**0.34451696 J**	**7.4122188 J**	**0.257370285 J**	**0.280866055 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**0.000371638 J**	**0.00018349 J**	**0.25260379 J**	**1.98446575 J**	**0.1771109625 J**	**0.194626035 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**0.01000223 J**	**0.00480461 J**	**0.23878019 J**	**2.2377814 J**	**0.172123445 J**	**0.1903762 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**3.22E-05 J**	**4.19E-05 J**	**0.000877 J**	**7.2682713 J**	**0.0007204 J**	**0.000736 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**1.61E-06 J**	**2.095E-06 J**	**0.000877 J**	**1.84065315 J**	**0.00068107 J**	**0.000736 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**9.66E-06 J**	**1.257E-05 J**	**0.00548 J**	**2.0897159 J**	**0.00434542 J**	**0.004693 J**

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA10-SC42-2013	JW-EA10-SC42-2013	JW-EA10-SC42-2013	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-EA10-SC42-A-130426	JW-EA10-SC42-B-130426	JW-EA10-SC42-C-130426	JW-GC1-02-04-130919	JW-GC1-06-08-130919	JW-GC1-08-10-130919	JW-GC1-10-12-130919
Sample Date					4/26/2013	4/26/2013	4/26/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	2 - 4 cm	6 - 8 cm	8 - 10 cm	10 - 12 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302929.32957	1302929.32957	1302929.32957	1302749.66	1302749.66	1302749.66	1302749.66
Y					372558.002123	372558.002123	372558.002123	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
Conventional Parameters (pct)											
Total organic carbon					**1.72**	**0.834**	**0.905**	--	--	--	--
Moisture, percent					--	--	--	**40.69**	**36.94**	**38.44**	**33.96**
Total Solids					**62.71**	**79.7**	**78.95**	--	--	--	--
Grain Size (pct)											
Gravel					**0.9**	**0.8**	**0.8**	--	--	--	--
Sand, very coarse					**0.9**	**0.9**	**1.4**	--	--	--	--
Sand, coarse					**2.1**	**7.5**	**11.2**	--	--	--	--
Sand, medium					**6.9**	**39.7**	**45.4**	--	--	--	--
Sand, fine					**7.8**	**30.7**	**25.5**	--	--	--	--
Sand, very fine					**12.1**	**12.6**	**7.9**	--	--	--	--
Silt, coarse					**17.3**	**2.9**	**4.6**	--	--	--	--
Silt, medium					**19.8**	**1.3**	**1.1**	--	--	--	--
Silt, fine					**12.5**	**1**	**0.6**	--	--	--	--
Silt, very fine					**6.9**	**0.7**	**0.4**	--	--	--	--
Clay, coarse					**3.8**	**0.5**	**0.3**	--	--	--	--
Clay, medium					**2.7**	**0.4**	**0.3**	--	--	--	--
Clay, fine					**6.3**	**0.8**	**0.6**	--	--	--	--
Semivolatile Organics (mg/kg-OC)											
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--	--
Semivolatile Organics (µg/kg)											
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA10-SC42-2013	JW-EA10-SC42-2013	JW-EA10-SC42-2013	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-EA10-SC42-A-130426	JW-EA10-SC42-B-130426	JW-EA10-SC42-C-130426	JW-GC1-02-04-130919	JW-GC1-06-08-130919	JW-GC1-08-10-130919	JW-GC1-10-12-130919
Sample Date					4/26/2013	4/26/2013	4/26/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	2 - 4 cm	6 - 8 cm	8 - 10 cm	10 - 12 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302929.32957	1302929.32957	1302929.32957	1302749.66	1302749.66	1302749.66	1302749.66
Y					372558.002123	372558.002123	372558.002123	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII							
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)											
2-Methylnaphthalene	38	64			--	--	--	--	--	--	--
Acenaphthene	16	57			--	--	--	--	--	--	--
Acenaphthylene	66	66			--	--	--	--	--	--	--
Anthracene	220	1200			--	--	--	--	--	--	--
Benzo(a)anthracene	110	270			--	--	--	--	--	--	--
Benzo(a)pyrene	99	210			--	--	--	--	--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	--	--
Chrysene	110	460			--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	--	--
Dibenzofuran	15	58			--	--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	--	--
Fluorene	23	79			--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	--	--
Naphthalene	99	170			--	--	--	--	--	--	--
Phenanthrene	100	480			--	--	--	--	--	--	--
Pyrene	1000	1400			--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)											
2-Methylnaphthalene			670	670	--	--	--	--	--	--	--
Acenaphthene			500	500	--	--	--	--	--	--	--
Acenaphthylene			1300	1300	--	--	--	--	--	--	--
Anthracene			960	960	--	--	--	--	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--	--	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--	--	--	--	--
Benzo(b,j,k)fluoranthenes					--	--	--	--	--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	--	--
Chrysene			1400	2800	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	--	--
Dibenzofuran			540	540	--	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA10-SC42-2013	JW-EA10-SC42-2013	JW-EA10-SC42-2013	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-EA10-SC42-A-130426	JW-EA10-SC42-B-130426	JW-EA10-SC42-C-130426	JW-GC1-02-04-130919	JW-GC1-06-08-130919	JW-GC1-08-10-130919	JW-GC1-10-12-130919
Sample Date					4/26/2013	4/26/2013	4/26/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	2 - 4 cm	6 - 8 cm	8 - 10 cm	10 - 12 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302929.32957	1302929.32957	1302929.32957	1302749.66	1302749.66	1302749.66	1302749.66
Y					372558.002123	372558.002123	372558.002123	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
Fluorene			540	540	--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	--	--
Naphthalene			2100	2100	--	--	--	--	--	--	--
Phenanthrene			1500	1500	--	--	--	--	--	--	--
Pyrene			2600	3300	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	--	--
Dioxin Furans (mg/kg-OC)											
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					**0.00080456046512 J**	**9.386106954E-05 J**	**4.858039116E-05 J**	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					**0.00038190930233 J**	**5.893217266E-05 J**	**4.03306674E-05 J**	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					**0.00041198488372 J**	**5.374639808E-05 J**	**3.593575912E-05 J**	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					**0.00080417267442 J**	**6.45460024E-05 J**	**2.431925635E-05 J**	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					**0.00038152151163 J**	**3.039390408E-05 J**	**2.019439448E-05 J**	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					**0.00041159709302 J**	**2.897182014E-05 J**	**1.815561436E-05 J**	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					**0.00080378488372 J**	**3.523093525E-05 J**	**5.812155E-08 J**	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					**0.00038113372093 J**	**1.85563549E-06 J**	**5.812155E-08 J**	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					**0.00041120930233 J**	**4.19724221E-06 J**	**3.7546961E-07 J**	--	--	--	--
Dioxin Furans (ng/kg)											
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					**0.87**	0.1368 U	0.1048 U	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					**1.71 J**	0.1407 U	0.1066 U	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**2.02 J**	0.1566 U	0.1284 U	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					**6.27**	0.1573 U	0.1293 U	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					**3.44**	0.1508 U	0.124 U	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					**77.8**	**0.461 J**	**0.26 J**	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					**532**	**3.65 J**	**2.66 J**	--	--	--	--
Total Tetrachlorodibenzo-p-dioxin (TCDD)					**84.4 J**	**1.18**	**0.306 J**	--	--	--	--
Total Pentachlorodibenzo-p-dioxin (PeCDD)					**68.1 J**	**0.622 J**	0.1066 U	--	--	--	--
Total Hexachlorodibenzo-p-dioxin (HxCDD)					**95.8**	**1.16 J**	0.127 U	--	--	--	--
Total Heptachlorodibenzo-p-dioxin (HpCDD)					**164**	**1.2 J**	**0.754 J**	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					**6.48**	**0.293 J**	0.08 U	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					**1.76 J**	0.1431 U	0.0776 U	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					**3.25**	0.1254 U	0.0828 U	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					**1.6 J**	0.1021 U	0.0837 U	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					**1.52 J**	0.0957 U	0.0819 U	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					0.1334 U	0.1226 U	0.1021 U	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					**2.04 J**	0.1203 U	0.0841 U	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					**17.1**	0.1337 U	0.0923 U	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					**1.04 J**	0.1838 U	0.0936 U	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					**30**	0.3732 U	0.1454 U	--	--	--	--
Total Tetrachlorodibenzofuran (TCDF)					**100**	**1.9**	0.08 U	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA10-SC42-2013	JW-EA10-SC42-2013	JW-EA10-SC42-2013	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-EA10-SC42-A-130426	JW-EA10-SC42-B-130426	JW-EA10-SC42-C-130426	JW-GC1-02-04-130919	JW-GC1-06-08-130919	JW-GC1-08-10-130919	JW-GC1-10-12-130919
Sample Date					4/26/2013	4/26/2013	4/26/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	2 - 4 cm	6 - 8 cm	8 - 10 cm	10 - 12 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302929.32957	1302929.32957	1302929.32957	1302749.66	1302749.66	1302749.66	1302749.66
Y					372558.002123	372558.002123	372558.002123	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII							
Total Pentachlorodibenzofuran (PeCDF)					**41.9 J**	0.1343 U	0.0801 U	--	--	--	--
Total Hexachlorodibenzofuran (HxCDF)					**31.4 J**	0.1092 U	0.0873 U	--	--	--	--
Total Heptachlorodibenzofuran (HpCDF)					**45.7**	0.1554 U	0.093 U	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					**13.83844 J**	**0.78280132 J**	**0.43965254 J**	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					**6.56884 J**	**0.49149432 J**	**0.36499254 J**	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					**7.08614 J**	**0.44824496 J**	**0.32521862 J**	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					**13.83177 J**	**0.53831366 J**	**0.22008927 J**	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					**6.56217 J**	**0.25348516 J**	**0.18275927 J**	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					**7.07947 J**	**0.24162498 J**	**0.16430831 J**	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					**13.8251 J**	**0.293826 J**	**0.000526 J**	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					**6.5555 J**	**0.015476 J**	**0.000526 J**	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					**7.0728 J**	**0.035005 J**	**0.003398 J**	--	--	--	--
PCB Aroclors (mg/kg-OC)											
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--	--
PCB Aroclors (µg/kg)											
Aroclor 1016					--	--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--	--
PCB Congeners (mg/kg-OC)											
Total PCB Congener (U = limit)					**4.00016936 J**	**0.032797122 J**	**0.006922431 J**	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					**0.00047035738372 J**	**2.121930815E-05 J**	3.24861878E-06 U	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					**5.320209302E-06 J**	**3.83666667E-07 J**	9.1712707E-08 U	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					**0.00010712156977 J**	**7.0791247E-06 J**	1.83425414E-06 U	--	--	--	--
Total PCB Congener (U = 1/2)					**3.999611715 J**	**0.029508633 J**	**0.004179171 J**	--	--	--	--
Total PCB Congener (U = 0)	12	65			**3.99905407 J**	**0.026220144 J**	**0.001435912 J**	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					**0.00046711081395 J**	**1.062553537E-05 J**	3.24861878E-06 U	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					**0.00046386424419 J**	**3.176259E-08 J**	3.24861878E-06 U	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					**5.303084302E-06 J**	**1.93660672E-07 J**	9.1712707E-08 U	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					**5.285959302E-06 J**	**3.654676E-09 J**	9.1712707E-08 U	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					**5.875043605E-05 J**	**4.05828297E-06 J**	1.83425414E-06 U	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					**5.814598837E-05 J**	**2.192806E-08 J**	1.83425414E-06 U	--	--	--	--
PCB Congeners (ng/kg)											
PCB-001					**35.6**	**1.28**	0.23 U	--	--	--	--
PCB-002					**41.9**	**4.18**	**0.756 J**	--	--	--	--
PCB-003					**54.5**	**3.21**	**0.483 J**	--	--	--	--
PCB-004					**29.4 J**	0.436 UJ	0.291 UJ	--	--	--	--
PCB-005					**118**	0.551 U	0.215 U	--	--	--	--
PCB-006					**22**	**0.834 J**	0.218 U	--	--	--	--
PCB-007					**4.79**	0.521 U	0.203 U	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA10-SC42-2013	JW-EA10-SC42-2013	JW-EA10-SC42-2013	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-EA10-SC42-A-130426	JW-EA10-SC42-B-130426	JW-EA10-SC42-C-130426	JW-GC1-02-04-130919	JW-GC1-06-08-130919	JW-GC1-08-10-130919	JW-GC1-10-12-130919
Sample Date					4/26/2013	4/26/2013	4/26/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	2 - 4 cm	6 - 8 cm	8 - 10 cm	10 - 12 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302929.32957	1302929.32957	1302929.32957	1302749.66	1302749.66	1302749.66	1302749.66
Y					372558.002123	372558.002123	372558.002123	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
PCB-008					0.331 U	**2.63**	0.211 U	--	--	--	--
PCB-009					**6.09**	0.592 U	0.23 U	--	--	--	--
PCB-010					0.352 U	0.302 U	0.201 U	--	--	--	--
PCB-011					**425**	6.24 U	3.34 U	--	--	--	--
PCB-012/013					**31.5**	**3.8**	0.204 U	--	--	--	--
PCB-014					**2.99**	0.461 U	0.179 U	--	--	--	--
PCB-015					**126**	**2.99**	0.198 U	--	--	--	--
PCB-016					**94.5**	**2.29 J**	0.47 U	--	--	--	--
PCB-017					**94.6**	**2.47**	0.355 U	--	--	--	--
PCB-018/030					**229**	**4.74**	0.309 U	--	--	--	--
PCB-019					**15.6**	0.876 U	0.402 U	--	--	--	--
PCB-020/028					**615**	**9.44**	0.576 U	--	--	--	--
PCB-021/033					**229**	**6.01**	**0.335 J**	--	--	--	--
PCB-022					**177**	**3.47**	0.292 U	--	--	--	--
PCB-023					0.546 U	0.808 U	0.281 U	--	--	--	--
PCB-024					**2.21**	0.608 U	0.279 U	--	--	--	--
PCB-025					**34.2**	**0.969 J**	0.275 U	--	--	--	--
PCB-026/029					**72.2**	**2.36 J**	0.276 U	--	--	--	--
PCB-027					**17.3**	0.58 U	0.266 U	--	--	--	--
PCB-031					**506**	**8.78**	0.504 U	--	--	--	--
PCB-032					**93.1**	**1.87**	0.253 U	--	--	--	--
PCB-034					**3**	0.812 U	0.282 U	--	--	--	--
PCB-035					**25.4**	**1.52**	0.285 U	--	--	--	--
PCB-036					**5.92**	0.747 U	0.26 U	--	--	--	--
PCB-037					**236**	**3.53**	0.292 U	--	--	--	--
PCB-038					**1.81**	0.791 U	0.275 U	--	--	--	--
PCB-039					**4.09**	0.718 U	0.25 U	--	--	--	--
PCB-040/071					**499**	**3.46**	0.209 U	--	--	--	--
PCB-041					**48.7**	**0.93 J**	0.253 U	--	--	--	--
PCB-042					**213**	**2.13**	0.233 U	--	--	--	--
PCB-043					**24.9**	0.689 U	0.248 U	--	--	--	--
PCB-044/047/065					**1120**	**10.4**	0.642 U	--	--	--	--
PCB-045					**59.2**	**1.32**	0.239 U	--	--	--	--
PCB-046					**32.2**	0.747 U	0.269 U	--	--	--	--
PCB-048					**126**	**1.86 J**	0.213 U	--	--	--	--
PCB-049/069					**649**	**4.84**	0.282 U	--	--	--	--
PCB-050/053					**89.3**	**1.03 J**	0.218 U	--	--	--	--
PCB-051					**34.2**	**1.1**	0.225 U	--	--	--	--
PCB-052					**2130**	**8.04 J**	0.861 U	--	--	--	--
PCB-054					**0.916 J**	0.307 U	0.137 U	--	--	--	--
PCB-055					**14.6**	**3.9**	0.291 U	--	--	--	--
PCB-056					**504**	**1.74**	0.297 U	--	--	--	--
PCB-057					**2.33**	0.778 U	0.288 U	--	--	--	--
PCB-058					**8**	0.761 U	0.281 U	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA10-SC42-2013	JW-EA10-SC42-2013	JW-EA10-SC42-2013	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-EA10-SC42-A-130426	JW-EA10-SC42-B-130426	JW-EA10-SC42-C-130426	JW-GC1-02-04-130919	JW-GC1-06-08-130919	JW-GC1-08-10-130919	JW-GC1-10-12-130919
Sample Date					4/26/2013	4/26/2013	4/26/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	2 - 4 cm	6 - 8 cm	8 - 10 cm	10 - 12 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302929.32957	1302929.32957	1302929.32957	1302749.66	1302749.66	1302749.66	1302749.66
Y Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372558.002123	372558.002123	372558.002123	372434.8399	372434.8399	372434.8399	372434.8399
PCB-059/062/075					**55.4**	**0.679 J**	0.157 U	--	--	--	--
PCB-060					**261**	0.777 U	0.287 U	--	--	--	--
PCB-061/070/074/076					**2760**	0.754 U	0.913 U	--	--	--	--
PCB-063					**42.6**	0.697 U	0.258 U	--	--	--	--
PCB-064					**421**	**2.31**	**0.239 J**	--	--	--	--
PCB-066					**1260**	**9.1**	**0.427 J**	--	--	--	--
PCB-067					**21.7**	0.743 U	0.275 U	--	--	--	--
PCB-068					**9.4**	0.7 U	0.259 U	--	--	--	--
PCB-072					**18.1**	0.758 U	0.28 U	--	--	--	--
PCB-073					0.336 U	0.463 U	0.167 U	--	--	--	--
PCB-077					**138**	0.874 U	0.279 U	--	--	--	--
PCB-078					1.08 U	0.779 U	0.288 U	--	--	--	--
PCB-079					**20.2**	0.672 U	0.248 U	--	--	--	--
PCB-080					**13.8**	0.662 U	0.245 U	--	--	--	--
PCB-081					1.11 U	0.794 U	0.294 U	--	--	--	--
PCB-082					**532**	0.566 U	0.233 U	--	--	--	--
PCB-083					**178**	0.576 U	0.237 U	--	--	--	--
PCB-084					**1100**	**1.16 J**	0.242 U	--	--	--	--
PCB-085/116					**748**	**0.834 J**	0.182 U	--	--	--	--
PCB-086/087/097/108/119/125					**3180**	**3.3 J**	0.632 U	--	--	--	--
PCB-088					2.97 U	0.549 U	0.226 U	--	--	--	--
PCB-089					**35.9**	0.544 U	0.224 U	--	--	--	--
PCB-090/101/113					**4510**	**6.28**	1.21 U	--	--	--	--
PCB-091					**477**	0.443 U	0.183 U	--	--	--	--
PCB-092					**815**	**1.05 J**	0.206 U	--	--	--	--
PCB-093/100					**258**	0.495 U	0.204 U	--	--	--	--
PCB-094					**13.6**	0.531 U	0.219 U	--	--	--	--
PCB-095					**2630**	**5.26**	0.977 U	--	--	--	--
PCB-096					**18.8**	0.262 U	0.1 U	--	--	--	--
PCB-098					**114**	0.576 U	0.237 U	--	--	--	--
PCB-099					**2210**	**2.13 J**	0.38 U	--	--	--	--
PCB-102					2.26 U	0.418 U	0.172 U	--	--	--	--
PCB-103					**19**	0.464 U	0.191 U	--	--	--	--
PCB-104					0.155 U	0.219 U	0.084 U	--	--	--	--
PCB-105					**2050**	**1.49 J**	0.344 U	--	--	--	--
PCB-106					1.92 U	0.355 U	0.146 U	--	--	--	--
PCB-107/124					**182**	0.359 U	0.148 U	--	--	--	--
PCB-109					**287**	0.333 U	0.137 U	--	--	--	--
PCB-110					**4830 J**	**4.41**	1.17 U	--	--	--	--
PCB-111					1.82 U	0.337 U	0.139 U	--	--	--	--
PCB-112					1.95 U	0.362 U	0.149 U	--	--	--	--
PCB-114					**97.2**	0.317 U	0.142 U	--	--	--	--
PCB-115					**388**	0.384 U	0.158 U	--	--	--	--
PCB-117					**115**	0.348 U	0.143 U	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA10-SC42-2013	JW-EA10-SC42-2013	JW-EA10-SC42-2013	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-EA10-SC42-A-130426	JW-EA10-SC42-B-130426	JW-EA10-SC42-C-130426	JW-GC1-02-04-130919	JW-GC1-06-08-130919	JW-GC1-08-10-130919	JW-GC1-10-12-130919
Sample Date					4/26/2013	4/26/2013	4/26/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	2 - 4 cm	6 - 8 cm	8 - 10 cm	10 - 12 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302929.32957	1302929.32957	1302929.32957	1302749.66	1302749.66	1302749.66	1302749.66
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372558.002123	372558.002123	372558.002123	372434.8399	372434.8399	372434.8399	372434.8399
Analyte											
PCB-118					**4850 J**	**3.83**	0.783 U	--	--	--	--
PCB-120					**11.9**	0.332 U	0.137 U	--	--	--	--
PCB-121					1.9 U	0.351 U	0.145 U	--	--	--	--
PCB-122					**49.1**	0.368 U	0.164 U	--	--	--	--
PCB-123					**99.8**	0.337 U	0.139 U	--	--	--	--
PCB-126					**7.48**	0.531 U	0.166 U	--	--	--	--
PCB-127					**6.02**	0.311 U	0.128 U	--	--	--	--
PCB-128/166					**890**	**0.735 J**	**0.276 J**	--	--	--	--
PCB-129/138/163					**5250**	**7.78**	2.36 U	--	--	--	--
PCB-130					**336**	0.363 U	0.191 U	--	--	--	--
PCB-131					**67.9**	0.36 U	0.189 U	--	--	--	--
PCB-132					**1540**	**2.17**	**0.623 J**	--	--	--	--
PCB-133					**56.4**	0.334 U	0.175 U	--	--	--	--
PCB-134					**263**	0.385 U	0.202 U	--	--	--	--
PCB-135/151					**1050**	**3.64 J**	**0.845 J**	--	--	--	--
PCB-136					**455**	**1.39**	**0.435 J**	--	--	--	--
PCB-137					**261**	0.278 U	0.146 U	--	--	--	--
PCB-139/140					**90.4**	0.309 U	0.163 U	--	--	--	--
PCB-141					**694**	**1.8**	**0.715 J**	--	--	--	--
PCB-142					**0.94 J**	0.366 U	0.193 U	--	--	--	--
PCB-143					0.265 U	0.341 U	0.179 U	--	--	--	--
PCB-144					**166**	**0.555 J**	0.169 U	--	--	--	--
PCB-145					**1.92**	0.216 U	0.12 U	--	--	--	--
PCB-146					**559**	**1.04**	0.158 U	--	--	--	--
PCB-147/149					**2880**	**7.5**	1.91 U	--	--	--	--
PCB-148					**3.07**	0.323 U	0.17 U	--	--	--	--
PCB-150					**3.77**	0.206 U	0.114 U	--	--	--	--
PCB-152					**3.45**	0.209 U	0.116 U	--	--	--	--
PCB-153/168					**3260**	**8.8**	2.33 U	--	--	--	--
PCB-154					**32.7**	0.29 U	0.152 U	--	--	--	--
PCB-155					**0.266 J**	0.199 U	0.111 U	--	--	--	--
PCB-156/157					**642**	**0.776 J**	0.222 U	--	--	--	--
PCB-158					**544**	**0.646 J**	**0.237 J**	--	--	--	--
PCB-159					**15.4**	0.359 U	0.145 U	--	--	--	--
PCB-160					0.187 U	0.241 U	0.127 U	--	--	--	--
PCB-161					0.187 U	0.241 U	0.126 U	--	--	--	--
PCB-162					**16.8**	0.357 U	0.145 U	--	--	--	--
PCB-164					**305**	**0.633 J**	**0.284 J**	--	--	--	--
PCB-165					0.21 U	0.27 U	0.142 U	--	--	--	--
PCB-167					**181**	0.33 U	0.134 U	--	--	--	--
PCB-169					0.682 U	0.462 U	0.155 U	--	--	--	--
PCB-170					**577**	**2.77**	**0.907 J**	--	--	--	--
PCB-171/173					**194**	**0.761 J**	**0.315 J**	--	--	--	--
PCB-172					**91.7**	0.513 U	0.233 U	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA10-SC42-2013	JW-EA10-SC42-2013	JW-EA10-SC42-2013	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-EA10-SC42-A-130426	JW-EA10-SC42-B-130426	JW-EA10-SC42-C-130426	JW-GC1-02-04-130919	JW-GC1-06-08-130919	JW-GC1-08-10-130919	JW-GC1-10-12-130919
Sample Date					4/26/2013	4/26/2013	4/26/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	2 - 4 cm	6 - 8 cm	8 - 10 cm	10 - 12 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302929.32957	1302929.32957	1302929.32957	1302749.66	1302749.66	1302749.66	1302749.66
Y					372558.002123	372558.002123	372558.002123	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
PCB-174					**532**	**3.85**	**1.52**	--	--	--	--
PCB-175					**22.5**	0.488 U	0.222 U	--	--	--	--
PCB-176					**59.2**	**0.455 J**	**0.147 J**	--	--	--	--
PCB-177					**318**	**1.42 J**	**0.553 J**	--	--	--	--
PCB-178					**93.5**	**0.613 J**	**0.335 J**	--	--	--	--
PCB-179					**188**	**1.39**	**0.467 J**	--	--	--	--
PCB-180/193					**1050**	**6.51**	1.98 U	--	--	--	--
PCB-181					**9.52**	0.47 U	0.214 U	--	--	--	--
PCB-182					**3.12 J**	0.448 U	0.204 U	--	--	--	--
PCB-183					**306**	**2.24**	**0.643 J**	--	--	--	--
PCB-184					**0.591 J**	0.258 U	0.136 U	--	--	--	--
PCB-185					**55.6**	0.455 U	0.207 U	--	--	--	--
PCB-186					0.221 U	0.247 U	0.13 U	--	--	--	--
PCB-187					**580**	**3.52 J**	1.29 U	--	--	--	--
PCB-188					**0.987 J**	0.234 U	0.123 U	--	--	--	--
PCB-189					**23.7**	0.376 U	0.134 U	--	--	--	--
PCB-190					**93.2**	**0.568 J**	**0.195 J**	--	--	--	--
PCB-191					**22.6**	0.363 U	0.165 U	--	--	--	--
PCB-192					0.483 U	0.389 U	0.177 U	--	--	--	--
PCB-194					**225**	**1.62 J**	**0.695 J**	--	--	--	--
PCB-195					**81.1**	0.925 U	**0.282 J**	--	--	--	--
PCB-196					**99.4**	**0.958**	**0.284 J**	--	--	--	--
PCB-197					**7.75**	0.443 U	0.123 U	--	--	--	--
PCB-198/199					**235**	**2.09**	**0.578 J**	--	--	--	--
PCB-200					**25.8**	0.502 U	0.14 U	--	--	--	--
PCB-201					**30.7**	0.463 U	0.129 U	--	--	--	--
PCB-202					**59.8**	0.512 U	0.143 U	--	--	--	--
PCB-203					**142**	**1.18**	**0.419 J**	--	--	--	--
PCB-204					0.218 U	0.489 U	0.136 U	--	--	--	--
PCB-205					**8.4**	0.606 U	0.156 U	--	--	--	--
PCB-206					**146**	1.1 U	0.643 U	--	--	--	--
PCB-207					**18.6**	0.729 U	0.416 U	--	--	--	--
PCB-208					**56.9**	0.737 U	0.42 U	--	--	--	--
PCB-209					**114**	**2.31**	0.273 U	--	--	--	--
Total PCB Congener (U = limit)					**68802.913 J**	**273.528 J**	**62.648 J**	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					**8.090147 J**	**0.17696903 J**	0.0294 U	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					**0.0915076 J**	**0.00319978 J**	0.00083 U	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					**1.842491 J**	**0.0590399 J**	0.0166 U	--	--	--	--
Total PCB Congener (U = 1/2)					**68793.321 J**	**246.102 J**	**37.821 J**	--	--	--	--
Total PCB Congener (U = 0)			130000	1000000	**68783.73 J**	**218.676 J**	**12.995 J**	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					**8.034306 J**	**0.08861697 J**	0.0294 U	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					**7.978465 J**	**0.0002649 J**	0.0294 U	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					**0.09121305 J**	**0.00161513 J**	0.00083 U	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					**0.0909185 J**	**3.048E-05 J**	0.00083 U	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-EA10-SC42-2013	JW-EA10-SC42-2013	JW-EA10-SC42-2013	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-EA10-SC42-A-130426	JW-EA10-SC42-B-130426	JW-EA10-SC42-C-130426	JW-GC1-02-04-130919	JW-GC1-06-08-130919	JW-GC1-08-10-130919	JW-GC1-10-12-130919
Sample Date					4/26/2013	4/26/2013	4/26/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					0 - 2 ft	2 - 4 ft	4 - 6 ft	2 - 4 cm	6 - 8 cm	8 - 10 cm	10 - 12 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302929.32957	1302929.32957	1302929.32957	1302749.66	1302749.66	1302749.66	1302749.66
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372558.002123	372558.002123	372558.002123	372434.8399	372434.8399	372434.8399	372434.8399
Analyte											
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					**1.0105075 J**	**0.03384608 J**	0.0166 U	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					**1.000111 J**	**0.00018288 J**	0.0166 U	--	--	--	--
Radionuclides (pci/g)											
Cesium 137					--	--	--	**0.14**	0.03759 U	--	0.05775 U
Lead 210					--	--	--	**0.222**	--	**0.36**	--
Dioxin Furans and PCB Congeners (mg/kg-OC)											
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**0.001274917848837 J**	**0.000115080377698 J**	**5.5230965746E-05 J**	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**0.0003872295116279 J**	**5.93158393285E-05 J**	**4.04436110497E-05 J**	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**0.000471339767442 J**	**6.1841035971E-05 J**	**3.8302945856E-05 J**	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**0.001271283488372 J**	**7.517153777E-05 J**	**2.7644543646E-05 J**	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**0.0003868245959302 J**	**3.05875647482E-05 J**	**2.02508662983E-05 J**	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**0.00047034752907 J**	**3.3030103118E-05 J**	**1.9339207735E-05 J**	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**0.001267649127907 J**	**3.5262697842E-05 J**	**5.8121547E-08 J**	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**0.0003864196802326 J**	**1.8592901679E-06 J**	**5.8121547E-08 J**	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**0.000469355290698 J**	**4.219170264E-06 J**	**3.75469613E-07 J**	--	--	--	--
Dioxin Furans and PCB Congeners (ng/kg)											
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**21.928587 J**	**0.95977035 J**	**0.49984024 J**	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**6.6603476 J**	**0.4946941 J**	**0.36601468 J**	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**8.107044 J**	**0.51575424 J**	**0.34664166 J**	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**21.866076 J**	**0.626930625 J**	**0.25018312 J**	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**6.65338305 J**	**0.25510029 J**	**0.18327034 J**	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**8.0899775 J**	**0.27547106 J**	**0.17501983 J**	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**21.803565 J**	**0.2940909 J**	**0.000526 J**	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**6.6464185 J**	**0.01550648 J**	**0.000526 J**	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**8.072911 J**	**0.03518788 J**	**0.003398 J**	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**
Location ID					**JW-GC1**	**JW-GC1**	**JW-GC1**	**JW-GC1**	**JW-GC1**	**JW-GC1**	**JW-GC1**
Sample ID					**JW-GC1-14-16-130919**	**JW-GC1-18-20-130919**	**JW-GC1-20-22-130919**	**JW-GC1-22-24-130919**	**JW-GC1-26-28-130919**	**JW-GC1-30-32-130919**	**JW-GC1-32-34-130919**
Sample Date					**9/19/2013**	**9/19/2013**	**9/19/2013**	**9/19/2013**	**9/19/2013**	**9/19/2013**	**9/19/2013**
Depth					**14 - 16 cm**	**18 - 20 cm**	**20 - 22 cm**	**22 - 24 cm**	**26 - 28 cm**	**30 - 32 cm**	**32 - 34 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302749.66**	**1302749.66**	**1302749.66**	**1302749.66**	**1302749.66**	**1302749.66**	**1302749.66**
Y					**372434.8399**	**372434.8399**	**372434.8399**	**372434.8399**	**372434.8399**	**372434.8399**	**372434.8399**
Analyte	**SMS_Marine_SCO_SCUMII**	**SMS_Marine_CSL_SCUMII**	**AET_Marine_SCO_SCUMII**	**AET_Marine_CSL_SCUMII**							
Conventional Parameters (pct)											
Total organic carbon					--	--	--	--	--	--	--
Moisture, percent					**27.73**	**27.62**	**21.1**	**19.78**	**19.09**	**19.9**	**20.75**
Total Solids					--	--	--	--	--	--	--
Grain Size (pct)											
Gravel					--	--	--	--	--	--	--
Sand, very coarse					--	--	--	--	--	--	--
Sand, coarse					--	--	--	--	--	--	--
Sand, medium					--	--	--	--	--	--	--
Sand, fine					--	--	--	--	--	--	--
Sand, very fine					--	--	--	--	--	--	--
Silt, coarse					--	--	--	--	--	--	--
Silt, medium					--	--	--	--	--	--	--
Silt, fine					--	--	--	--	--	--	--
Silt, very fine					--	--	--	--	--	--	--
Clay, coarse					--	--	--	--	--	--	--
Clay, medium					--	--	--	--	--	--	--
Clay, fine					--	--	--	--	--	--	--
Semivolatile Organics (mg/kg-OC)											
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--	--
Semivolatile Organics (µg/kg)											
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-14-16-130919	JW-GC1-18-20-130919	JW-GC1-20-22-130919	JW-GC1-22-24-130919	JW-GC1-26-28-130919	JW-GC1-30-32-130919	JW-GC1-32-34-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					14 - 16 cm	18 - 20 cm	20 - 22 cm	22 - 24 cm	26 - 28 cm	30 - 32 cm	32 - 34 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y					372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)											
2-Methylnaphthalene	38	64			--	--	--	--	--	--	--
Acenaphthene	16	57			--	--	--	--	--	--	--
Acenaphthylene	66	66			--	--	--	--	--	--	--
Anthracene	220	1200			--	--	--	--	--	--	--
Benzo(a)anthracene	110	270			--	--	--	--	--	--	--
Benzo(a)pyrene	99	210			--	--	--	--	--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	--	--
Chrysene	110	460			--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	--	--
Dibenzofuran	15	58			--	--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	--	--
Fluorene	23	79			--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	--	--
Naphthalene	99	170			--	--	--	--	--	--	--
Phenanthrene	100	480			--	--	--	--	--	--	--
Pyrene	1000	1400			--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)											
2-Methylnaphthalene			670	670	--	--	--	--	--	--	--
Acenaphthene			500	500	--	--	--	--	--	--	--
Acenaphthylene			1300	1300	--	--	--	--	--	--	--
Anthracene			960	960	--	--	--	--	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--	--	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--	--	--	--	--
Benzo(b,j,k)fluoranthenes					--	--	--	--	--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	--	--
Chrysene			1400	2800	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	--	--
Dibenzofuran			540	540	--	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-14-16-130919	JW-GC1-18-20-130919	JW-GC1-20-22-130919	JW-GC1-22-24-130919	JW-GC1-26-28-130919	JW-GC1-30-32-130919	JW-GC1-32-34-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					14 - 16 cm	18 - 20 cm	20 - 22 cm	22 - 24 cm	26 - 28 cm	30 - 32 cm	32 - 34 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y	SMS_Marine_	SMS_Marine_	AET_Marine_	AET_Marine_	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SCO_SCUMII	CSL_SCUMII	SCO_SCUMII	CSL_SCUMII							
Fluorene			540	540	--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	--	--
Naphthalene			2100	2100	--	--	--	--	--	--	--
Phenanthrene			1500	1500	--	--	--	--	--	--	--
Pyrene			2600	3300	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	--	--
Dioxin Furans (mg/kg-OC)											
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
Dioxin Furans (ng/kg)											
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					--	--	--	--	--	--	--
Total Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	--	--	--
Total Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	--	--	--
Total Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
Total Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					--	--	--	--	--	--	--
Total Tetrachlorodibenzofuran (TCDF)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-14-16-130919	JW-GC1-18-20-130919	JW-GC1-20-22-130919	JW-GC1-22-24-130919	JW-GC1-26-28-130919	JW-GC1-30-32-130919	JW-GC1-32-34-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					14 - 16 cm	18 - 20 cm	20 - 22 cm	22 - 24 cm	26 - 28 cm	30 - 32 cm	32 - 34 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y					372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
Total Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--
Total Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
Total Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
PCB Aroclors (mg/kg-OC)											
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--	--
PCB Aroclors (µg/kg)											
Aroclor 1016					--	--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--	--
PCB Congeners (mg/kg-OC)											
Total PCB Congener (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener (U = 0)	12	65			--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
PCB Congeners (ng/kg)											
PCB-001					--	--	--	--	--	--	--
PCB-002					--	--	--	--	--	--	--
PCB-003					--	--	--	--	--	--	--
PCB-004					--	--	--	--	--	--	--
PCB-005					--	--	--	--	--	--	--
PCB-006					--	--	--	--	--	--	--
PCB-007					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-14-16-130919	JW-GC1-18-20-130919	JW-GC1-20-22-130919	JW-GC1-22-24-130919	JW-GC1-26-28-130919	JW-GC1-30-32-130919	JW-GC1-32-34-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					14 - 16 cm	18 - 20 cm	20 - 22 cm	22 - 24 cm	26 - 28 cm	30 - 32 cm	32 - 34 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte											
PCB-008					--	--	--	--	--	--	--
PCB-009					--	--	--	--	--	--	--
PCB-010					--	--	--	--	--	--	--
PCB-011					--	--	--	--	--	--	--
PCB-012/013					--	--	--	--	--	--	--
PCB-014					--	--	--	--	--	--	--
PCB-015					--	--	--	--	--	--	--
PCB-016					--	--	--	--	--	--	--
PCB-017					--	--	--	--	--	--	--
PCB-018/030					--	--	--	--	--	--	--
PCB-019					--	--	--	--	--	--	--
PCB-020/028					--	--	--	--	--	--	--
PCB-021/033					--	--	--	--	--	--	--
PCB-022					--	--	--	--	--	--	--
PCB-023					--	--	--	--	--	--	--
PCB-024					--	--	--	--	--	--	--
PCB-025					--	--	--	--	--	--	--
PCB-026/029					--	--	--	--	--	--	--
PCB-027					--	--	--	--	--	--	--
PCB-031					--	--	--	--	--	--	--
PCB-032					--	--	--	--	--	--	--
PCB-034					--	--	--	--	--	--	--
PCB-035					--	--	--	--	--	--	--
PCB-036					--	--	--	--	--	--	--
PCB-037					--	--	--	--	--	--	--
PCB-038					--	--	--	--	--	--	--
PCB-039					--	--	--	--	--	--	--
PCB-040/071					--	--	--	--	--	--	--
PCB-041					--	--	--	--	--	--	--
PCB-042					--	--	--	--	--	--	--
PCB-043					--	--	--	--	--	--	--
PCB-044/047/065					--	--	--	--	--	--	--
PCB-045					--	--	--	--	--	--	--
PCB-046					--	--	--	--	--	--	--
PCB-048					--	--	--	--	--	--	--
PCB-049/069					--	--	--	--	--	--	--
PCB-050/053					--	--	--	--	--	--	--
PCB-051					--	--	--	--	--	--	--
PCB-052					--	--	--	--	--	--	--
PCB-054					--	--	--	--	--	--	--
PCB-055					--	--	--	--	--	--	--
PCB-056					--	--	--	--	--	--	--
PCB-057					--	--	--	--	--	--	--
PCB-058					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-14-16-130919	JW-GC1-18-20-130919	JW-GC1-20-22-130919	JW-GC1-22-24-130919	JW-GC1-26-28-130919	JW-GC1-30-32-130919	JW-GC1-32-34-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					14 - 16 cm	18 - 20 cm	20 - 22 cm	22 - 24 cm	26 - 28 cm	30 - 32 cm	32 - 34 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte											
PCB-059/062/075					--	--	--	--	--	--	--
PCB-060					--	--	--	--	--	--	--
PCB-061/070/074/076					--	--	--	--	--	--	--
PCB-063					--	--	--	--	--	--	--
PCB-064					--	--	--	--	--	--	--
PCB-066					--	--	--	--	--	--	--
PCB-067					--	--	--	--	--	--	--
PCB-068					--	--	--	--	--	--	--
PCB-072					--	--	--	--	--	--	--
PCB-073					--	--	--	--	--	--	--
PCB-077					--	--	--	--	--	--	--
PCB-078					--	--	--	--	--	--	--
PCB-079					--	--	--	--	--	--	--
PCB-080					--	--	--	--	--	--	--
PCB-081					--	--	--	--	--	--	--
PCB-082					--	--	--	--	--	--	--
PCB-083					--	--	--	--	--	--	--
PCB-084					--	--	--	--	--	--	--
PCB-085/116					--	--	--	--	--	--	--
PCB-086/087/097/108/119/125					--	--	--	--	--	--	--
PCB-088					--	--	--	--	--	--	--
PCB-089					--	--	--	--	--	--	--
PCB-090/101/113					--	--	--	--	--	--	--
PCB-091					--	--	--	--	--	--	--
PCB-092					--	--	--	--	--	--	--
PCB-093/100					--	--	--	--	--	--	--
PCB-094					--	--	--	--	--	--	--
PCB-095					--	--	--	--	--	--	--
PCB-096					--	--	--	--	--	--	--
PCB-098					--	--	--	--	--	--	--
PCB-099					--	--	--	--	--	--	--
PCB-102					--	--	--	--	--	--	--
PCB-103					--	--	--	--	--	--	--
PCB-104					--	--	--	--	--	--	--
PCB-105					--	--	--	--	--	--	--
PCB-106					--	--	--	--	--	--	--
PCB-107/124					--	--	--	--	--	--	--
PCB-109					--	--	--	--	--	--	--
PCB-110					--	--	--	--	--	--	--
PCB-111					--	--	--	--	--	--	--
PCB-112					--	--	--	--	--	--	--
PCB-114					--	--	--	--	--	--	--
PCB-115					--	--	--	--	--	--	--
PCB-117					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-14-16-130919	JW-GC1-18-20-130919	JW-GC1-20-22-130919	JW-GC1-22-24-130919	JW-GC1-26-28-130919	JW-GC1-30-32-130919	JW-GC1-32-34-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					14 - 16 cm	18 - 20 cm	20 - 22 cm	22 - 24 cm	26 - 28 cm	30 - 32 cm	32 - 34 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y					372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
PCB-118					--	--	--	--	--	--	--
PCB-120					--	--	--	--	--	--	--
PCB-121					--	--	--	--	--	--	--
PCB-122					--	--	--	--	--	--	--
PCB-123					--	--	--	--	--	--	--
PCB-126					--	--	--	--	--	--	--
PCB-127					--	--	--	--	--	--	--
PCB-128/166					--	--	--	--	--	--	--
PCB-129/138/163					--	--	--	--	--	--	--
PCB-130					--	--	--	--	--	--	--
PCB-131					--	--	--	--	--	--	--
PCB-132					--	--	--	--	--	--	--
PCB-133					--	--	--	--	--	--	--
PCB-134					--	--	--	--	--	--	--
PCB-135/151					--	--	--	--	--	--	--
PCB-136					--	--	--	--	--	--	--
PCB-137					--	--	--	--	--	--	--
PCB-139/140					--	--	--	--	--	--	--
PCB-141					--	--	--	--	--	--	--
PCB-142					--	--	--	--	--	--	--
PCB-143					--	--	--	--	--	--	--
PCB-144					--	--	--	--	--	--	--
PCB-145					--	--	--	--	--	--	--
PCB-146					--	--	--	--	--	--	--
PCB-147/149					--	--	--	--	--	--	--
PCB-148					--	--	--	--	--	--	--
PCB-150					--	--	--	--	--	--	--
PCB-152					--	--	--	--	--	--	--
PCB-153/168					--	--	--	--	--	--	--
PCB-154					--	--	--	--	--	--	--
PCB-155					--	--	--	--	--	--	--
PCB-156/157					--	--	--	--	--	--	--
PCB-158					--	--	--	--	--	--	--
PCB-159					--	--	--	--	--	--	--
PCB-160					--	--	--	--	--	--	--
PCB-161					--	--	--	--	--	--	--
PCB-162					--	--	--	--	--	--	--
PCB-164					--	--	--	--	--	--	--
PCB-165					--	--	--	--	--	--	--
PCB-167					--	--	--	--	--	--	--
PCB-169					--	--	--	--	--	--	--
PCB-170					--	--	--	--	--	--	--
PCB-171/173					--	--	--	--	--	--	--
PCB-172					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-14-16-130919	JW-GC1-18-20-130919	JW-GC1-20-22-130919	JW-GC1-22-24-130919	JW-GC1-26-28-130919	JW-GC1-30-32-130919	JW-GC1-32-34-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					14 - 16 cm	18 - 20 cm	20 - 22 cm	22 - 24 cm	26 - 28 cm	30 - 32 cm	32 - 34 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte											
PCB-174					--	--	--	--	--	--	--
PCB-175					--	--	--	--	--	--	--
PCB-176					--	--	--	--	--	--	--
PCB-177					--	--	--	--	--	--	--
PCB-178					--	--	--	--	--	--	--
PCB-179					--	--	--	--	--	--	--
PCB-180/193					--	--	--	--	--	--	--
PCB-181					--	--	--	--	--	--	--
PCB-182					--	--	--	--	--	--	--
PCB-183					--	--	--	--	--	--	--
PCB-184					--	--	--	--	--	--	--
PCB-185					--	--	--	--	--	--	--
PCB-186					--	--	--	--	--	--	--
PCB-187					--	--	--	--	--	--	--
PCB-188					--	--	--	--	--	--	--
PCB-189					--	--	--	--	--	--	--
PCB-190					--	--	--	--	--	--	--
PCB-191					--	--	--	--	--	--	--
PCB-192					--	--	--	--	--	--	--
PCB-194					--	--	--	--	--	--	--
PCB-195					--	--	--	--	--	--	--
PCB-196					--	--	--	--	--	--	--
PCB-197					--	--	--	--	--	--	--
PCB-198/199					--	--	--	--	--	--	--
PCB-200					--	--	--	--	--	--	--
PCB-201					--	--	--	--	--	--	--
PCB-202					--	--	--	--	--	--	--
PCB-203					--	--	--	--	--	--	--
PCB-204					--	--	--	--	--	--	--
PCB-205					--	--	--	--	--	--	--
PCB-206					--	--	--	--	--	--	--
PCB-207					--	--	--	--	--	--	--
PCB-208					--	--	--	--	--	--	--
PCB-209					--	--	--	--	--	--	--
Total PCB Congener (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-14-16-130919	JW-GC1-18-20-130919	JW-GC1-20-22-130919	JW-GC1-22-24-130919	JW-GC1-26-28-130919	JW-GC1-30-32-130919	JW-GC1-32-34-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					14 - 16 cm	18 - 20 cm	20 - 22 cm	22 - 24 cm	26 - 28 cm	30 - 32 cm	32 - 34 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte											
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
Radionuclides (pci/g)											
Cesium 137					0.04688 U	0.04196 U	--	0.02341 U	0.02463 U	0.03747 U	--
Lead 210					**0.19**	--	**0.108**	--	**0.289**	--	**0.27**
Dioxin Furans and PCB Congeners (mg/kg-OC)											
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	--	--	--	--
Dioxin Furans and PCB Congeners (ng/kg)											
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-34-36-130919	JW-GC1-38-40-130919	JW-GC1-42-44-130919	JW-GC1-44-46-130919	JW-GC1-46-48-130919	JW-GC1-50-52-130919	JW-GC1-54-56-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					34 - 36 cm	38 - 40 cm	42 - 44 cm	44 - 46 cm	46 - 48 cm	50 - 52 cm	54 - 56 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y					372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
Conventional Parameters (pct)											
Total organic carbon					--	--	--	--	--	--	--
Moisture, percent					**19.76**	**20.77**	**20.59**	**20.11**	**20.43**	**20.86**	**20.86**
Total Solids					--	--	--	--	--	--	--
Grain Size (pct)											
Gravel					--	--	--	--	--	--	--
Sand, very coarse					--	--	--	--	--	--	--
Sand, coarse					--	--	--	--	--	--	--
Sand, medium					--	--	--	--	--	--	--
Sand, fine					--	--	--	--	--	--	--
Sand, very fine					--	--	--	--	--	--	--
Silt, coarse					--	--	--	--	--	--	--
Silt, medium					--	--	--	--	--	--	--
Silt, fine					--	--	--	--	--	--	--
Silt, very fine					--	--	--	--	--	--	--
Clay, coarse					--	--	--	--	--	--	--
Clay, medium					--	--	--	--	--	--	--
Clay, fine					--	--	--	--	--	--	--
Semivolatile Organics (mg/kg-OC)											
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--	--
Semivolatile Organics (µg/kg)											
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-34-36-130919	JW-GC1-38-40-130919	JW-GC1-42-44-130919	JW-GC1-44-46-130919	JW-GC1-46-48-130919	JW-GC1-50-52-130919	JW-GC1-54-56-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					34 - 36 cm	38 - 40 cm	42 - 44 cm	44 - 46 cm	46 - 48 cm	50 - 52 cm	54 - 56 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte											
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)											
2-Methylnaphthalene	38	64			--	--	--	--	--	--	--
Acenaphthene	16	57			--	--	--	--	--	--	--
Acenaphthylene	66	66			--	--	--	--	--	--	--
Anthracene	220	1200			--	--	--	--	--	--	--
Benzo(a)anthracene	110	270			--	--	--	--	--	--	--
Benzo(a)pyrene	99	210			--	--	--	--	--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	--	--
Chrysene	110	460			--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	--	--
Dibenzofuran	15	58			--	--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	--	--
Fluorene	23	79			--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	--	--
Naphthalene	99	170			--	--	--	--	--	--	--
Phenanthrene	100	480			--	--	--	--	--	--	--
Pyrene	1000	1400			--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)											
2-Methylnaphthalene			670	670	--	--	--	--	--	--	--
Acenaphthene			500	500	--	--	--	--	--	--	--
Acenaphthylene			1300	1300	--	--	--	--	--	--	--
Anthracene			960	960	--	--	--	--	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--	--	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--	--	--	--	--
Benzo(b,j,k)fluoranthenes					--	--	--	--	--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	--	--
Chrysene			1400	2800	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	--	--
Dibenzofuran			540	540	--	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-34-36-130919	JW-GC1-38-40-130919	JW-GC1-42-44-130919	JW-GC1-44-46-130919	JW-GC1-46-48-130919	JW-GC1-50-52-130919	JW-GC1-54-56-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					34 - 36 cm	38 - 40 cm	42 - 44 cm	44 - 46 cm	46 - 48 cm	50 - 52 cm	54 - 56 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y					372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
Fluorene			540	540	--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	--	--
Naphthalene			2100	2100	--	--	--	--	--	--	--
Phenanthrene			1500	1500	--	--	--	--	--	--	--
Pyrene			2600	3300	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	--	--
Dioxin Furans (mg/kg-OC)											
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
Dioxin Furans (ng/kg)											
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					--	--	--	--	--	--	--
Total Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	--	--	--
Total Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	--	--	--
Total Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
Total Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					--	--	--	--	--	--	--
Total Tetrachlorodibenzofuran (TCDF)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-34-36-130919	JW-GC1-38-40-130919	JW-GC1-42-44-130919	JW-GC1-44-46-130919	JW-GC1-46-48-130919	JW-GC1-50-52-130919	JW-GC1-54-56-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					34 - 36 cm	38 - 40 cm	42 - 44 cm	44 - 46 cm	46 - 48 cm	50 - 52 cm	54 - 56 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y					372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII							
Total Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--
Total Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
Total Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
PCB Aroclors (mg/kg-OC)											
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--	--
PCB Aroclors (µg/kg)											
Aroclor 1016					--	--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--	--
PCB Congeners (mg/kg-OC)											
Total PCB Congener (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener (U = 0)	12	65			--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
PCB Congeners (ng/kg)											
PCB-001					--	--	--	--	--	--	--
PCB-002					--	--	--	--	--	--	--
PCB-003					--	--	--	--	--	--	--
PCB-004					--	--	--	--	--	--	--
PCB-005					--	--	--	--	--	--	--
PCB-006					--	--	--	--	--	--	--
PCB-007					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-34-36-130919	JW-GC1-38-40-130919	JW-GC1-42-44-130919	JW-GC1-44-46-130919	JW-GC1-46-48-130919	JW-GC1-50-52-130919	JW-GC1-54-56-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					34 - 36 cm	38 - 40 cm	42 - 44 cm	44 - 46 cm	46 - 48 cm	50 - 52 cm	54 - 56 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y					372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
PCB-008					--	--	--	--	--	--	--
PCB-009					--	--	--	--	--	--	--
PCB-010					--	--	--	--	--	--	--
PCB-011					--	--	--	--	--	--	--
PCB-012/013					--	--	--	--	--	--	--
PCB-014					--	--	--	--	--	--	--
PCB-015					--	--	--	--	--	--	--
PCB-016					--	--	--	--	--	--	--
PCB-017					--	--	--	--	--	--	--
PCB-018/030					--	--	--	--	--	--	--
PCB-019					--	--	--	--	--	--	--
PCB-020/028					--	--	--	--	--	--	--
PCB-021/033					--	--	--	--	--	--	--
PCB-022					--	--	--	--	--	--	--
PCB-023					--	--	--	--	--	--	--
PCB-024					--	--	--	--	--	--	--
PCB-025					--	--	--	--	--	--	--
PCB-026/029					--	--	--	--	--	--	--
PCB-027					--	--	--	--	--	--	--
PCB-031					--	--	--	--	--	--	--
PCB-032					--	--	--	--	--	--	--
PCB-034					--	--	--	--	--	--	--
PCB-035					--	--	--	--	--	--	--
PCB-036					--	--	--	--	--	--	--
PCB-037					--	--	--	--	--	--	--
PCB-038					--	--	--	--	--	--	--
PCB-039					--	--	--	--	--	--	--
PCB-040/071					--	--	--	--	--	--	--
PCB-041					--	--	--	--	--	--	--
PCB-042					--	--	--	--	--	--	--
PCB-043					--	--	--	--	--	--	--
PCB-044/047/065					--	--	--	--	--	--	--
PCB-045					--	--	--	--	--	--	--
PCB-046					--	--	--	--	--	--	--
PCB-048					--	--	--	--	--	--	--
PCB-049/069					--	--	--	--	--	--	--
PCB-050/053					--	--	--	--	--	--	--
PCB-051					--	--	--	--	--	--	--
PCB-052					--	--	--	--	--	--	--
PCB-054					--	--	--	--	--	--	--
PCB-055					--	--	--	--	--	--	--
PCB-056					--	--	--	--	--	--	--
PCB-057					--	--	--	--	--	--	--
PCB-058					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-34-36-130919	JW-GC1-38-40-130919	JW-GC1-42-44-130919	JW-GC1-44-46-130919	JW-GC1-46-48-130919	JW-GC1-50-52-130919	JW-GC1-54-56-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					34 - 36 cm	38 - 40 cm	42 - 44 cm	44 - 46 cm	46 - 48 cm	50 - 52 cm	54 - 56 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte											
PCB-059/062/075					--	--	--	--	--	--	--
PCB-060					--	--	--	--	--	--	--
PCB-061/070/074/076					--	--	--	--	--	--	--
PCB-063					--	--	--	--	--	--	--
PCB-064					--	--	--	--	--	--	--
PCB-066					--	--	--	--	--	--	--
PCB-067					--	--	--	--	--	--	--
PCB-068					--	--	--	--	--	--	--
PCB-072					--	--	--	--	--	--	--
PCB-073					--	--	--	--	--	--	--
PCB-077					--	--	--	--	--	--	--
PCB-078					--	--	--	--	--	--	--
PCB-079					--	--	--	--	--	--	--
PCB-080					--	--	--	--	--	--	--
PCB-081					--	--	--	--	--	--	--
PCB-082					--	--	--	--	--	--	--
PCB-083					--	--	--	--	--	--	--
PCB-084					--	--	--	--	--	--	--
PCB-085/116					--	--	--	--	--	--	--
PCB-086/087/097/108/119/125					--	--	--	--	--	--	--
PCB-088					--	--	--	--	--	--	--
PCB-089					--	--	--	--	--	--	--
PCB-090/101/113					--	--	--	--	--	--	--
PCB-091					--	--	--	--	--	--	--
PCB-092					--	--	--	--	--	--	--
PCB-093/100					--	--	--	--	--	--	--
PCB-094					--	--	--	--	--	--	--
PCB-095					--	--	--	--	--	--	--
PCB-096					--	--	--	--	--	--	--
PCB-098					--	--	--	--	--	--	--
PCB-099					--	--	--	--	--	--	--
PCB-102					--	--	--	--	--	--	--
PCB-103					--	--	--	--	--	--	--
PCB-104					--	--	--	--	--	--	--
PCB-105					--	--	--	--	--	--	--
PCB-106					--	--	--	--	--	--	--
PCB-107/124					--	--	--	--	--	--	--
PCB-109					--	--	--	--	--	--	--
PCB-110					--	--	--	--	--	--	--
PCB-111					--	--	--	--	--	--	--
PCB-112					--	--	--	--	--	--	--
PCB-114					--	--	--	--	--	--	--
PCB-115					--	--	--	--	--	--	--
PCB-117					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-34-36-130919	JW-GC1-38-40-130919	JW-GC1-42-44-130919	JW-GC1-44-46-130919	JW-GC1-46-48-130919	JW-GC1-50-52-130919	JW-GC1-54-56-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					34 - 36 cm	38 - 40 cm	42 - 44 cm	44 - 46 cm	46 - 48 cm	50 - 52 cm	54 - 56 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte											
PCB-118					--	--	--	--	--	--	--
PCB-120					--	--	--	--	--	--	--
PCB-121					--	--	--	--	--	--	--
PCB-122					--	--	--	--	--	--	--
PCB-123					--	--	--	--	--	--	--
PCB-126					--	--	--	--	--	--	--
PCB-127					--	--	--	--	--	--	--
PCB-128/166					--	--	--	--	--	--	--
PCB-129/138/163					--	--	--	--	--	--	--
PCB-130					--	--	--	--	--	--	--
PCB-131					--	--	--	--	--	--	--
PCB-132					--	--	--	--	--	--	--
PCB-133					--	--	--	--	--	--	--
PCB-134					--	--	--	--	--	--	--
PCB-135/151					--	--	--	--	--	--	--
PCB-136					--	--	--	--	--	--	--
PCB-137					--	--	--	--	--	--	--
PCB-139/140					--	--	--	--	--	--	--
PCB-141					--	--	--	--	--	--	--
PCB-142					--	--	--	--	--	--	--
PCB-143					--	--	--	--	--	--	--
PCB-144					--	--	--	--	--	--	--
PCB-145					--	--	--	--	--	--	--
PCB-146					--	--	--	--	--	--	--
PCB-147/149					--	--	--	--	--	--	--
PCB-148					--	--	--	--	--	--	--
PCB-150					--	--	--	--	--	--	--
PCB-152					--	--	--	--	--	--	--
PCB-153/168					--	--	--	--	--	--	--
PCB-154					--	--	--	--	--	--	--
PCB-155					--	--	--	--	--	--	--
PCB-156/157					--	--	--	--	--	--	--
PCB-158					--	--	--	--	--	--	--
PCB-159					--	--	--	--	--	--	--
PCB-160					--	--	--	--	--	--	--
PCB-161					--	--	--	--	--	--	--
PCB-162					--	--	--	--	--	--	--
PCB-164					--	--	--	--	--	--	--
PCB-165					--	--	--	--	--	--	--
PCB-167					--	--	--	--	--	--	--
PCB-169					--	--	--	--	--	--	--
PCB-170					--	--	--	--	--	--	--
PCB-171/173					--	--	--	--	--	--	--
PCB-172					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-34-36-130919	JW-GC1-38-40-130919	JW-GC1-42-44-130919	JW-GC1-44-46-130919	JW-GC1-46-48-130919	JW-GC1-50-52-130919	JW-GC1-54-56-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					34 - 36 cm	38 - 40 cm	42 - 44 cm	44 - 46 cm	46 - 48 cm	50 - 52 cm	54 - 56 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y					372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII							
PCB-174					--	--	--	--	--	--	--
PCB-175					--	--	--	--	--	--	--
PCB-176					--	--	--	--	--	--	--
PCB-177					--	--	--	--	--	--	--
PCB-178					--	--	--	--	--	--	--
PCB-179					--	--	--	--	--	--	--
PCB-180/193					--	--	--	--	--	--	--
PCB-181					--	--	--	--	--	--	--
PCB-182					--	--	--	--	--	--	--
PCB-183					--	--	--	--	--	--	--
PCB-184					--	--	--	--	--	--	--
PCB-185					--	--	--	--	--	--	--
PCB-186					--	--	--	--	--	--	--
PCB-187					--	--	--	--	--	--	--
PCB-188					--	--	--	--	--	--	--
PCB-189					--	--	--	--	--	--	--
PCB-190					--	--	--	--	--	--	--
PCB-191					--	--	--	--	--	--	--
PCB-192					--	--	--	--	--	--	--
PCB-194					--	--	--	--	--	--	--
PCB-195					--	--	--	--	--	--	--
PCB-196					--	--	--	--	--	--	--
PCB-197					--	--	--	--	--	--	--
PCB-198/199					--	--	--	--	--	--	--
PCB-200					--	--	--	--	--	--	--
PCB-201					--	--	--	--	--	--	--
PCB-202					--	--	--	--	--	--	--
PCB-203					--	--	--	--	--	--	--
PCB-204					--	--	--	--	--	--	--
PCB-205					--	--	--	--	--	--	--
PCB-206					--	--	--	--	--	--	--
PCB-207					--	--	--	--	--	--	--
PCB-208					--	--	--	--	--	--	--
PCB-209					--	--	--	--	--	--	--
Total PCB Congener (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-34-36-130919	JW-GC1-38-40-130919	JW-GC1-42-44-130919	JW-GC1-44-46-130919	JW-GC1-46-48-130919	JW-GC1-50-52-130919	JW-GC1-54-56-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					34 - 36 cm	38 - 40 cm	42 - 44 cm	44 - 46 cm	46 - 48 cm	50 - 52 cm	54 - 56 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte											
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
Radionuclides (pci/g)											
Cesium 137					0.01868 U	0.01838 U	0.02907 U	--	0.02247 U	0.07561 U	0.05942 U
Lead 210					--	**0.33**	--	**0.159**	--	**0.199**	--
Dioxin Furans and PCB Congeners (mg/kg-OC)											
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	--	--	--	--
Dioxin Furans and PCB Congeners (ng/kg)											
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-56-58-130919	JW-GC1-58-60-130919	JW-GC1-62-64-130919	JW-GC1-68-70-130919	JW-GC1-74-76-130919	JW-GC1-80-82-130919	JW-GC1-84-86-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					56 - 58 cm	58 - 60 cm	62 - 64 cm	68 - 70 cm	74 - 76 cm	80 - 82 cm	84 - 86 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y					372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
Conventional Parameters (pct)											
Total organic carbon					--	--	--	--	--	--	--
Moisture, percent					**20.93**	**21.25**	**21.63**	**20.35**	**20.95**	**21.88**	**22**
Total Solids					--	--	--	--	--	--	--
Grain Size (pct)											
Gravel					--	--	--	--	--	--	--
Sand, very coarse					--	--	--	--	--	--	--
Sand, coarse					--	--	--	--	--	--	--
Sand, medium					--	--	--	--	--	--	--
Sand, fine					--	--	--	--	--	--	--
Sand, very fine					--	--	--	--	--	--	--
Silt, coarse					--	--	--	--	--	--	--
Silt, medium					--	--	--	--	--	--	--
Silt, fine					--	--	--	--	--	--	--
Silt, very fine					--	--	--	--	--	--	--
Clay, coarse					--	--	--	--	--	--	--
Clay, medium					--	--	--	--	--	--	--
Clay, fine					--	--	--	--	--	--	--
Semivolatile Organics (mg/kg-OC)											
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--	--
Semivolatile Organics (µg/kg)											
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-56-58-130919	JW-GC1-58-60-130919	JW-GC1-62-64-130919	JW-GC1-68-70-130919	JW-GC1-74-76-130919	JW-GC1-80-82-130919	JW-GC1-84-86-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					56 - 58 cm	58 - 60 cm	62 - 64 cm	68 - 70 cm	74 - 76 cm	80 - 82 cm	84 - 86 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y	SMS_Marine_	SMS_Marine_	AET_Marine_	AET_Marine_	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SCO_SCUMII	CSL_SCUMII	SCO_SCUMII	CSL_SCUMII							
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)											
2-Methylnaphthalene	38	64			--	--	--	--	--	--	--
Acenaphthene	16	57			--	--	--	--	--	--	--
Acenaphthylene	66	66			--	--	--	--	--	--	--
Anthracene	220	1200			--	--	--	--	--	--	--
Benzo(a)anthracene	110	270			--	--	--	--	--	--	--
Benzo(a)pyrene	99	210			--	--	--	--	--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	--	--
Chrysene	110	460			--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	--	--
Dibenzofuran	15	58			--	--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	--	--
Fluorene	23	79			--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	--	--
Naphthalene	99	170			--	--	--	--	--	--	--
Phenanthrene	100	480			--	--	--	--	--	--	--
Pyrene	1000	1400			--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)											
2-Methylnaphthalene			670	670	--	--	--	--	--	--	--
Acenaphthene			500	500	--	--	--	--	--	--	--
Acenaphthylene			1300	1300	--	--	--	--	--	--	--
Anthracene			960	960	--	--	--	--	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--	--	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--	--	--	--	--
Benzo(b,j,k)fluoranthenes					--	--	--	--	--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	--	--
Chrysene			1400	2800	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	--	--
Dibenzofuran			540	540	--	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**
Location ID					**JW-GC1**	**JW-GC1**	**JW-GC1**	**JW-GC1**	**JW-GC1**	**JW-GC1**	**JW-GC1**
Sample ID					**JW-GC1-56-58-130919**	**JW-GC1-58-60-130919**	**JW-GC1-62-64-130919**	**JW-GC1-68-70-130919**	**JW-GC1-74-76-130919**	**JW-GC1-80-82-130919**	**JW-GC1-84-86-130919**
Sample Date					**9/19/2013**	**9/19/2013**	**9/19/2013**	**9/19/2013**	**9/19/2013**	**9/19/2013**	**9/19/2013**
Depth					**56 - 58 cm**	**58 - 60 cm**	**62 - 64 cm**	**68 - 70 cm**	**74 - 76 cm**	**80 - 82 cm**	**84 - 86 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302749.66**	**1302749.66**	**1302749.66**	**1302749.66**	**1302749.66**	**1302749.66**	**1302749.66**
Y					**372434.8399**	**372434.8399**	**372434.8399**	**372434.8399**	**372434.8399**	**372434.8399**	**372434.8399**
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**							
Fluorene			540	540	--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	--	--
Naphthalene			2100	2100	--	--	--	--	--	--	--
Phenanthrene			1500	1500	--	--	--	--	--	--	--
Pyrene			2600	3300	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	--	--
Dioxin Furans (mg/kg-OC)											
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
Dioxin Furans (ng/kg)											
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					--	--	--	--	--	--	--
Total Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	--	--	--
Total Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	--	--	--
Total Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
Total Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					--	--	--	--	--	--	--
Total Tetrachlorodibenzofuran (TCDF)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-56-58-130919	JW-GC1-58-60-130919	JW-GC1-62-64-130919	JW-GC1-68-70-130919	JW-GC1-74-76-130919	JW-GC1-80-82-130919	JW-GC1-84-86-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					56 - 58 cm	58 - 60 cm	62 - 64 cm	68 - 70 cm	74 - 76 cm	80 - 82 cm	84 - 86 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y					372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII							
Total Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--
Total Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
Total Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
PCB Aroclors (mg/kg-OC)											
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--	--
PCB Aroclors (µg/kg)											
Aroclor 1016					--	--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--	--
PCB Congeners (mg/kg-OC)											
Total PCB Congener (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener (U = 0)	12	65			--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
PCB Congeners (ng/kg)											
PCB-001					--	--	--	--	--	--	--
PCB-002					--	--	--	--	--	--	--
PCB-003					--	--	--	--	--	--	--
PCB-004					--	--	--	--	--	--	--
PCB-005					--	--	--	--	--	--	--
PCB-006					--	--	--	--	--	--	--
PCB-007					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-56-58-130919	JW-GC1-58-60-130919	JW-GC1-62-64-130919	JW-GC1-68-70-130919	JW-GC1-74-76-130919	JW-GC1-80-82-130919	JW-GC1-84-86-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					56 - 58 cm	58 - 60 cm	62 - 64 cm	68 - 70 cm	74 - 76 cm	80 - 82 cm	84 - 86 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte											
PCB-008					--	--	--	--	--	--	--
PCB-009					--	--	--	--	--	--	--
PCB-010					--	--	--	--	--	--	--
PCB-011					--	--	--	--	--	--	--
PCB-012/013					--	--	--	--	--	--	--
PCB-014					--	--	--	--	--	--	--
PCB-015					--	--	--	--	--	--	--
PCB-016					--	--	--	--	--	--	--
PCB-017					--	--	--	--	--	--	--
PCB-018/030					--	--	--	--	--	--	--
PCB-019					--	--	--	--	--	--	--
PCB-020/028					--	--	--	--	--	--	--
PCB-021/033					--	--	--	--	--	--	--
PCB-022					--	--	--	--	--	--	--
PCB-023					--	--	--	--	--	--	--
PCB-024					--	--	--	--	--	--	--
PCB-025					--	--	--	--	--	--	--
PCB-026/029					--	--	--	--	--	--	--
PCB-027					--	--	--	--	--	--	--
PCB-031					--	--	--	--	--	--	--
PCB-032					--	--	--	--	--	--	--
PCB-034					--	--	--	--	--	--	--
PCB-035					--	--	--	--	--	--	--
PCB-036					--	--	--	--	--	--	--
PCB-037					--	--	--	--	--	--	--
PCB-038					--	--	--	--	--	--	--
PCB-039					--	--	--	--	--	--	--
PCB-040/071					--	--	--	--	--	--	--
PCB-041					--	--	--	--	--	--	--
PCB-042					--	--	--	--	--	--	--
PCB-043					--	--	--	--	--	--	--
PCB-044/047/065					--	--	--	--	--	--	--
PCB-045					--	--	--	--	--	--	--
PCB-046					--	--	--	--	--	--	--
PCB-048					--	--	--	--	--	--	--
PCB-049/069					--	--	--	--	--	--	--
PCB-050/053					--	--	--	--	--	--	--
PCB-051					--	--	--	--	--	--	--
PCB-052					--	--	--	--	--	--	--
PCB-054					--	--	--	--	--	--	--
PCB-055					--	--	--	--	--	--	--
PCB-056					--	--	--	--	--	--	--
PCB-057					--	--	--	--	--	--	--
PCB-058					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-56-58-130919	JW-GC1-58-60-130919	JW-GC1-62-64-130919	JW-GC1-68-70-130919	JW-GC1-74-76-130919	JW-GC1-80-82-130919	JW-GC1-84-86-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					56 - 58 cm	58 - 60 cm	62 - 64 cm	68 - 70 cm	74 - 76 cm	80 - 82 cm	84 - 86 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte											
PCB-059/062/075					--	--	--	--	--	--	--
PCB-060					--	--	--	--	--	--	--
PCB-061/070/074/076					--	--	--	--	--	--	--
PCB-063					--	--	--	--	--	--	--
PCB-064					--	--	--	--	--	--	--
PCB-066					--	--	--	--	--	--	--
PCB-067					--	--	--	--	--	--	--
PCB-068					--	--	--	--	--	--	--
PCB-072					--	--	--	--	--	--	--
PCB-073					--	--	--	--	--	--	--
PCB-077					--	--	--	--	--	--	--
PCB-078					--	--	--	--	--	--	--
PCB-079					--	--	--	--	--	--	--
PCB-080					--	--	--	--	--	--	--
PCB-081					--	--	--	--	--	--	--
PCB-082					--	--	--	--	--	--	--
PCB-083					--	--	--	--	--	--	--
PCB-084					--	--	--	--	--	--	--
PCB-085/116					--	--	--	--	--	--	--
PCB-086/087/097/108/119/125					--	--	--	--	--	--	--
PCB-088					--	--	--	--	--	--	--
PCB-089					--	--	--	--	--	--	--
PCB-090/101/113					--	--	--	--	--	--	--
PCB-091					--	--	--	--	--	--	--
PCB-092					--	--	--	--	--	--	--
PCB-093/100					--	--	--	--	--	--	--
PCB-094					--	--	--	--	--	--	--
PCB-095					--	--	--	--	--	--	--
PCB-096					--	--	--	--	--	--	--
PCB-098					--	--	--	--	--	--	--
PCB-099					--	--	--	--	--	--	--
PCB-102					--	--	--	--	--	--	--
PCB-103					--	--	--	--	--	--	--
PCB-104					--	--	--	--	--	--	--
PCB-105					--	--	--	--	--	--	--
PCB-106					--	--	--	--	--	--	--
PCB-107/124					--	--	--	--	--	--	--
PCB-109					--	--	--	--	--	--	--
PCB-110					--	--	--	--	--	--	--
PCB-111					--	--	--	--	--	--	--
PCB-112					--	--	--	--	--	--	--
PCB-114					--	--	--	--	--	--	--
PCB-115					--	--	--	--	--	--	--
PCB-117					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-56-58-130919	JW-GC1-58-60-130919	JW-GC1-62-64-130919	JW-GC1-68-70-130919	JW-GC1-74-76-130919	JW-GC1-80-82-130919	JW-GC1-84-86-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					56 - 58 cm	58 - 60 cm	62 - 64 cm	68 - 70 cm	74 - 76 cm	80 - 82 cm	84 - 86 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
PCB-118					--	--	--	--	--	--	--
PCB-120					--	--	--	--	--	--	--
PCB-121					--	--	--	--	--	--	--
PCB-122					--	--	--	--	--	--	--
PCB-123					--	--	--	--	--	--	--
PCB-126					--	--	--	--	--	--	--
PCB-127					--	--	--	--	--	--	--
PCB-128/166					--	--	--	--	--	--	--
PCB-129/138/163					--	--	--	--	--	--	--
PCB-130					--	--	--	--	--	--	--
PCB-131					--	--	--	--	--	--	--
PCB-132					--	--	--	--	--	--	--
PCB-133					--	--	--	--	--	--	--
PCB-134					--	--	--	--	--	--	--
PCB-135/151					--	--	--	--	--	--	--
PCB-136					--	--	--	--	--	--	--
PCB-137					--	--	--	--	--	--	--
PCB-139/140					--	--	--	--	--	--	--
PCB-141					--	--	--	--	--	--	--
PCB-142					--	--	--	--	--	--	--
PCB-143					--	--	--	--	--	--	--
PCB-144					--	--	--	--	--	--	--
PCB-145					--	--	--	--	--	--	--
PCB-146					--	--	--	--	--	--	--
PCB-147/149					--	--	--	--	--	--	--
PCB-148					--	--	--	--	--	--	--
PCB-150					--	--	--	--	--	--	--
PCB-152					--	--	--	--	--	--	--
PCB-153/168					--	--	--	--	--	--	--
PCB-154					--	--	--	--	--	--	--
PCB-155					--	--	--	--	--	--	--
PCB-156/157					--	--	--	--	--	--	--
PCB-158					--	--	--	--	--	--	--
PCB-159					--	--	--	--	--	--	--
PCB-160					--	--	--	--	--	--	--
PCB-161					--	--	--	--	--	--	--
PCB-162					--	--	--	--	--	--	--
PCB-164					--	--	--	--	--	--	--
PCB-165					--	--	--	--	--	--	--
PCB-167					--	--	--	--	--	--	--
PCB-169					--	--	--	--	--	--	--
PCB-170					--	--	--	--	--	--	--
PCB-171/173					--	--	--	--	--	--	--
PCB-172					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	JeldWenSed2013 JW-GC1 JW-GC1-56-58-130919 9/19/2013 56 - 58 cm N SE 1302749.66 372434.8399	JeldWenSed2013 JW-GC1 JW-GC1-58-60-130919 9/19/2013 58 - 60 cm N SE 1302749.66 372434.8399	JeldWenSed2013 JW-GC1 JW-GC1-62-64-130919 9/19/2013 62 - 64 cm N SE 1302749.66 372434.8399	JeldWenSed2013 JW-GC1 JW-GC1-68-70-130919 9/19/2013 68 - 70 cm N SE 1302749.66 372434.8399	JeldWenSed2013 JW-GC1 JW-GC1-74-76-130919 9/19/2013 74 - 76 cm N SE 1302749.66 372434.8399	JeldWenSed2013 JW-GC1 JW-GC1-80-82-130919 9/19/2013 80 - 82 cm N SE 1302749.66 372434.8399	JeldWenSed2013 JW-GC1 JW-GC1-84-86-130919 9/19/2013 84 - 86 cm N SE 1302749.66 372434.8399
PCB-174					--	--	--	--	--	--	--
PCB-175					--	--	--	--	--	--	--
PCB-176					--	--	--	--	--	--	--
PCB-177					--	--	--	--	--	--	--
PCB-178					--	--	--	--	--	--	--
PCB-179					--	--	--	--	--	--	--
PCB-180/193					--	--	--	--	--	--	--
PCB-181					--	--	--	--	--	--	--
PCB-182					--	--	--	--	--	--	--
PCB-183					--	--	--	--	--	--	--
PCB-184					--	--	--	--	--	--	--
PCB-185					--	--	--	--	--	--	--
PCB-186					--	--	--	--	--	--	--
PCB-187					--	--	--	--	--	--	--
PCB-188					--	--	--	--	--	--	--
PCB-189					--	--	--	--	--	--	--
PCB-190					--	--	--	--	--	--	--
PCB-191					--	--	--	--	--	--	--
PCB-192					--	--	--	--	--	--	--
PCB-194					--	--	--	--	--	--	--
PCB-195					--	--	--	--	--	--	--
PCB-196					--	--	--	--	--	--	--
PCB-197					--	--	--	--	--	--	--
PCB-198/199					--	--	--	--	--	--	--
PCB-200					--	--	--	--	--	--	--
PCB-201					--	--	--	--	--	--	--
PCB-202					--	--	--	--	--	--	--
PCB-203					--	--	--	--	--	--	--
PCB-204					--	--	--	--	--	--	--
PCB-205					--	--	--	--	--	--	--
PCB-206					--	--	--	--	--	--	--
PCB-207					--	--	--	--	--	--	--
PCB-208					--	--	--	--	--	--	--
PCB-209					--	--	--	--	--	--	--
Total PCB Congener (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1	JW-GC1
Sample ID					JW-GC1-56-58-130919	JW-GC1-58-60-130919	JW-GC1-62-64-130919	JW-GC1-68-70-130919	JW-GC1-74-76-130919	JW-GC1-80-82-130919	JW-GC1-84-86-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					56 - 58 cm	58 - 60 cm	62 - 64 cm	68 - 70 cm	74 - 76 cm	80 - 82 cm	84 - 86 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66	1302749.66
Y					372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399	372434.8399
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
Radionuclides (pci/g)											
Cesium 137					--	0.02808 U	--	--	--	--	--
Lead 210					**0.205**	--	**0.293**	**0.179**	**0.233**	**0.359**	**0.249**
Dioxin Furans and PCB Congeners (mg/kg-OC)											
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	--	--	--	--
Dioxin Furans and PCB Congeners (ng/kg)											
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-02-04-130919	JW-GC2-06-08-130919	JW-GC2-08-10-130919	JW-GC2-10-12-130919	JW-GC2-14-16-130919	JW-GC2-18-20-130919	JW-GC2-20-22-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					2 - 4 cm	6 - 8 cm	8 - 10 cm	10 - 12 cm	14 - 16 cm	18 - 20 cm	20 - 22 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y					372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
Conventional Parameters (pct)											
Total organic carbon					--	--	--	--	--	--	--
Moisture, percent					**39.47**	**28.88**	**30.16**	**27.61**	**26.75**	**24.34**	**20.29**
Total Solids					--	--	--	--	--	--	--
Grain Size (pct)											
Gravel					--	--	--	--	--	--	--
Sand, very coarse					--	--	--	--	--	--	--
Sand, coarse					--	--	--	--	--	--	--
Sand, medium					--	--	--	--	--	--	--
Sand, fine					--	--	--	--	--	--	--
Sand, very fine					--	--	--	--	--	--	--
Silt, coarse					--	--	--	--	--	--	--
Silt, medium					--	--	--	--	--	--	--
Silt, fine					--	--	--	--	--	--	--
Silt, very fine					--	--	--	--	--	--	--
Clay, coarse					--	--	--	--	--	--	--
Clay, medium					--	--	--	--	--	--	--
Clay, fine					--	--	--	--	--	--	--
Semivolatile Organics (mg/kg-OC)											
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--	--
Semivolatile Organics (µg/kg)											
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-02-04-130919	JW-GC2-06-08-130919	JW-GC2-08-10-130919	JW-GC2-10-12-130919	JW-GC2-14-16-130919	JW-GC2-18-20-130919	JW-GC2-20-22-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					2 - 4 cm	6 - 8 cm	8 - 10 cm	10 - 12 cm	14 - 16 cm	18 - 20 cm	20 - 22 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte											
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)											
2-Methylnaphthalene	38	64			--	--	--	--	--	--	--
Acenaphthene	16	57			--	--	--	--	--	--	--
Acenaphthylene	66	66			--	--	--	--	--	--	--
Anthracene	220	1200			--	--	--	--	--	--	--
Benzo(a)anthracene	110	270			--	--	--	--	--	--	--
Benzo(a)pyrene	99	210			--	--	--	--	--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	--	--
Chrysene	110	460			--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	--	--
Dibenzofuran	15	58			--	--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	--	--
Fluorene	23	79			--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	--	--
Naphthalene	99	170			--	--	--	--	--	--	--
Phenanthrene	100	480			--	--	--	--	--	--	--
Pyrene	1000	1400			--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)											
2-Methylnaphthalene			670	670	--	--	--	--	--	--	--
Acenaphthene			500	500	--	--	--	--	--	--	--
Acenaphthylene			1300	1300	--	--	--	--	--	--	--
Anthracene			960	960	--	--	--	--	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--	--	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--	--	--	--	--
Benzo(b,j,k)fluoranthenes					--	--	--	--	--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	--	--
Chrysene			1400	2800	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	--	--
Dibenzofuran			540	540	--	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-02-04-130919	JW-GC2-06-08-130919	JW-GC2-08-10-130919	JW-GC2-10-12-130919	JW-GC2-14-16-130919	JW-GC2-18-20-130919	JW-GC2-20-22-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					2 - 4 cm	6 - 8 cm	8 - 10 cm	10 - 12 cm	14 - 16 cm	18 - 20 cm	20 - 22 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y					372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
Fluorene			540	540	--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	--	--
Naphthalene			2100	2100	--	--	--	--	--	--	--
Phenanthrene			1500	1500	--	--	--	--	--	--	--
Pyrene			2600	3300	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	--	--
Dioxin Furans (mg/kg-OC)											
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
Dioxin Furans (ng/kg)											
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					--	--	--	--	--	--	--
Total Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	--	--	--
Total Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	--	--	--
Total Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
Total Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					--	--	--	--	--	--	--
Total Tetrachlorodibenzofuran (TCDF)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**
Location ID					**JW-GC2**	**JW-GC2**	**JW-GC2**	**JW-GC2**	**JW-GC2**	**JW-GC2**	**JW-GC2**
Sample ID					**JW-GC2-02-04-130919**	**JW-GC2-06-08-130919**	**JW-GC2-08-10-130919**	**JW-GC2-10-12-130919**	**JW-GC2-14-16-130919**	**JW-GC2-18-20-130919**	**JW-GC2-20-22-130919**
Sample Date					**9/19/2013**	**9/19/2013**	**9/19/2013**	**9/19/2013**	**9/19/2013**	**9/19/2013**	**9/19/2013**
Depth					**2 - 4 cm**	**6 - 8 cm**	**8 - 10 cm**	**10 - 12 cm**	**14 - 16 cm**	**18 - 20 cm**	**20 - 22 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302604.72279**	**1302604.72279**	**1302604.72279**	**1302604.72279**	**1302604.72279**	**1302604.72279**	**1302604.72279**
Y					**372117.764091**	**372117.764091**	**372117.764091**	**372117.764091**	**372117.764091**	**372117.764091**	**372117.764091**
Analyte	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**							
Total Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--
Total Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
Total Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
PCB Aroclors (mg/kg-OC)											
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--	--
PCB Aroclors (µg/kg)											
Aroclor 1016					--	--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--	--
PCB Congeners (mg/kg-OC)											
Total PCB Congener (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener (U = 0)	12	65			--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
PCB Congeners (ng/kg)											
PCB-001					--	--	--	--	--	--	--
PCB-002					--	--	--	--	--	--	--
PCB-003					--	--	--	--	--	--	--
PCB-004					--	--	--	--	--	--	--
PCB-005					--	--	--	--	--	--	--
PCB-006					--	--	--	--	--	--	--
PCB-007					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-02-04-130919	JW-GC2-06-08-130919	JW-GC2-08-10-130919	JW-GC2-10-12-130919	JW-GC2-14-16-130919	JW-GC2-18-20-130919	JW-GC2-20-22-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					2 - 4 cm	6 - 8 cm	8 - 10 cm	10 - 12 cm	14 - 16 cm	18 - 20 cm	20 - 22 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y					372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
PCB-008					--	--	--	--	--	--	--
PCB-009					--	--	--	--	--	--	--
PCB-010					--	--	--	--	--	--	--
PCB-011					--	--	--	--	--	--	--
PCB-012/013					--	--	--	--	--	--	--
PCB-014					--	--	--	--	--	--	--
PCB-015					--	--	--	--	--	--	--
PCB-016					--	--	--	--	--	--	--
PCB-017					--	--	--	--	--	--	--
PCB-018/030					--	--	--	--	--	--	--
PCB-019					--	--	--	--	--	--	--
PCB-020/028					--	--	--	--	--	--	--
PCB-021/033					--	--	--	--	--	--	--
PCB-022					--	--	--	--	--	--	--
PCB-023					--	--	--	--	--	--	--
PCB-024					--	--	--	--	--	--	--
PCB-025					--	--	--	--	--	--	--
PCB-026/029					--	--	--	--	--	--	--
PCB-027					--	--	--	--	--	--	--
PCB-031					--	--	--	--	--	--	--
PCB-032					--	--	--	--	--	--	--
PCB-034					--	--	--	--	--	--	--
PCB-035					--	--	--	--	--	--	--
PCB-036					--	--	--	--	--	--	--
PCB-037					--	--	--	--	--	--	--
PCB-038					--	--	--	--	--	--	--
PCB-039					--	--	--	--	--	--	--
PCB-040/071					--	--	--	--	--	--	--
PCB-041					--	--	--	--	--	--	--
PCB-042					--	--	--	--	--	--	--
PCB-043					--	--	--	--	--	--	--
PCB-044/047/065					--	--	--	--	--	--	--
PCB-045					--	--	--	--	--	--	--
PCB-046					--	--	--	--	--	--	--
PCB-048					--	--	--	--	--	--	--
PCB-049/069					--	--	--	--	--	--	--
PCB-050/053					--	--	--	--	--	--	--
PCB-051					--	--	--	--	--	--	--
PCB-052					--	--	--	--	--	--	--
PCB-054					--	--	--	--	--	--	--
PCB-055					--	--	--	--	--	--	--
PCB-056					--	--	--	--	--	--	--
PCB-057					--	--	--	--	--	--	--
PCB-058					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-02-04-130919	JW-GC2-06-08-130919	JW-GC2-08-10-130919	JW-GC2-10-12-130919	JW-GC2-14-16-130919	JW-GC2-18-20-130919	JW-GC2-20-22-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					2 - 4 cm	6 - 8 cm	8 - 10 cm	10 - 12 cm	14 - 16 cm	18 - 20 cm	20 - 22 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y					372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
PCB-059/062/075					--	--	--	--	--	--	--
PCB-060					--	--	--	--	--	--	--
PCB-061/070/074/076					--	--	--	--	--	--	--
PCB-063					--	--	--	--	--	--	--
PCB-064					--	--	--	--	--	--	--
PCB-066					--	--	--	--	--	--	--
PCB-067					--	--	--	--	--	--	--
PCB-068					--	--	--	--	--	--	--
PCB-072					--	--	--	--	--	--	--
PCB-073					--	--	--	--	--	--	--
PCB-077					--	--	--	--	--	--	--
PCB-078					--	--	--	--	--	--	--
PCB-079					--	--	--	--	--	--	--
PCB-080					--	--	--	--	--	--	--
PCB-081					--	--	--	--	--	--	--
PCB-082					--	--	--	--	--	--	--
PCB-083					--	--	--	--	--	--	--
PCB-084					--	--	--	--	--	--	--
PCB-085/116					--	--	--	--	--	--	--
PCB-086/087/097/108/119/125					--	--	--	--	--	--	--
PCB-088					--	--	--	--	--	--	--
PCB-089					--	--	--	--	--	--	--
PCB-090/101/113					--	--	--	--	--	--	--
PCB-091					--	--	--	--	--	--	--
PCB-092					--	--	--	--	--	--	--
PCB-093/100					--	--	--	--	--	--	--
PCB-094					--	--	--	--	--	--	--
PCB-095					--	--	--	--	--	--	--
PCB-096					--	--	--	--	--	--	--
PCB-098					--	--	--	--	--	--	--
PCB-099					--	--	--	--	--	--	--
PCB-102					--	--	--	--	--	--	--
PCB-103					--	--	--	--	--	--	--
PCB-104					--	--	--	--	--	--	--
PCB-105					--	--	--	--	--	--	--
PCB-106					--	--	--	--	--	--	--
PCB-107/124					--	--	--	--	--	--	--
PCB-109					--	--	--	--	--	--	--
PCB-110					--	--	--	--	--	--	--
PCB-111					--	--	--	--	--	--	--
PCB-112					--	--	--	--	--	--	--
PCB-114					--	--	--	--	--	--	--
PCB-115					--	--	--	--	--	--	--
PCB-117					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-02-04-130919	JW-GC2-06-08-130919	JW-GC2-08-10-130919	JW-GC2-10-12-130919	JW-GC2-14-16-130919	JW-GC2-18-20-130919	JW-GC2-20-22-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					2 - 4 cm	6 - 8 cm	8 - 10 cm	10 - 12 cm	14 - 16 cm	18 - 20 cm	20 - 22 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y					372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
PCB-118					--	--	--	--	--	--	--
PCB-120					--	--	--	--	--	--	--
PCB-121					--	--	--	--	--	--	--
PCB-122					--	--	--	--	--	--	--
PCB-123					--	--	--	--	--	--	--
PCB-126					--	--	--	--	--	--	--
PCB-127					--	--	--	--	--	--	--
PCB-128/166					--	--	--	--	--	--	--
PCB-129/138/163					--	--	--	--	--	--	--
PCB-130					--	--	--	--	--	--	--
PCB-131					--	--	--	--	--	--	--
PCB-132					--	--	--	--	--	--	--
PCB-133					--	--	--	--	--	--	--
PCB-134					--	--	--	--	--	--	--
PCB-135/151					--	--	--	--	--	--	--
PCB-136					--	--	--	--	--	--	--
PCB-137					--	--	--	--	--	--	--
PCB-139/140					--	--	--	--	--	--	--
PCB-141					--	--	--	--	--	--	--
PCB-142					--	--	--	--	--	--	--
PCB-143					--	--	--	--	--	--	--
PCB-144					--	--	--	--	--	--	--
PCB-145					--	--	--	--	--	--	--
PCB-146					--	--	--	--	--	--	--
PCB-147/149					--	--	--	--	--	--	--
PCB-148					--	--	--	--	--	--	--
PCB-150					--	--	--	--	--	--	--
PCB-152					--	--	--	--	--	--	--
PCB-153/168					--	--	--	--	--	--	--
PCB-154					--	--	--	--	--	--	--
PCB-155					--	--	--	--	--	--	--
PCB-156/157					--	--	--	--	--	--	--
PCB-158					--	--	--	--	--	--	--
PCB-159					--	--	--	--	--	--	--
PCB-160					--	--	--	--	--	--	--
PCB-161					--	--	--	--	--	--	--
PCB-162					--	--	--	--	--	--	--
PCB-164					--	--	--	--	--	--	--
PCB-165					--	--	--	--	--	--	--
PCB-167					--	--	--	--	--	--	--
PCB-169					--	--	--	--	--	--	--
PCB-170					--	--	--	--	--	--	--
PCB-171/173					--	--	--	--	--	--	--
PCB-172					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-02-04-130919	JW-GC2-06-08-130919	JW-GC2-08-10-130919	JW-GC2-10-12-130919	JW-GC2-14-16-130919	JW-GC2-18-20-130919	JW-GC2-20-22-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					2 - 4 cm	6 - 8 cm	8 - 10 cm	10 - 12 cm	14 - 16 cm	18 - 20 cm	20 - 22 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y					372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
PCB-174					--	--	--	--	--	--	--
PCB-175					--	--	--	--	--	--	--
PCB-176					--	--	--	--	--	--	--
PCB-177					--	--	--	--	--	--	--
PCB-178					--	--	--	--	--	--	--
PCB-179					--	--	--	--	--	--	--
PCB-180/193					--	--	--	--	--	--	--
PCB-181					--	--	--	--	--	--	--
PCB-182					--	--	--	--	--	--	--
PCB-183					--	--	--	--	--	--	--
PCB-184					--	--	--	--	--	--	--
PCB-185					--	--	--	--	--	--	--
PCB-186					--	--	--	--	--	--	--
PCB-187					--	--	--	--	--	--	--
PCB-188					--	--	--	--	--	--	--
PCB-189					--	--	--	--	--	--	--
PCB-190					--	--	--	--	--	--	--
PCB-191					--	--	--	--	--	--	--
PCB-192					--	--	--	--	--	--	--
PCB-194					--	--	--	--	--	--	--
PCB-195					--	--	--	--	--	--	--
PCB-196					--	--	--	--	--	--	--
PCB-197					--	--	--	--	--	--	--
PCB-198/199					--	--	--	--	--	--	--
PCB-200					--	--	--	--	--	--	--
PCB-201					--	--	--	--	--	--	--
PCB-202					--	--	--	--	--	--	--
PCB-203					--	--	--	--	--	--	--
PCB-204					--	--	--	--	--	--	--
PCB-205					--	--	--	--	--	--	--
PCB-206					--	--	--	--	--	--	--
PCB-207					--	--	--	--	--	--	--
PCB-208					--	--	--	--	--	--	--
PCB-209					--	--	--	--	--	--	--
Total PCB Congener (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-02-04-130919	JW-GC2-06-08-130919	JW-GC2-08-10-130919	JW-GC2-10-12-130919	JW-GC2-14-16-130919	JW-GC2-18-20-130919	JW-GC2-20-22-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					2 - 4 cm	6 - 8 cm	8 - 10 cm	10 - 12 cm	14 - 16 cm	18 - 20 cm	20 - 22 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte											
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
Radionuclides (pci/g)											
Cesium 137					**0.0645**	**0.119**	--	**0.258**	**0.203**	**0.132**	--
Lead 210					**0.381**	--	**0.209**	--	**0.326**	--	**0.327**
Dioxin Furans and PCB Congeners (mg/kg-OC)											
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	--	--	--	--
Dioxin Furans and PCB Congeners (ng/kg)											
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-22-24-130919	JW-GC2-26-28-130919	JW-GC2-30-32-130919	JW-GC2-32-34-130919	JW-GC2-34-36-130919	JW-GC2-38-40-130919	JW-GC2-42-44-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					22 - 24 cm	26 - 28 cm	30 - 32 cm	32 - 34 cm	34 - 36 cm	38 - 40 cm	42 - 44 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y					372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte	**SMS_Marine_SCO_SCUMII**	**SMS_Marine_CSL_SCUMII**	**AET_Marine_SCO_SCUMII**	**AET_Marine_CSL_SCUMII**							
Conventional Parameters (pct)											
Total organic carbon					--	--	--	--	--	--	--
Moisture, percent					**23.35**	**17.87**	**20**	**18.89**	**20.08**	**19.21**	**20.24**
Total Solids					--	--	--	--	--	--	--
Grain Size (pct)											
Gravel					--	--	--	--	--	--	--
Sand, very coarse					--	--	--	--	--	--	--
Sand, coarse					--	--	--	--	--	--	--
Sand, medium					--	--	--	--	--	--	--
Sand, fine					--	--	--	--	--	--	--
Sand, very fine					--	--	--	--	--	--	--
Silt, coarse					--	--	--	--	--	--	--
Silt, medium					--	--	--	--	--	--	--
Silt, fine					--	--	--	--	--	--	--
Silt, very fine					--	--	--	--	--	--	--
Clay, coarse					--	--	--	--	--	--	--
Clay, medium					--	--	--	--	--	--	--
Clay, fine					--	--	--	--	--	--	--
Semivolatile Organics (mg/kg-OC)											
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--	--
Semivolatile Organics (µg/kg)											
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**
Location ID					**JW-GC2**	**JW-GC2**	**JW-GC2**	**JW-GC2**	**JW-GC2**	**JW-GC2**	**JW-GC2**
Sample ID					**JW-GC2-22-24-130919**	**JW-GC2-26-28-130919**	**JW-GC2-30-32-130919**	**JW-GC2-32-34-130919**	**JW-GC2-34-36-130919**	**JW-GC2-38-40-130919**	**JW-GC2-42-44-130919**
Sample Date					**9/19/2013**	**9/19/2013**	**9/19/2013**	**9/19/2013**	**9/19/2013**	**9/19/2013**	**9/19/2013**
Depth					**22 - 24 cm**	**26 - 28 cm**	**30 - 32 cm**	**32 - 34 cm**	**34 - 36 cm**	**38 - 40 cm**	**42 - 44 cm**
Sample Type					**N**	**N**	**N**	**N**	**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**	**SE**	**SE**	**SE**	**SE**
X					**1302604.72279**	**1302604.72279**	**1302604.72279**	**1302604.72279**	**1302604.72279**	**1302604.72279**	**1302604.72279**
Y	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**	**372117.764091**	**372117.764091**	**372117.764091**	**372117.764091**	**372117.764091**	**372117.764091**	**372117.764091**
Analyte											
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)											
2-Methylnaphthalene	38	64			--	--	--	--	--	--	--
Acenaphthene	16	57			--	--	--	--	--	--	--
Acenaphthylene	66	66			--	--	--	--	--	--	--
Anthracene	220	1200			--	--	--	--	--	--	--
Benzo(a)anthracene	110	270			--	--	--	--	--	--	--
Benzo(a)pyrene	99	210			--	--	--	--	--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	--	--
Chrysene	110	460			--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	--	--
Dibenzofuran	15	58			--	--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	--	--
Fluorene	23	79			--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	--	--
Naphthalene	99	170			--	--	--	--	--	--	--
Phenanthrene	100	480			--	--	--	--	--	--	--
Pyrene	1000	1400			--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)											
2-Methylnaphthalene			670	670	--	--	--	--	--	--	--
Acenaphthene			500	500	--	--	--	--	--	--	--
Acenaphthylene			1300	1300	--	--	--	--	--	--	--
Anthracene			960	960	--	--	--	--	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--	--	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--	--	--	--	--
Benzo(b,j,k)fluoranthenes					--	--	--	--	--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	--	--
Chrysene			1400	2800	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	--	--
Dibenzofuran			540	540	--	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-22-24-130919	JW-GC2-26-28-130919	JW-GC2-30-32-130919	JW-GC2-32-34-130919	JW-GC2-34-36-130919	JW-GC2-38-40-130919	JW-GC2-42-44-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					22 - 24 cm	26 - 28 cm	30 - 32 cm	32 - 34 cm	34 - 36 cm	38 - 40 cm	42 - 44 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y					372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
Fluorene			540	540	--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	--	--
Naphthalene			2100	2100	--	--	--	--	--	--	--
Phenanthrene			1500	1500	--	--	--	--	--	--	--
Pyrene			2600	3300	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	--	--
Dioxin Furans (mg/kg-OC)											
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
Dioxin Furans (ng/kg)											
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					--	--	--	--	--	--	--
Total Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	--	--	--
Total Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	--	--	--
Total Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
Total Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					--	--	--	--	--	--	--
Total Tetrachlorodibenzofuran (TCDF)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-22-24-130919	JW-GC2-26-28-130919	JW-GC2-30-32-130919	JW-GC2-32-34-130919	JW-GC2-34-36-130919	JW-GC2-38-40-130919	JW-GC2-42-44-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					22 - 24 cm	26 - 28 cm	30 - 32 cm	32 - 34 cm	34 - 36 cm	38 - 40 cm	42 - 44 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y					372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
Total Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--
Total Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
Total Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
PCB Aroclors (mg/kg-OC)											
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--	--
PCB Aroclors (µg/kg)											
Aroclor 1016					--	--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--	--
PCB Congeners (mg/kg-OC)											
Total PCB Congener (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener (U = 0)	12	65			--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
PCB Congeners (ng/kg)											
PCB-001					--	--	--	--	--	--	--
PCB-002					--	--	--	--	--	--	--
PCB-003					--	--	--	--	--	--	--
PCB-004					--	--	--	--	--	--	--
PCB-005					--	--	--	--	--	--	--
PCB-006					--	--	--	--	--	--	--
PCB-007					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-22-24-130919	JW-GC2-26-28-130919	JW-GC2-30-32-130919	JW-GC2-32-34-130919	JW-GC2-34-36-130919	JW-GC2-38-40-130919	JW-GC2-42-44-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					22 - 24 cm	26 - 28 cm	30 - 32 cm	32 - 34 cm	34 - 36 cm	38 - 40 cm	42 - 44 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte											
PCB-008					--	--	--	--	--	--	--
PCB-009					--	--	--	--	--	--	--
PCB-010					--	--	--	--	--	--	--
PCB-011					--	--	--	--	--	--	--
PCB-012/013					--	--	--	--	--	--	--
PCB-014					--	--	--	--	--	--	--
PCB-015					--	--	--	--	--	--	--
PCB-016					--	--	--	--	--	--	--
PCB-017					--	--	--	--	--	--	--
PCB-018/030					--	--	--	--	--	--	--
PCB-019					--	--	--	--	--	--	--
PCB-020/028					--	--	--	--	--	--	--
PCB-021/033					--	--	--	--	--	--	--
PCB-022					--	--	--	--	--	--	--
PCB-023					--	--	--	--	--	--	--
PCB-024					--	--	--	--	--	--	--
PCB-025					--	--	--	--	--	--	--
PCB-026/029					--	--	--	--	--	--	--
PCB-027					--	--	--	--	--	--	--
PCB-031					--	--	--	--	--	--	--
PCB-032					--	--	--	--	--	--	--
PCB-034					--	--	--	--	--	--	--
PCB-035					--	--	--	--	--	--	--
PCB-036					--	--	--	--	--	--	--
PCB-037					--	--	--	--	--	--	--
PCB-038					--	--	--	--	--	--	--
PCB-039					--	--	--	--	--	--	--
PCB-040/071					--	--	--	--	--	--	--
PCB-041					--	--	--	--	--	--	--
PCB-042					--	--	--	--	--	--	--
PCB-043					--	--	--	--	--	--	--
PCB-044/047/065					--	--	--	--	--	--	--
PCB-045					--	--	--	--	--	--	--
PCB-046					--	--	--	--	--	--	--
PCB-048					--	--	--	--	--	--	--
PCB-049/069					--	--	--	--	--	--	--
PCB-050/053					--	--	--	--	--	--	--
PCB-051					--	--	--	--	--	--	--
PCB-052					--	--	--	--	--	--	--
PCB-054					--	--	--	--	--	--	--
PCB-055					--	--	--	--	--	--	--
PCB-056					--	--	--	--	--	--	--
PCB-057					--	--	--	--	--	--	--
PCB-058					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	JeldWenSed2013 JW-GC2 JW-GC2-22-24-130919 9/19/2013 22 - 24 cm N SE 1302604.72279 372117.764091	JeldWenSed2013 JW-GC2 JW-GC2-26-28-130919 9/19/2013 26 - 28 cm N SE 1302604.72279 372117.764091	JeldWenSed2013 JW-GC2 JW-GC2-30-32-130919 9/19/2013 30 - 32 cm N SE 1302604.72279 372117.764091	JeldWenSed2013 JW-GC2 JW-GC2-32-34-130919 9/19/2013 32 - 34 cm N SE 1302604.72279 372117.764091	JeldWenSed2013 JW-GC2 JW-GC2-34-36-130919 9/19/2013 34 - 36 cm N SE 1302604.72279 372117.764091	JeldWenSed2013 JW-GC2 JW-GC2-38-40-130919 9/19/2013 38 - 40 cm N SE 1302604.72279 372117.764091	JeldWenSed2013 JW-GC2 JW-GC2-42-44-130919 9/19/2013 42 - 44 cm N SE 1302604.72279 372117.764091
PCB-059/062/075					--	--	--	--	--	--	--
PCB-060					--	--	--	--	--	--	--
PCB-061/070/074/076					--	--	--	--	--	--	--
PCB-063					--	--	--	--	--	--	--
PCB-064					--	--	--	--	--	--	--
PCB-066					--	--	--	--	--	--	--
PCB-067					--	--	--	--	--	--	--
PCB-068					--	--	--	--	--	--	--
PCB-072					--	--	--	--	--	--	--
PCB-073					--	--	--	--	--	--	--
PCB-077					--	--	--	--	--	--	--
PCB-078					--	--	--	--	--	--	--
PCB-079					--	--	--	--	--	--	--
PCB-080					--	--	--	--	--	--	--
PCB-081					--	--	--	--	--	--	--
PCB-082					--	--	--	--	--	--	--
PCB-083					--	--	--	--	--	--	--
PCB-084					--	--	--	--	--	--	--
PCB-085/116					--	--	--	--	--	--	--
PCB-086/087/097/108/119/125					--	--	--	--	--	--	--
PCB-088					--	--	--	--	--	--	--
PCB-089					--	--	--	--	--	--	--
PCB-090/101/113					--	--	--	--	--	--	--
PCB-091					--	--	--	--	--	--	--
PCB-092					--	--	--	--	--	--	--
PCB-093/100					--	--	--	--	--	--	--
PCB-094					--	--	--	--	--	--	--
PCB-095					--	--	--	--	--	--	--
PCB-096					--	--	--	--	--	--	--
PCB-098					--	--	--	--	--	--	--
PCB-099					--	--	--	--	--	--	--
PCB-102					--	--	--	--	--	--	--
PCB-103					--	--	--	--	--	--	--
PCB-104					--	--	--	--	--	--	--
PCB-105					--	--	--	--	--	--	--
PCB-106					--	--	--	--	--	--	--
PCB-107/124					--	--	--	--	--	--	--
PCB-109					--	--	--	--	--	--	--
PCB-110					--	--	--	--	--	--	--
PCB-111					--	--	--	--	--	--	--
PCB-112					--	--	--	--	--	--	--
PCB-114					--	--	--	--	--	--	--
PCB-115					--	--	--	--	--	--	--
PCB-117					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-22-24-130919	JW-GC2-26-28-130919	JW-GC2-30-32-130919	JW-GC2-32-34-130919	JW-GC2-34-36-130919	JW-GC2-38-40-130919	JW-GC2-42-44-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					22 - 24 cm	26 - 28 cm	30 - 32 cm	32 - 34 cm	34 - 36 cm	38 - 40 cm	42 - 44 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte											
PCB-118					--	--	--	--	--	--	--
PCB-120					--	--	--	--	--	--	--
PCB-121					--	--	--	--	--	--	--
PCB-122					--	--	--	--	--	--	--
PCB-123					--	--	--	--	--	--	--
PCB-126					--	--	--	--	--	--	--
PCB-127					--	--	--	--	--	--	--
PCB-128/166					--	--	--	--	--	--	--
PCB-129/138/163					--	--	--	--	--	--	--
PCB-130					--	--	--	--	--	--	--
PCB-131					--	--	--	--	--	--	--
PCB-132					--	--	--	--	--	--	--
PCB-133					--	--	--	--	--	--	--
PCB-134					--	--	--	--	--	--	--
PCB-135/151					--	--	--	--	--	--	--
PCB-136					--	--	--	--	--	--	--
PCB-137					--	--	--	--	--	--	--
PCB-139/140					--	--	--	--	--	--	--
PCB-141					--	--	--	--	--	--	--
PCB-142					--	--	--	--	--	--	--
PCB-143					--	--	--	--	--	--	--
PCB-144					--	--	--	--	--	--	--
PCB-145					--	--	--	--	--	--	--
PCB-146					--	--	--	--	--	--	--
PCB-147/149					--	--	--	--	--	--	--
PCB-148					--	--	--	--	--	--	--
PCB-150					--	--	--	--	--	--	--
PCB-152					--	--	--	--	--	--	--
PCB-153/168					--	--	--	--	--	--	--
PCB-154					--	--	--	--	--	--	--
PCB-155					--	--	--	--	--	--	--
PCB-156/157					--	--	--	--	--	--	--
PCB-158					--	--	--	--	--	--	--
PCB-159					--	--	--	--	--	--	--
PCB-160					--	--	--	--	--	--	--
PCB-161					--	--	--	--	--	--	--
PCB-162					--	--	--	--	--	--	--
PCB-164					--	--	--	--	--	--	--
PCB-165					--	--	--	--	--	--	--
PCB-167					--	--	--	--	--	--	--
PCB-169					--	--	--	--	--	--	--
PCB-170					--	--	--	--	--	--	--
PCB-171/173					--	--	--	--	--	--	--
PCB-172					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-22-24-130919	JW-GC2-26-28-130919	JW-GC2-30-32-130919	JW-GC2-32-34-130919	JW-GC2-34-36-130919	JW-GC2-38-40-130919	JW-GC2-42-44-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					22 - 24 cm	26 - 28 cm	30 - 32 cm	32 - 34 cm	34 - 36 cm	38 - 40 cm	42 - 44 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y					372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
PCB-174					--	--	--	--	--	--	--
PCB-175					--	--	--	--	--	--	--
PCB-176					--	--	--	--	--	--	--
PCB-177					--	--	--	--	--	--	--
PCB-178					--	--	--	--	--	--	--
PCB-179					--	--	--	--	--	--	--
PCB-180/193					--	--	--	--	--	--	--
PCB-181					--	--	--	--	--	--	--
PCB-182					--	--	--	--	--	--	--
PCB-183					--	--	--	--	--	--	--
PCB-184					--	--	--	--	--	--	--
PCB-185					--	--	--	--	--	--	--
PCB-186					--	--	--	--	--	--	--
PCB-187					--	--	--	--	--	--	--
PCB-188					--	--	--	--	--	--	--
PCB-189					--	--	--	--	--	--	--
PCB-190					--	--	--	--	--	--	--
PCB-191					--	--	--	--	--	--	--
PCB-192					--	--	--	--	--	--	--
PCB-194					--	--	--	--	--	--	--
PCB-195					--	--	--	--	--	--	--
PCB-196					--	--	--	--	--	--	--
PCB-197					--	--	--	--	--	--	--
PCB-198/199					--	--	--	--	--	--	--
PCB-200					--	--	--	--	--	--	--
PCB-201					--	--	--	--	--	--	--
PCB-202					--	--	--	--	--	--	--
PCB-203					--	--	--	--	--	--	--
PCB-204					--	--	--	--	--	--	--
PCB-205					--	--	--	--	--	--	--
PCB-206					--	--	--	--	--	--	--
PCB-207					--	--	--	--	--	--	--
PCB-208					--	--	--	--	--	--	--
PCB-209					--	--	--	--	--	--	--
Total PCB Congener (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-22-24-130919	JW-GC2-26-28-130919	JW-GC2-30-32-130919	JW-GC2-32-34-130919	JW-GC2-34-36-130919	JW-GC2-38-40-130919	JW-GC2-42-44-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					22 - 24 cm	26 - 28 cm	30 - 32 cm	32 - 34 cm	34 - 36 cm	38 - 40 cm	42 - 44 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte											
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
Radionuclides (pci/g)											
Cesium 137					0.05764 U	0.03528 U	0.03953 U	--	0.06724 U	0.03743 U	0.03271 U
Lead 210					--	**0.162**	--	**0.244**	--	**0.232**	--
Dioxin Furans and PCB Congeners (mg/kg-OC)											
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	--	--	--	--
Dioxin Furans and PCB Congeners (ng/kg)											
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-44-46-130919	JW-GC2-46-48-130919	JW-GC2-50-52-130919	JW-GC2-54-56-130919	JW-GC2-56-58-130919	JW-GC2-58-60-130919	JW-GC2-62-64-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					44 - 46 cm	46 - 48 cm	50 - 52 cm	54 - 56 cm	56 - 58 cm	58 - 60 cm	62 - 64 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte											
Conventional Parameters (pct)											
Total organic carbon					--	--	--	--	--	--	--
Moisture, percent					**21.02**	**21.17**	**21.18**	**19.6**	**21.81**	**22.41**	**22.74**
Total Solids					--	--	--	--	--	--	--
Grain Size (pct)											
Gravel					--	--	--	--	--	--	--
Sand, very coarse					--	--	--	--	--	--	--
Sand, coarse					--	--	--	--	--	--	--
Sand, medium					--	--	--	--	--	--	--
Sand, fine					--	--	--	--	--	--	--
Sand, very fine					--	--	--	--	--	--	--
Silt, coarse					--	--	--	--	--	--	--
Silt, medium					--	--	--	--	--	--	--
Silt, fine					--	--	--	--	--	--	--
Silt, very fine					--	--	--	--	--	--	--
Clay, coarse					--	--	--	--	--	--	--
Clay, medium					--	--	--	--	--	--	--
Clay, fine					--	--	--	--	--	--	--
Semivolatile Organics (mg/kg-OC)											
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--	--
Semivolatile Organics (µg/kg)											
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-44-46-130919	JW-GC2-46-48-130919	JW-GC2-50-52-130919	JW-GC2-54-56-130919	JW-GC2-56-58-130919	JW-GC2-58-60-130919	JW-GC2-62-64-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					44 - 46 cm	46 - 48 cm	50 - 52 cm	54 - 56 cm	56 - 58 cm	58 - 60 cm	62 - 64 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)											
2-Methylnaphthalene	38	64			--	--	--	--	--	--	--
Acenaphthene	16	57			--	--	--	--	--	--	--
Acenaphthylene	66	66			--	--	--	--	--	--	--
Anthracene	220	1200			--	--	--	--	--	--	--
Benzo(a)anthracene	110	270			--	--	--	--	--	--	--
Benzo(a)pyrene	99	210			--	--	--	--	--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	--	--
Chrysene	110	460			--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	--	--
Dibenzofuran	15	58			--	--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	--	--
Fluorene	23	79			--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	--	--
Naphthalene	99	170			--	--	--	--	--	--	--
Phenanthrene	100	480			--	--	--	--	--	--	--
Pyrene	1000	1400			--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)											
2-Methylnaphthalene			670	670	--	--	--	--	--	--	--
Acenaphthene			500	500	--	--	--	--	--	--	--
Acenaphthylene			1300	1300	--	--	--	--	--	--	--
Anthracene			960	960	--	--	--	--	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--	--	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--	--	--	--	--
Benzo(b,j,k)fluoranthenes					--	--	--	--	--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	--	--
Chrysene			1400	2800	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	--	--
Dibenzofuran			540	540	--	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-44-46-130919	JW-GC2-46-48-130919	JW-GC2-50-52-130919	JW-GC2-54-56-130919	JW-GC2-56-58-130919	JW-GC2-58-60-130919	JW-GC2-62-64-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					44 - 46 cm	46 - 48 cm	50 - 52 cm	54 - 56 cm	56 - 58 cm	58 - 60 cm	62 - 64 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y					372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
Fluorene			540	540	--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	--	--
Naphthalene			2100	2100	--	--	--	--	--	--	--
Phenanthrene			1500	1500	--	--	--	--	--	--	--
Pyrene			2600	3300	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	--	--
Dioxin Furans (mg/kg-OC)											
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
Dioxin Furans (ng/kg)											
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					--	--	--	--	--	--	--
Total Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	--	--	--	--
Total Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	--	--	--	--
Total Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	--	--	--	--
Total Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					--	--	--	--	--	--	--
Total Tetrachlorodibenzofuran (TCDF)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-44-46-130919	JW-GC2-46-48-130919	JW-GC2-50-52-130919	JW-GC2-54-56-130919	JW-GC2-56-58-130919	JW-GC2-58-60-130919	JW-GC2-62-64-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					44 - 46 cm	46 - 48 cm	50 - 52 cm	54 - 56 cm	56 - 58 cm	58 - 60 cm	62 - 64 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y					372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
Total Pentachlorodibenzofuran (PeCDF)					--	--	--	--	--	--	--
Total Hexachlorodibenzofuran (HxCDF)					--	--	--	--	--	--	--
Total Heptachlorodibenzofuran (HpCDF)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
PCB Aroclors (mg/kg-OC)											
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--	--
PCB Aroclors (µg/kg)											
Aroclor 1016					--	--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--	--
PCB Congeners (mg/kg-OC)											
Total PCB Congener (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener (U = 0)	12	65			--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
PCB Congeners (ng/kg)											
PCB-001					--	--	--	--	--	--	--
PCB-002					--	--	--	--	--	--	--
PCB-003					--	--	--	--	--	--	--
PCB-004					--	--	--	--	--	--	--
PCB-005					--	--	--	--	--	--	--
PCB-006					--	--	--	--	--	--	--
PCB-007					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-44-46-130919	JW-GC2-46-48-130919	JW-GC2-50-52-130919	JW-GC2-54-56-130919	JW-GC2-56-58-130919	JW-GC2-58-60-130919	JW-GC2-62-64-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					44 - 46 cm	46 - 48 cm	50 - 52 cm	54 - 56 cm	56 - 58 cm	58 - 60 cm	62 - 64 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte											
PCB-008					--	--	--	--	--	--	--
PCB-009					--	--	--	--	--	--	--
PCB-010					--	--	--	--	--	--	--
PCB-011					--	--	--	--	--	--	--
PCB-012/013					--	--	--	--	--	--	--
PCB-014					--	--	--	--	--	--	--
PCB-015					--	--	--	--	--	--	--
PCB-016					--	--	--	--	--	--	--
PCB-017					--	--	--	--	--	--	--
PCB-018/030					--	--	--	--	--	--	--
PCB-019					--	--	--	--	--	--	--
PCB-020/028					--	--	--	--	--	--	--
PCB-021/033					--	--	--	--	--	--	--
PCB-022					--	--	--	--	--	--	--
PCB-023					--	--	--	--	--	--	--
PCB-024					--	--	--	--	--	--	--
PCB-025					--	--	--	--	--	--	--
PCB-026/029					--	--	--	--	--	--	--
PCB-027					--	--	--	--	--	--	--
PCB-031					--	--	--	--	--	--	--
PCB-032					--	--	--	--	--	--	--
PCB-034					--	--	--	--	--	--	--
PCB-035					--	--	--	--	--	--	--
PCB-036					--	--	--	--	--	--	--
PCB-037					--	--	--	--	--	--	--
PCB-038					--	--	--	--	--	--	--
PCB-039					--	--	--	--	--	--	--
PCB-040/071					--	--	--	--	--	--	--
PCB-041					--	--	--	--	--	--	--
PCB-042					--	--	--	--	--	--	--
PCB-043					--	--	--	--	--	--	--
PCB-044/047/065					--	--	--	--	--	--	--
PCB-045					--	--	--	--	--	--	--
PCB-046					--	--	--	--	--	--	--
PCB-048					--	--	--	--	--	--	--
PCB-049/069					--	--	--	--	--	--	--
PCB-050/053					--	--	--	--	--	--	--
PCB-051					--	--	--	--	--	--	--
PCB-052					--	--	--	--	--	--	--
PCB-054					--	--	--	--	--	--	--
PCB-055					--	--	--	--	--	--	--
PCB-056					--	--	--	--	--	--	--
PCB-057					--	--	--	--	--	--	--
PCB-058					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-44-46-130919	JW-GC2-46-48-130919	JW-GC2-50-52-130919	JW-GC2-54-56-130919	JW-GC2-56-58-130919	JW-GC2-58-60-130919	JW-GC2-62-64-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					44 - 46 cm	46 - 48 cm	50 - 52 cm	54 - 56 cm	56 - 58 cm	58 - 60 cm	62 - 64 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y					372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
PCB-059/062/075					--	--	--	--	--	--	--
PCB-060					--	--	--	--	--	--	--
PCB-061/070/074/076					--	--	--	--	--	--	--
PCB-063					--	--	--	--	--	--	--
PCB-064					--	--	--	--	--	--	--
PCB-066					--	--	--	--	--	--	--
PCB-067					--	--	--	--	--	--	--
PCB-068					--	--	--	--	--	--	--
PCB-072					--	--	--	--	--	--	--
PCB-073					--	--	--	--	--	--	--
PCB-077					--	--	--	--	--	--	--
PCB-078					--	--	--	--	--	--	--
PCB-079					--	--	--	--	--	--	--
PCB-080					--	--	--	--	--	--	--
PCB-081					--	--	--	--	--	--	--
PCB-082					--	--	--	--	--	--	--
PCB-083					--	--	--	--	--	--	--
PCB-084					--	--	--	--	--	--	--
PCB-085/116					--	--	--	--	--	--	--
PCB-086/087/097/108/119/125					--	--	--	--	--	--	--
PCB-088					--	--	--	--	--	--	--
PCB-089					--	--	--	--	--	--	--
PCB-090/101/113					--	--	--	--	--	--	--
PCB-091					--	--	--	--	--	--	--
PCB-092					--	--	--	--	--	--	--
PCB-093/100					--	--	--	--	--	--	--
PCB-094					--	--	--	--	--	--	--
PCB-095					--	--	--	--	--	--	--
PCB-096					--	--	--	--	--	--	--
PCB-098					--	--	--	--	--	--	--
PCB-099					--	--	--	--	--	--	--
PCB-102					--	--	--	--	--	--	--
PCB-103					--	--	--	--	--	--	--
PCB-104					--	--	--	--	--	--	--
PCB-105					--	--	--	--	--	--	--
PCB-106					--	--	--	--	--	--	--
PCB-107/124					--	--	--	--	--	--	--
PCB-109					--	--	--	--	--	--	--
PCB-110					--	--	--	--	--	--	--
PCB-111					--	--	--	--	--	--	--
PCB-112					--	--	--	--	--	--	--
PCB-114					--	--	--	--	--	--	--
PCB-115					--	--	--	--	--	--	--
PCB-117					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-44-46-130919	JW-GC2-46-48-130919	JW-GC2-50-52-130919	JW-GC2-54-56-130919	JW-GC2-56-58-130919	JW-GC2-58-60-130919	JW-GC2-62-64-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					44 - 46 cm	46 - 48 cm	50 - 52 cm	54 - 56 cm	56 - 58 cm	58 - 60 cm	62 - 64 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte											
PCB-118					--	--	--	--	--	--	--
PCB-120					--	--	--	--	--	--	--
PCB-121					--	--	--	--	--	--	--
PCB-122					--	--	--	--	--	--	--
PCB-123					--	--	--	--	--	--	--
PCB-126					--	--	--	--	--	--	--
PCB-127					--	--	--	--	--	--	--
PCB-128/166					--	--	--	--	--	--	--
PCB-129/138/163					--	--	--	--	--	--	--
PCB-130					--	--	--	--	--	--	--
PCB-131					--	--	--	--	--	--	--
PCB-132					--	--	--	--	--	--	--
PCB-133					--	--	--	--	--	--	--
PCB-134					--	--	--	--	--	--	--
PCB-135/151					--	--	--	--	--	--	--
PCB-136					--	--	--	--	--	--	--
PCB-137					--	--	--	--	--	--	--
PCB-139/140					--	--	--	--	--	--	--
PCB-141					--	--	--	--	--	--	--
PCB-142					--	--	--	--	--	--	--
PCB-143					--	--	--	--	--	--	--
PCB-144					--	--	--	--	--	--	--
PCB-145					--	--	--	--	--	--	--
PCB-146					--	--	--	--	--	--	--
PCB-147/149					--	--	--	--	--	--	--
PCB-148					--	--	--	--	--	--	--
PCB-150					--	--	--	--	--	--	--
PCB-152					--	--	--	--	--	--	--
PCB-153/168					--	--	--	--	--	--	--
PCB-154					--	--	--	--	--	--	--
PCB-155					--	--	--	--	--	--	--
PCB-156/157					--	--	--	--	--	--	--
PCB-158					--	--	--	--	--	--	--
PCB-159					--	--	--	--	--	--	--
PCB-160					--	--	--	--	--	--	--
PCB-161					--	--	--	--	--	--	--
PCB-162					--	--	--	--	--	--	--
PCB-164					--	--	--	--	--	--	--
PCB-165					--	--	--	--	--	--	--
PCB-167					--	--	--	--	--	--	--
PCB-169					--	--	--	--	--	--	--
PCB-170					--	--	--	--	--	--	--
PCB-171/173					--	--	--	--	--	--	--
PCB-172					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-44-46-130919	JW-GC2-46-48-130919	JW-GC2-50-52-130919	JW-GC2-54-56-130919	JW-GC2-56-58-130919	JW-GC2-58-60-130919	JW-GC2-62-64-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					44 - 46 cm	46 - 48 cm	50 - 52 cm	54 - 56 cm	56 - 58 cm	58 - 60 cm	62 - 64 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte											
PCB-174					--	--	--	--	--	--	--
PCB-175					--	--	--	--	--	--	--
PCB-176					--	--	--	--	--	--	--
PCB-177					--	--	--	--	--	--	--
PCB-178					--	--	--	--	--	--	--
PCB-179					--	--	--	--	--	--	--
PCB-180/193					--	--	--	--	--	--	--
PCB-181					--	--	--	--	--	--	--
PCB-182					--	--	--	--	--	--	--
PCB-183					--	--	--	--	--	--	--
PCB-184					--	--	--	--	--	--	--
PCB-185					--	--	--	--	--	--	--
PCB-186					--	--	--	--	--	--	--
PCB-187					--	--	--	--	--	--	--
PCB-188					--	--	--	--	--	--	--
PCB-189					--	--	--	--	--	--	--
PCB-190					--	--	--	--	--	--	--
PCB-191					--	--	--	--	--	--	--
PCB-192					--	--	--	--	--	--	--
PCB-194					--	--	--	--	--	--	--
PCB-195					--	--	--	--	--	--	--
PCB-196					--	--	--	--	--	--	--
PCB-197					--	--	--	--	--	--	--
PCB-198/199					--	--	--	--	--	--	--
PCB-200					--	--	--	--	--	--	--
PCB-201					--	--	--	--	--	--	--
PCB-202					--	--	--	--	--	--	--
PCB-203					--	--	--	--	--	--	--
PCB-204					--	--	--	--	--	--	--
PCB-205					--	--	--	--	--	--	--
PCB-206					--	--	--	--	--	--	--
PCB-207					--	--	--	--	--	--	--
PCB-208					--	--	--	--	--	--	--
PCB-209					--	--	--	--	--	--	--
Total PCB Congener (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2	JW-GC2
Sample ID					JW-GC2-44-46-130919	JW-GC2-46-48-130919	JW-GC2-50-52-130919	JW-GC2-54-56-130919	JW-GC2-56-58-130919	JW-GC2-58-60-130919	JW-GC2-62-64-130919
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013	9/19/2013
Depth					44 - 46 cm	46 - 48 cm	50 - 52 cm	54 - 56 cm	56 - 58 cm	58 - 60 cm	62 - 64 cm
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279	1302604.72279
Y					372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091	372117.764091
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII							
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
Radionuclides (pci/g)											
Cesium 137					--	0.0326 U	0.04697 U	0.02915 U	--	0.05359 U	--
Lead 210					**0.254**	--	**0.273**	--	**0.148**	--	**0.243**
Dioxin Furans and PCB Congeners (mg/kg-OC)											
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	--	--	--	--
Dioxin Furans and PCB Congeners (ng/kg)											
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-SC401-130928	JW-SC401-130928	JW-SC401-130928	JW-SC402-130928
Sample ID					JW-GC2-68-70-130919	JW-GC2-74-76-130919	JW-GC2-80-82-130919	JW-SC401-A-130928	JW-SC401-B-130928	JW-SC401-C-130928	JW-SC402-A-130928
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/28/2013	9/28/2013	9/28/2013	9/28/2013
Depth					68 - 70 cm	74 - 76 cm	80 - 82 cm	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302218.979	1302218.979	1302218.979	1302871.603
Y					372117.764091	372117.764091	372117.764091	373425.021	373425.021	373425.021	374375.3905
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
Conventional Parameters (pct)											
Total organic carbon					--	--	--	**2.16**	**1.76**	**0.949**	**2.15**
Moisture, percent					**22.87**	**21.36**	**23.51**	--	--	--	--
Total Solids					--	--	--	**78.84**	**81.53**	**79.6**	**60.67**
Grain Size (pct)											
Gravel					--	--	--	--	--	--	--
Sand, very coarse					--	--	--	--	--	--	--
Sand, coarse					--	--	--	--	--	--	--
Sand, medium					--	--	--	--	--	--	--
Sand, fine					--	--	--	--	--	--	--
Sand, very fine					--	--	--	--	--	--	--
Silt, coarse					--	--	--	--	--	--	--
Silt, medium					--	--	--	--	--	--	--
Silt, fine					--	--	--	--	--	--	--
Silt, very fine					--	--	--	--	--	--	--
Clay, coarse					--	--	--	--	--	--	--
Clay, medium					--	--	--	--	--	--	--
Clay, fine					--	--	--	--	--	--	--
Semivolatile Organics (mg/kg-OC)											
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--	--	--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--	--	--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--	--	--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--	--	--	--	--
Diethyl phthalate	61	110			--	--	--	--	--	--	--
Dimethyl phthalate	53	53			--	--	--	--	--	--	--
Di-n-butyl phthalate	220	1700			--	--	--	--	--	--	--
Di-n-octyl phthalate	58	4500			--	--	--	--	--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--	--	--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--	--	--	--	--
Semivolatile Organics (µg/kg)											
1,2,4-Trichlorobenzene			31	51	--	--	--	--	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--	--	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--	--	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--	--	--	--	--
Benzoic acid	650	650	650	650	--	--	--	--	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--	--	--	--	--
Butylbenzyl phthalate			63	900	--	--	--	--	--	--	--
Diethyl phthalate			200	1200	--	--	--	--	--	--	--
Dimethyl phthalate			71	160	--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-SC401-130928	JW-SC401-130928	JW-SC401-130928	JW-SC402-130928
Sample ID					JW-GC2-68-70-130919	JW-GC2-74-76-130919	JW-GC2-80-82-130919	JW-SC401-A-130928	JW-SC401-B-130928	JW-SC401-C-130928	JW-SC402-A-130928
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/28/2013	9/28/2013	9/28/2013	9/28/2013
Depth					68 - 70 cm	74 - 76 cm	80 - 82 cm	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302218.979	1302218.979	1302218.979	1302871.603
Y					372117.764091	372117.764091	372117.764091	373425.021	373425.021	373425.021	374375.3905
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII							
Di-n-butyl phthalate			1400	1400	--	--	--	--	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--	--	--	--	--
Hexachlorobenzene			22	70	--	--	--	--	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--	--	--	--	--
Hexachloroethane					--	--	--	--	--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--	--	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--	--	--	--	--
Phenol	420	1200	420	1200	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)											
2-Methylnaphthalene	38	64			--	--	--	--	--	--	--
Acenaphthene	16	57			--	--	--	--	--	--	--
Acenaphthylene	66	66			--	--	--	--	--	--	--
Anthracene	220	1200			--	--	--	--	--	--	--
Benzo(a)anthracene	110	270			--	--	--	--	--	--	--
Benzo(a)pyrene	99	210			--	--	--	--	--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--	--	--	--	--
Chrysene	110	460			--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	12	33			--	--	--	--	--	--	--
Dibenzofuran	15	58			--	--	--	--	--	--	--
Fluoranthene	160	1200			--	--	--	--	--	--	--
Fluorene	23	79			--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--	--	--	--	--
Naphthalene	99	170			--	--	--	--	--	--	--
Phenanthrene	100	480			--	--	--	--	--	--	--
Pyrene	1000	1400			--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)											
2-Methylnaphthalene			670	670	--	--	--	--	--	--	--
Acenaphthene			500	500	--	--	--	--	--	--	--
Acenaphthylene			1300	1300	--	--	--	--	--	--	--
Anthracene			960	960	--	--	--	--	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--	--	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--	--	--	--	--
Benzo(b,j,k)fluoranthenes					--	--	--	--	--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--	--	--	--	--
Chrysene			1400	2800	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--	--	--	--	--
Dibenzofuran			540	540	--	--	--	--	--	--	--
Fluoranthene			1700	2500	--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-SC401-130928	JW-SC401-130928	JW-SC401-130928	JW-SC402-130928
Sample ID					JW-GC2-68-70-130919	JW-GC2-74-76-130919	JW-GC2-80-82-130919	JW-SC401-A-130928	JW-SC401-B-130928	JW-SC401-C-130928	JW-SC402-A-130928
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/28/2013	9/28/2013	9/28/2013	9/28/2013
Depth					68 - 70 cm	74 - 76 cm	80 - 82 cm	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302218.979	1302218.979	1302218.979	1302871.603
Y					372117.764091	372117.764091	372117.764091	373425.021	373425.021	373425.021	374375.3905
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
Fluorene			540	540	--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--	--	--	--	--
Naphthalene			2100	2100	--	--	--	--	--	--	--
Phenanthrene			1500	1500	--	--	--	--	--	--	--
Pyrene			2600	3300	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--	--	--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--	--	--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--	--	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--	--	--	--	--
Dioxin Furans (mg/kg-OC)											
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	--	**0.0001518200463 J**	**0.00010993206818 J**	**6.997883246E-05 J**	**0.0002332665116 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	--	**8.988023148E-05 J**	**4.996729545E-05 J**	**3.772224658E-05 J**	**0.0001393781395 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	--	**0.00010942773148 J**	**4.637211364E-05 J**	**3.593502213E-05 J**	**0.0001833037209 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	--	**0.00015155430556 J**	**0.00010963648864 J**	**5.666222972E-05 J**	**0.0002330688372 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	--	**8.961449074E-05 J**	**4.967171591E-05 J**	**2.265590727E-05 J**	**0.0001391804651 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	--	**0.00010916199074 J**	**4.607554545E-05 J**	**2.133974499E-05 J**	**0.0001831060465 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	--	**0.00015128856481 J**	**0.00010934090909 J**	**4.334562698E-05 J**	**0.0002328711628 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	--	**8.934875E-05 J**	**4.937613636E-05 J**	**7.58956797E-06 J**	**0.0001389827907 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	--	**0.00010889625 J**	**4.577897727E-05 J**	**6.74446786E-06 J**	**0.0001829083721 J**
Dioxin Furans (ng/kg)											
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	**0.215 J**	**0.116 J**	0.1012 U	**0.257 J**
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	**0.5 J**	**0.22 J**	0.0947 U	**0.709 J**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	**0.946 J**	**0.304 J**	0.1022 U	**1.38 J**
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	**3.51**	**0.467 J**	0.1062 U	**5.18**
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	**1.57 J**	**0.402 J**	0.142 U	**2.68**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	**39.9**	**4.54**	0.859 U	**85.3**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					--	--	--	**233**	**12.9**	9.19 U	**602**
Total Tetrachlorodibenzo-p-dioxin (TCDD)					--	--	--	**18.2 J**	**17.1**	**2.27 J**	**18.1 J**
Total Pentachlorodibenzo-p-dioxin (PeCDD)					--	--	--	**16 J**	**12.8 J**	**0.931**	**17.6**
Total Hexachlorodibenzo-p-dioxin (HxCDD)					--	--	--	**43.6**	**20 J**	**1.64**	**54.6**
Total Heptachlorodibenzo-p-dioxin (HpCDD)					--	--	--	**88.1**	**7.79**	2.14 U	**199**
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					--	--	--	**1.36**	**0.928**	**0.297 J**	**1.98**
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	**0.286 J**	**0.318 J**	**0.0635 J**	**0.438 J**
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					--	--	--	**0.632 J**	**0.517 J**	**0.108 J**	**0.991 J**
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	**0.413 J**	**0.127 J**	0.0785 U	**0.975 J**
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	**0.419 J**	**0.127 J**	0.0747 U	**0.775 J**
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					--	--	--	0.1148 U	0.0703 U	0.0943 U	0.085 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					--	--	--	**0.685 J**	**0.203 J**	0.0797 U	**1.25 J**
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					--	--	--	**7.32**	0.239 U	0.0938 U	**17.7**
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					--	--	--	**0.381 J**	0.0967 U	0.1025 U	**1.02 J**
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					--	--	--	**9.23**	0.174 U	0.1612 U	**44.3**
Total Tetrachlorodibenzofuran (TCDF)					--	--	--	**14 J**	**15.9 J**	**2.41 J**	**18.5 J**

Table H-2
Subsurface Sediment Results

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	JeldWenSed2013 JW-GC2 JW-GC2-68-70-130919 9/19/2013 68 - 70 cm N SE 1302604.72279 372117.764091	JeldWenSed2013 JW-GC2 JW-GC2-74-76-130919 9/19/2013 74 - 76 cm N SE 1302604.72279 372117.764091	JeldWenSed2013 JW-GC2 JW-GC2-80-82-130919 9/19/2013 80 - 82 cm N SE 1302604.72279 372117.764091	JeldWenSed2013 JW-SC401-130928 JW-SC401-A-130928 9/28/2013 0 - 2 ft N SE 1302218.979 373425.021	JeldWenSed2013 JW-SC401-130928 JW-SC401-B-130928 9/28/2013 2 - 4 ft N SE 1302218.979 373425.021	JeldWenSed2013 JW-SC401-130928 JW-SC401-C-130928 9/28/2013 4 - 6 ft N SE 1302218.979 373425.021	JeldWenSed2013 JW-SC402-130928 JW-SC402-A-130928 9/28/2013 0 - 2 ft N SE 1302871.603 374375.3905
Total Pentachlorodibenzofuran (PeCDF)					--	--	--	**7.71 J**	**5.18 J**	**0.545 J**	**11.9 J**
Total Hexachlorodibenzofuran (HxCDF)					--	--	--	**12.6 J**	**1.78 J**	0.0859 U	**26.9 J**
Total Heptachlorodibenzofuran (HpCDF)					--	--	--	**19.3**	0.35 U	0.0979 U	**58.3**
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					--	--	--	**3.279313 J**	**1.9348044 J**	**0.66409912 J**	**5.01523 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					--	--	--	**1.941413 J**	**0.8794244 J**	**0.35798412 J**	**2.99663 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					--	--	--	**2.363639 J**	**0.8161492 J**	**0.34102336 J**	**3.94103 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					--	--	--	**3.273573 J**	**1.9296022 J**	**0.53772456 J**	**5.01098 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					--	--	--	**1.935673 J**	**0.8742222 J**	**0.21500456 J**	**2.99238 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					--	--	--	**2.357899 J**	**0.8109296 J**	**0.20251418 J**	**3.93678 J**
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					--	--	--	**3.267833 J**	**1.9244 J**	**0.41135 J**	**5.00673 J**
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					--	--	--	**1.929933 J**	**0.86902 J**	**0.072025 J**	**2.98813 J**
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					--	--	--	**2.352159 J**	**0.80571 J**	**0.064005 J**	**3.93253 J**
PCB Aroclors (mg/kg-OC)											
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--	--	--	--	--
PCB Aroclors (µg/kg)											
Aroclor 1016					--	--	--	--	--	--	--
Aroclor 1221					--	--	--	--	--	--	--
Aroclor 1232					--	--	--	--	--	--	--
Aroclor 1242					--	--	--	--	--	--	--
Aroclor 1248					--	--	--	--	--	--	--
Aroclor 1254					--	--	--	--	--	--	--
Aroclor 1260					--	--	--	--	--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--	--	--	--	--
PCB Congeners (mg/kg-OC)											
Total PCB Congener (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener (U = 0)	12	65			--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
PCB Congeners (ng/kg)											
PCB-001					--	--	--	--	--	--	--
PCB-002					--	--	--	--	--	--	--
PCB-003					--	--	--	--	--	--	--
PCB-004					--	--	--	--	--	--	--
PCB-005					--	--	--	--	--	--	--
PCB-006					--	--	--	--	--	--	--
PCB-007					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-SC401-130928	JW-SC401-130928	JW-SC401-130928	JW-SC402-130928
Sample ID					JW-GC2-68-70-130919	JW-GC2-74-76-130919	JW-GC2-80-82-130919	JW-SC401-A-130928	JW-SC401-B-130928	JW-SC401-C-130928	JW-SC402-A-130928
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/28/2013	9/28/2013	9/28/2013	9/28/2013
Depth					68 - 70 cm	74 - 76 cm	80 - 82 cm	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302218.979	1302218.979	1302218.979	1302871.603
Y	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII	372117.764091	372117.764091	372117.764091	373425.021	373425.021	373425.021	374375.3905
Analyte											
PCB-008					--	--	--	--	--	--	--
PCB-009					--	--	--	--	--	--	--
PCB-010					--	--	--	--	--	--	--
PCB-011					--	--	--	--	--	--	--
PCB-012/013					--	--	--	--	--	--	--
PCB-014					--	--	--	--	--	--	--
PCB-015					--	--	--	--	--	--	--
PCB-016					--	--	--	--	--	--	--
PCB-017					--	--	--	--	--	--	--
PCB-018/030					--	--	--	--	--	--	--
PCB-019					--	--	--	--	--	--	--
PCB-020/028					--	--	--	--	--	--	--
PCB-021/033					--	--	--	--	--	--	--
PCB-022					--	--	--	--	--	--	--
PCB-023					--	--	--	--	--	--	--
PCB-024					--	--	--	--	--	--	--
PCB-025					--	--	--	--	--	--	--
PCB-026/029					--	--	--	--	--	--	--
PCB-027					--	--	--	--	--	--	--
PCB-031					--	--	--	--	--	--	--
PCB-032					--	--	--	--	--	--	--
PCB-034					--	--	--	--	--	--	--
PCB-035					--	--	--	--	--	--	--
PCB-036					--	--	--	--	--	--	--
PCB-037					--	--	--	--	--	--	--
PCB-038					--	--	--	--	--	--	--
PCB-039					--	--	--	--	--	--	--
PCB-040/071					--	--	--	--	--	--	--
PCB-041					--	--	--	--	--	--	--
PCB-042					--	--	--	--	--	--	--
PCB-043					--	--	--	--	--	--	--
PCB-044/047/065					--	--	--	--	--	--	--
PCB-045					--	--	--	--	--	--	--
PCB-046					--	--	--	--	--	--	--
PCB-048					--	--	--	--	--	--	--
PCB-049/069					--	--	--	--	--	--	--
PCB-050/053					--	--	--	--	--	--	--
PCB-051					--	--	--	--	--	--	--
PCB-052					--	--	--	--	--	--	--
PCB-054					--	--	--	--	--	--	--
PCB-055					--	--	--	--	--	--	--
PCB-056					--	--	--	--	--	--	--
PCB-057					--	--	--	--	--	--	--
PCB-058					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-SC401-130928	JW-SC401-130928	JW-SC401-130928	JW-SC402-130928
Sample ID					JW-GC2-68-70-130919	JW-GC2-74-76-130919	JW-GC2-80-82-130919	JW-SC401-A-130928	JW-SC401-B-130928	JW-SC401-C-130928	JW-SC402-A-130928
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/28/2013	9/28/2013	9/28/2013	9/28/2013
Depth					68 - 70 cm	74 - 76 cm	80 - 82 cm	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302218.979	1302218.979	1302218.979	1302871.603
Y					372117.764091	372117.764091	372117.764091	373425.021	373425.021	373425.021	374375.3905
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
PCB-059/062/075					--	--	--	--	--	--	--
PCB-060					--	--	--	--	--	--	--
PCB-061/070/074/076					--	--	--	--	--	--	--
PCB-063					--	--	--	--	--	--	--
PCB-064					--	--	--	--	--	--	--
PCB-066					--	--	--	--	--	--	--
PCB-067					--	--	--	--	--	--	--
PCB-068					--	--	--	--	--	--	--
PCB-072					--	--	--	--	--	--	--
PCB-073					--	--	--	--	--	--	--
PCB-077					--	--	--	--	--	--	--
PCB-078					--	--	--	--	--	--	--
PCB-079					--	--	--	--	--	--	--
PCB-080					--	--	--	--	--	--	--
PCB-081					--	--	--	--	--	--	--
PCB-082					--	--	--	--	--	--	--
PCB-083					--	--	--	--	--	--	--
PCB-084					--	--	--	--	--	--	--
PCB-085/116					--	--	--	--	--	--	--
PCB-086/087/097/108/119/125					--	--	--	--	--	--	--
PCB-088					--	--	--	--	--	--	--
PCB-089					--	--	--	--	--	--	--
PCB-090/101/113					--	--	--	--	--	--	--
PCB-091					--	--	--	--	--	--	--
PCB-092					--	--	--	--	--	--	--
PCB-093/100					--	--	--	--	--	--	--
PCB-094					--	--	--	--	--	--	--
PCB-095					--	--	--	--	--	--	--
PCB-096					--	--	--	--	--	--	--
PCB-098					--	--	--	--	--	--	--
PCB-099					--	--	--	--	--	--	--
PCB-102					--	--	--	--	--	--	--
PCB-103					--	--	--	--	--	--	--
PCB-104					--	--	--	--	--	--	--
PCB-105					--	--	--	--	--	--	--
PCB-106					--	--	--	--	--	--	--
PCB-107/124					--	--	--	--	--	--	--
PCB-109					--	--	--	--	--	--	--
PCB-110					--	--	--	--	--	--	--
PCB-111					--	--	--	--	--	--	--
PCB-112					--	--	--	--	--	--	--
PCB-114					--	--	--	--	--	--	--
PCB-115					--	--	--	--	--	--	--
PCB-117					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-SC401-130928	JW-SC401-130928	JW-SC401-130928	JW-SC402-130928
Sample ID					JW-GC2-68-70-130919	JW-GC2-74-76-130919	JW-GC2-80-82-130919	JW-SC401-A-130928	JW-SC401-B-130928	JW-SC401-C-130928	JW-SC402-A-130928
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/28/2013	9/28/2013	9/28/2013	9/28/2013
Depth					68 - 70 cm	74 - 76 cm	80 - 82 cm	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302218.979	1302218.979	1302218.979	1302871.603
Y					372117.764091	372117.764091	372117.764091	373425.021	373425.021	373425.021	374375.3905
Analyte	SMS_Marine_ SCO_SCUMII	SMS_Marine_ CSL_SCUMII	AET_Marine_ SCO_SCUMII	AET_Marine_ CSL_SCUMII							
PCB-118					--	--	--	--	--	--	--
PCB-120					--	--	--	--	--	--	--
PCB-121					--	--	--	--	--	--	--
PCB-122					--	--	--	--	--	--	--
PCB-123					--	--	--	--	--	--	--
PCB-126					--	--	--	--	--	--	--
PCB-127					--	--	--	--	--	--	--
PCB-128/166					--	--	--	--	--	--	--
PCB-129/138/163					--	--	--	--	--	--	--
PCB-130					--	--	--	--	--	--	--
PCB-131					--	--	--	--	--	--	--
PCB-132					--	--	--	--	--	--	--
PCB-133					--	--	--	--	--	--	--
PCB-134					--	--	--	--	--	--	--
PCB-135/151					--	--	--	--	--	--	--
PCB-136					--	--	--	--	--	--	--
PCB-137					--	--	--	--	--	--	--
PCB-139/140					--	--	--	--	--	--	--
PCB-141					--	--	--	--	--	--	--
PCB-142					--	--	--	--	--	--	--
PCB-143					--	--	--	--	--	--	--
PCB-144					--	--	--	--	--	--	--
PCB-145					--	--	--	--	--	--	--
PCB-146					--	--	--	--	--	--	--
PCB-147/149					--	--	--	--	--	--	--
PCB-148					--	--	--	--	--	--	--
PCB-150					--	--	--	--	--	--	--
PCB-152					--	--	--	--	--	--	--
PCB-153/168					--	--	--	--	--	--	--
PCB-154					--	--	--	--	--	--	--
PCB-155					--	--	--	--	--	--	--
PCB-156/157					--	--	--	--	--	--	--
PCB-158					--	--	--	--	--	--	--
PCB-159					--	--	--	--	--	--	--
PCB-160					--	--	--	--	--	--	--
PCB-161					--	--	--	--	--	--	--
PCB-162					--	--	--	--	--	--	--
PCB-164					--	--	--	--	--	--	--
PCB-165					--	--	--	--	--	--	--
PCB-167					--	--	--	--	--	--	--
PCB-169					--	--	--	--	--	--	--
PCB-170					--	--	--	--	--	--	--
PCB-171/173					--	--	--	--	--	--	--
PCB-172					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-SC401-130928	JW-SC401-130928	JW-SC401-130928	JW-SC402-130928
Sample ID					JW-GC2-68-70-130919	JW-GC2-74-76-130919	JW-GC2-80-82-130919	JW-SC401-A-130928	JW-SC401-B-130928	JW-SC401-C-130928	JW-SC402-A-130928
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/28/2013	9/28/2013	9/28/2013	9/28/2013
Depth					68 - 70 cm	74 - 76 cm	80 - 82 cm	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302218.979	1302218.979	1302218.979	1302871.603
Y					372117.764091	372117.764091	372117.764091	373425.021	373425.021	373425.021	374375.3905
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
PCB-174					--	--	--	--	--	--	--
PCB-175					--	--	--	--	--	--	--
PCB-176					--	--	--	--	--	--	--
PCB-177					--	--	--	--	--	--	--
PCB-178					--	--	--	--	--	--	--
PCB-179					--	--	--	--	--	--	--
PCB-180/193					--	--	--	--	--	--	--
PCB-181					--	--	--	--	--	--	--
PCB-182					--	--	--	--	--	--	--
PCB-183					--	--	--	--	--	--	--
PCB-184					--	--	--	--	--	--	--
PCB-185					--	--	--	--	--	--	--
PCB-186					--	--	--	--	--	--	--
PCB-187					--	--	--	--	--	--	--
PCB-188					--	--	--	--	--	--	--
PCB-189					--	--	--	--	--	--	--
PCB-190					--	--	--	--	--	--	--
PCB-191					--	--	--	--	--	--	--
PCB-192					--	--	--	--	--	--	--
PCB-194					--	--	--	--	--	--	--
PCB-195					--	--	--	--	--	--	--
PCB-196					--	--	--	--	--	--	--
PCB-197					--	--	--	--	--	--	--
PCB-198/199					--	--	--	--	--	--	--
PCB-200					--	--	--	--	--	--	--
PCB-201					--	--	--	--	--	--	--
PCB-202					--	--	--	--	--	--	--
PCB-203					--	--	--	--	--	--	--
PCB-204					--	--	--	--	--	--	--
PCB-205					--	--	--	--	--	--	--
PCB-206					--	--	--	--	--	--	--
PCB-207					--	--	--	--	--	--	--
PCB-208					--	--	--	--	--	--	--
PCB-209					--	--	--	--	--	--	--
Total PCB Congener (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--	--	--	--	--
Total PCB Congener (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--	--	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-GC2	JW-GC2	JW-GC2	JW-SC401-130928	JW-SC401-130928	JW-SC401-130928	JW-SC402-130928
Sample ID					JW-GC2-68-70-130919	JW-GC2-74-76-130919	JW-GC2-80-82-130919	JW-SC401-A-130928	JW-SC401-B-130928	JW-SC401-C-130928	JW-SC402-A-130928
Sample Date					9/19/2013	9/19/2013	9/19/2013	9/28/2013	9/28/2013	9/28/2013	9/28/2013
Depth					68 - 70 cm	74 - 76 cm	80 - 82 cm	0 - 2 ft	2 - 4 ft	4 - 6 ft	0 - 2 ft
Sample Type					N	N	N	N	N	N	N
Matrix					SE	SE	SE	SE	SE	SE	SE
X					1302604.72279	1302604.72279	1302604.72279	1302218.979	1302218.979	1302218.979	1302871.603
Y					372117.764091	372117.764091	372117.764091	373425.021	373425.021	373425.021	374375.3905
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII							
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--	--	--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--	--	--	--	--
Radionuclides (pci/g)											
Cesium 137					--	--	--	--	--	--	--
Lead 210					**0.176**	**0.294**	**0.187**	--	--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)											
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	**0.0001518200463 J**	**0.00010993206818 J**	**6.997883246E-05 J**	**0.0002332665116 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	**8.988023148E-05 J**	**4.996729545E-05 J**	**3.772224658E-05 J**	**0.0001393781395 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	**0.00010942773148 J**	**4.637211364E-05 J**	**3.593502213E-05 J**	**0.0001833037209 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	**0.00015155430556 J**	**0.00010963648864 J**	**5.666222972E-05 J**	**0.0002330688372 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	**8.961449074E-05 J**	**4.967171591E-05 J**	**2.265590727E-05 J**	**0.0001391804651 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	**0.00010916199074 J**	**4.607554545E-05 J**	**2.133974499E-05 J**	**0.0001831060465 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	**0.00015128856481 J**	**0.00010934090909 J**	**4.334562698E-05 J**	**0.0002328711628 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	**8.934875E-05 J**	**4.937613636E-05 J**	**7.58956797E-06 J**	**0.0001389827907 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	**0.00010889625 J**	**4.577897727E-05 J**	**6.74446786E-06 J**	**0.0001829083721 J**
Dioxin Furans and PCB Congeners (ng/kg)											
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					--	--	--	**3.279313 J**	**1.9348044 J**	**0.66409912 J**	**5.01523 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					--	--	--	**1.941413 J**	**0.8794244 J**	**0.35798412 J**	**2.99663 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					--	--	--	**2.363639 J**	**0.8161492 J**	**0.34102336 J**	**3.94103 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					--	--	--	**3.273573 J**	**1.9296022 J**	**0.53772456 J**	**5.01098 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					--	--	--	**1.935673 J**	**0.8742222 J**	**0.21500456 J**	**2.99238 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					--	--	--	**2.357899 J**	**0.8109296 J**	**0.20251418 J**	**3.93678 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					--	--	--	**3.267833 J**	**1.9244 J**	**0.41135 J**	**5.00673 J**
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					--	--	--	**1.929933 J**	**0.86902 J**	**0.072025 J**	**2.98813 J**
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					--	--	--	**2.352159 J**	**0.80571 J**	**0.064005 J**	**3.93253 J**

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-SC402-130928	JW-SC402-130928	JW-SC402-130928
Sample ID					JW-SC402-B-130928	JW-SC402-C-130928	JW-SC402-D-130928
Sample Date					9/28/2013	9/28/2013	9/28/2013
Depth					2 - 4 ft	4 - 6 ft	6 - 8 ft
Sample Type					N	N	N
Matrix					SE	SE	SE
X					1302871.603	1302871.603	1302871.603
Y					374375.3905	374375.3905	374375.3905
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII			
Conventional Parameters (pct)							
Total organic carbon					**0.368**	**0.358**	**0.305**
Moisture, percent					--	--	--
Total Solids					**79.6**	**86.63**	**87.1**
Grain Size (pct)							
Gravel					--	--	--
Sand, very coarse					--	--	--
Sand, coarse					--	--	--
Sand, medium					--	--	--
Sand, fine					--	--	--
Sand, very fine					--	--	--
Silt, coarse					--	--	--
Silt, medium					--	--	--
Silt, fine					--	--	--
Silt, very fine					--	--	--
Clay, coarse					--	--	--
Clay, medium					--	--	--
Clay, fine					--	--	--
Semivolatile Organics (mg/kg-OC)							
1,2,4-Trichlorobenzene	0.81	1.8			--	--	--
1,2-Dichlorobenzene	2.3	2.3			--	--	--
1,4-Dichlorobenzene	3.1	9			--	--	--
bis(2-Ethylhexyl)phthalate	47	78			--	--	--
Butylbenzyl phthalate	4.9	64			--	--	--
Diethyl phthalate	61	110			--	--	--
Dimethyl phthalate	53	53			--	--	--
Di-n-butyl phthalate	220	1700			--	--	--
Di-n-octyl phthalate	58	4500			--	--	--
Hexachlorobenzene	0.38	2.3			--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	3.9	6.2			--	--	--
n-Nitrosodiphenylamine	11	11			--	--	--
Semivolatile Organics (µg/kg)							
1,2,4-Trichlorobenzene			31	51	--	--	--
1,2-Dichlorobenzene			35	50	--	--	--
1,4-Dichlorobenzene			110	110	--	--	--
2,4-Dimethylphenol	29	29	29	29	--	--	--
2-Methylphenol (o-Cresol)	63	63	63	63	--	--	--
4-Methylphenol (p-Cresol)	670	670	670	670	--	--	--
Benzoic acid	650	650	650	650	--	--	--
Benzyl alcohol	57	73	57	73	--	--	--
bis(2-Ethylhexyl)phthalate			1300	1900	--	--	--
Butylbenzyl phthalate			63	900	--	--	--
Diethyl phthalate			200	1200	--	--	--
Dimethyl phthalate			71	160	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-SC402-130928	JW-SC402-130928	JW-SC402-130928
Sample ID					JW-SC402-B-130928	JW-SC402-C-130928	JW-SC402-D-130928
Sample Date					9/28/2013	9/28/2013	9/28/2013
Depth					2 - 4 ft	4 - 6 ft	6 - 8 ft
Sample Type					N	N	N
Matrix					SE	SE	SE
X					1302871.603	1302871.603	1302871.603
Y					374375.3905	374375.3905	374375.3905
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII			
Di-n-butyl phthalate			1400	1400	--	--	--
Di-n-octyl phthalate			6200	6200	--	--	--
Hexachlorobenzene			22	70	--	--	--
Hexachlorobutadiene (Hexachloro-1,3-butadiene)			11	120	--	--	--
Hexachloroethane					--	--	--
n-Nitrosodiphenylamine			28	40	--	--	--
Pentachlorophenol	360	690	360	690	--	--	--
Phenol	420	1200	420	1200	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-OC)							
2-Methylnaphthalene	38	64			--	--	--
Acenaphthene	16	57			--	--	--
Acenaphthylene	66	66			--	--	--
Anthracene	220	1200			--	--	--
Benzo(a)anthracene	110	270			--	--	--
Benzo(a)pyrene	99	210			--	--	--
Benzo(g,h,i)perylene	31	78			--	--	--
Chrysene	110	460			--	--	--
Dibenzo(a,h)anthracene	12	33			--	--	--
Dibenzofuran	15	58			--	--	--
Fluoranthene	160	1200			--	--	--
Fluorene	23	79			--	--	--
Indeno(1,2,3-c,d)pyrene	34	88			--	--	--
Naphthalene	99	170			--	--	--
Phenanthrene	100	480			--	--	--
Pyrene	1000	1400			--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)	230	450			--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--
Total HPAH (SMS) (U = 0)	960	5300			--	--	--
Total LPAH (SMS) (U = 0)	370	780			--	--	--
Polycyclic Aromatic Hydrocarbons (µg/kg)							
2-Methylnaphthalene			670	670	--	--	--
Acenaphthene			500	500	--	--	--
Acenaphthylene			1300	1300	--	--	--
Anthracene			960	960	--	--	--
Benzo(a)anthracene			1300	1600	--	--	--
Benzo(a)pyrene			1600	1600	--	--	--
Benzo(b,j,k)fluoranthenes					--	--	--
Benzo(g,h,i)perylene			670	720	--	--	--
Chrysene			1400	2800	--	--	--
Dibenzo(a,h)anthracene			230	230	--	--	--
Dibenzofuran			540	540	--	--	--
Fluoranthene			1700	2500	--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-SC402-130928	JW-SC402-130928	JW-SC402-130928
Sample ID					JW-SC402-B-130928	JW-SC402-C-130928	JW-SC402-D-130928
Sample Date					9/28/2013	9/28/2013	9/28/2013
Depth					2 - 4 ft	4 - 6 ft	6 - 8 ft
Sample Type					N	N	N
Matrix					SE	SE	SE
X					1302871.603	1302871.603	1302871.603
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	374375.3905	374375.3905	374375.3905
Analyte							
Fluorene			540	540	--	--	--
Indeno(1,2,3-c,d)pyrene			600	690	--	--	--
Naphthalene			2100	2100	--	--	--
Phenanthrene			1500	1500	--	--	--
Pyrene			2600	3300	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)					--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)					--	--	--
Total Benzofluoranthenes (b,j,k) (U = 0)			3200	3600	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)					--	--	--
Total HPAH (SMS) (U = 0)			12000	17000	--	--	--
Total LPAH (SMS) (U = 0)			5200	5200	--	--	--
Dioxin Furans (mg/kg-OC)							
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					**0.00015194429348 J**	**0.00014106703911 J**	4.140983607E-05 U
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					**0.0001102173913 J**	**0.00010920614525 J**	4.140983607E-05 U
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					**0.00010578804348 J**	**0.00010312290503 J**	4.140983607E-05 U
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					**0.00010118002717 J**	**8.774664804E-05 J**	4.140983607E-05 U
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					**5.734103261E-05 J**	**5.62924581E-05 J**	4.140983607E-05 U
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					**5.668070652E-05 J**	**5.411145251E-05 J**	4.140983607E-05 U
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					**5.041576087E-05 J**	**3.442625698E-05 J**	4.140983607E-05 U
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					**4.46467391E-06 J**	**3.37877095E-06 J**	4.140983607E-05 U
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					**7.57336957E-06 J**	**5.1E-06 J**	4.140983607E-05 U
Dioxin Furans (ng/kg)							
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					0.1056 U	0.1058 U	0.1216 U
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					0.1347 U	0.1346 U	0.1263 U
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					0.1477 U	0.1201 U	0.1346 U
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					0.1487 U	0.1243 U	0.1357 U
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					0.1565 U	0.1183 U	0.1293 U
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)					2.04 U	1.61 U	0.1936 U
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)					**12.7**	11.5 U	1.64 U
Total Tetrachlorodibenzo-p-dioxin (TCDD)					**0.542 J**	**0.421**	**0.313**
Total Pentachlorodibenzo-p-dioxin (PeCDD)					0.1347 U	0.1346 U	0.1263 U
Total Hexachlorodibenzo-p-dioxin (HxCDD)					**0.573 J**	**0.64 J**	0.183 U
Total Heptachlorodibenzo-p-dioxin (HpCDD)					4.29 U	3.57 U	0.351 U
2,3,7,8-Tetrachlorodibenzofuran (TCDF)					**0.178 J**	**0.117 J**	0.0798 U
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					0.0687 U	0.0852 U	0.0774 U
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					0.0668 U	0.0841 U	0.0749 U
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)					0.0742 U	0.0587 U	0.0937 U
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					0.0731 U	0.0599 U	0.0907 U
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					0.0901 U	0.0741 U	0.1063 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					0.0787 U	0.0653 U	0.0888 U
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					**0.626 J**	**0.609 J**	0.1255 U
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					0.136 U	0.1116 U	0.1302 U
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)					1.23 U	**1.56 J**	0.1735 U
Total Tetrachlorodibenzofuran (TCDF)					**0.559 J**	**0.763 J**	0.0798 U

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-SC402-130928	JW-SC402-130928	JW-SC402-130928
Sample ID					JW-SC402-B-130928	JW-SC402-C-130928	JW-SC402-D-130928
Sample Date					9/28/2013	9/28/2013	9/28/2013
Depth					2 - 4 ft	4 - 6 ft	6 - 8 ft
Sample Type					N	N	N
Matrix					SE	SE	SE
X					1302871.603	1302871.603	1302871.603
Y					374375.3905	374375.3905	374375.3905
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII			
Total Pentachlorodibenzofuran (PeCDF)					**0.302**	**0.619 J**	0.0762 U
Total Hexachlorodibenzofuran (HxCDF)					**0.492 J**	**0.659 J**	0.0944 U
Total Heptachlorodibenzofuran (HpCDF)					1.67 U	1.6 U	0.1278 U
Total Dioxin/Furan TEQ 1998 (Avian) (U = limit)					**0.559155 J**	**0.50502 J**	0.1263 U
Total Dioxin/Furan TEQ 1998 (Fish) (U = limit)					**0.4056 J**	**0.390958 J**	0.1263 U
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)					**0.3893 J**	**0.36918 J**	0.1263 U
Total Dioxin/Furan TEQ 1998 (Avian) (U = 1/2)					**0.3723425 J**	**0.314133 J**	0.1263 U
Total Dioxin/Furan TEQ 1998 (Fish) (U = 1/2)					**0.211015 J**	**0.201527 J**	0.1263 U
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)					**0.208585 J**	**0.193719 J**	0.1263 U
Total Dioxin/Furan TEQ 1998 (Avian) (U = 0)					**0.18553 J**	**0.123246 J**	0.1263 U
Total Dioxin/Furan TEQ 1998 (Fish) (U = 0)					**0.01643 J**	**0.012096 J**	0.1263 U
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)					**0.02787 J**	**0.018258 J**	0.1263 U
PCB Aroclors (mg/kg-OC)							
Total PCB Aroclors (SMS Marine 2013) (U = 0)	12	65			--	--	--
PCB Aroclors (µg/kg)							
Aroclor 1016					--	--	--
Aroclor 1221					--	--	--
Aroclor 1232					--	--	--
Aroclor 1242					--	--	--
Aroclor 1248					--	--	--
Aroclor 1254					--	--	--
Aroclor 1260					--	--	--
Total PCB Aroclors (SMS Marine 2013) (U = 0)			130	1000	--	--	--
PCB Congeners (mg/kg-OC)							
Total PCB Congener (U = limit)					--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--
Total PCB Congener (U = 1/2)					--	--	--
Total PCB Congener (U = 0)	12	65			--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--
PCB Congeners (ng/kg)							
PCB-001					--	--	--
PCB-002					--	--	--
PCB-003					--	--	--
PCB-004					--	--	--
PCB-005					--	--	--
PCB-006					--	--	--
PCB-007					--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-SC402-130928	JW-SC402-130928	JW-SC402-130928
Sample ID					JW-SC402-B-130928	JW-SC402-C-130928	JW-SC402-D-130928
Sample Date					9/28/2013	9/28/2013	9/28/2013
Depth					2 - 4 ft	4 - 6 ft	6 - 8 ft
Sample Type					N	N	N
Matrix					SE	SE	SE
X					1302871.603	1302871.603	1302871.603
Y	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	374375.3905	374375.3905	374375.3905
Analyte							
PCB-008					--	--	--
PCB-009					--	--	--
PCB-010					--	--	--
PCB-011					--	--	--
PCB-012/013					--	--	--
PCB-014					--	--	--
PCB-015					--	--	--
PCB-016					--	--	--
PCB-017					--	--	--
PCB-018/030					--	--	--
PCB-019					--	--	--
PCB-020/028					--	--	--
PCB-021/033					--	--	--
PCB-022					--	--	--
PCB-023					--	--	--
PCB-024					--	--	--
PCB-025					--	--	--
PCB-026/029					--	--	--
PCB-027					--	--	--
PCB-031					--	--	--
PCB-032					--	--	--
PCB-034					--	--	--
PCB-035					--	--	--
PCB-036					--	--	--
PCB-037					--	--	--
PCB-038					--	--	--
PCB-039					--	--	--
PCB-040/071					--	--	--
PCB-041					--	--	--
PCB-042					--	--	--
PCB-043					--	--	--
PCB-044/047/065					--	--	--
PCB-045					--	--	--
PCB-046					--	--	--
PCB-048					--	--	--
PCB-049/069					--	--	--
PCB-050/053					--	--	--
PCB-051					--	--	--
PCB-052					--	--	--
PCB-054					--	--	--
PCB-055					--	--	--
PCB-056					--	--	--
PCB-057					--	--	--
PCB-058					--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-SC402-130928	JW-SC402-130928	JW-SC402-130928
Sample ID					JW-SC402-B-130928	JW-SC402-C-130928	JW-SC402-D-130928
Sample Date					9/28/2013	9/28/2013	9/28/2013
Depth					2 - 4 ft	4 - 6 ft	6 - 8 ft
Sample Type					N	N	N
Matrix					SE	SE	SE
X					1302871.603	1302871.603	1302871.603
Y					374375.3905	374375.3905	374375.3905
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII			
PCB-059/062/075					--	--	--
PCB-060					--	--	--
PCB-061/070/074/076					--	--	--
PCB-063					--	--	--
PCB-064					--	--	--
PCB-066					--	--	--
PCB-067					--	--	--
PCB-068					--	--	--
PCB-072					--	--	--
PCB-073					--	--	--
PCB-077					--	--	--
PCB-078					--	--	--
PCB-079					--	--	--
PCB-080					--	--	--
PCB-081					--	--	--
PCB-082					--	--	--
PCB-083					--	--	--
PCB-084					--	--	--
PCB-085/116					--	--	--
PCB-086/087/097/108/119/125					--	--	--
PCB-088					--	--	--
PCB-089					--	--	--
PCB-090/101/113					--	--	--
PCB-091					--	--	--
PCB-092					--	--	--
PCB-093/100					--	--	--
PCB-094					--	--	--
PCB-095					--	--	--
PCB-096					--	--	--
PCB-098					--	--	--
PCB-099					--	--	--
PCB-102					--	--	--
PCB-103					--	--	--
PCB-104					--	--	--
PCB-105					--	--	--
PCB-106					--	--	--
PCB-107/124					--	--	--
PCB-109					--	--	--
PCB-110					--	--	--
PCB-111					--	--	--
PCB-112					--	--	--
PCB-114					--	--	--
PCB-115					--	--	--
PCB-117					--	--	--

Table H-2
Subsurface Sediment Results

Task					JeldWenSed2013	JeldWenSed2013	JeldWenSed2013
Location ID					JW-SC402-130928	JW-SC402-130928	JW-SC402-130928
Sample ID					JW-SC402-B-130928	JW-SC402-C-130928	JW-SC402-D-130928
Sample Date					9/28/2013	9/28/2013	9/28/2013
Depth					2 - 4 ft	4 - 6 ft	6 - 8 ft
Sample Type					N	N	N
Matrix					SE	SE	SE
X					1302871.603	1302871.603	1302871.603
Y					374375.3905	374375.3905	374375.3905
Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII			
PCB-118					--	--	--
PCB-120					--	--	--
PCB-121					--	--	--
PCB-122					--	--	--
PCB-123					--	--	--
PCB-126					--	--	--
PCB-127					--	--	--
PCB-128/166					--	--	--
PCB-129/138/163					--	--	--
PCB-130					--	--	--
PCB-131					--	--	--
PCB-132					--	--	--
PCB-133					--	--	--
PCB-134					--	--	--
PCB-135/151					--	--	--
PCB-136					--	--	--
PCB-137					--	--	--
PCB-139/140					--	--	--
PCB-141					--	--	--
PCB-142					--	--	--
PCB-143					--	--	--
PCB-144					--	--	--
PCB-145					--	--	--
PCB-146					--	--	--
PCB-147/149					--	--	--
PCB-148					--	--	--
PCB-150					--	--	--
PCB-152					--	--	--
PCB-153/168					--	--	--
PCB-154					--	--	--
PCB-155					--	--	--
PCB-156/157					--	--	--
PCB-158					--	--	--
PCB-159					--	--	--
PCB-160					--	--	--
PCB-161					--	--	--
PCB-162					--	--	--
PCB-164					--	--	--
PCB-165					--	--	--
PCB-167					--	--	--
PCB-169					--	--	--
PCB-170					--	--	--
PCB-171/173					--	--	--
PCB-172					--	--	--

Table H-2
Subsurface Sediment Results

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y Analyte	SMS_Marine_SCO_SCUMII	SMS_Marine_CSL_SCUMII	AET_Marine_SCO_SCUMII	AET_Marine_CSL_SCUMII	JeldWenSed2013 JW-SC402-130928 JW-SC402-B-130928 9/28/2013 2 - 4 ft N SE 1302871.603 374375.3905	JeldWenSed2013 JW-SC402-130928 JW-SC402-C-130928 9/28/2013 4 - 6 ft N SE 1302871.603 374375.3905	JeldWenSed2013 JW-SC402-130928 JW-SC402-D-130928 9/28/2013 6 - 8 ft N SE 1302871.603 374375.3905
PCB-174					--	--	--
PCB-175					--	--	--
PCB-176					--	--	--
PCB-177					--	--	--
PCB-178					--	--	--
PCB-179					--	--	--
PCB-180/193					--	--	--
PCB-181					--	--	--
PCB-182					--	--	--
PCB-183					--	--	--
PCB-184					--	--	--
PCB-185					--	--	--
PCB-186					--	--	--
PCB-187					--	--	--
PCB-188					--	--	--
PCB-189					--	--	--
PCB-190					--	--	--
PCB-191					--	--	--
PCB-192					--	--	--
PCB-194					--	--	--
PCB-195					--	--	--
PCB-196					--	--	--
PCB-197					--	--	--
PCB-198/199					--	--	--
PCB-200					--	--	--
PCB-201					--	--	--
PCB-202					--	--	--
PCB-203					--	--	--
PCB-204					--	--	--
PCB-205					--	--	--
PCB-206					--	--	--
PCB-207					--	--	--
PCB-208					--	--	--
PCB-209					--	--	--
Total PCB Congener (U = limit)					--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = limit)					--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = limit)					--	--	--
Total PCB Congener TEQ 1998 (Mammal) (U = limit)					--	--	--
Total PCB Congener (U = 1/2)					--	--	--
Total PCB Congener (U = 0)			130000	1000000	--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)					--	--	--
Total PCB Congener TEQ 1998 (Avian) (U = 0)					--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)					--	--	--
Total PCB Congener TEQ 1998 (Fish) (U = 0)					--	--	--

Table H-2
Subsurface Sediment Results

Task					**JeldWenSed2013**	**JeldWenSed2013**	**JeldWenSed2013**
Location ID					**JW-SC402-130928**	**JW-SC402-130928**	**JW-SC402-130928**
Sample ID					**JW-SC402-B-130928**	**JW-SC402-C-130928**	**JW-SC402-D-130928**
Sample Date					**9/28/2013**	**9/28/2013**	**9/28/2013**
Depth					**2 - 4 ft**	**4 - 6 ft**	**6 - 8 ft**
Sample Type					**N**	**N**	**N**
Matrix					**SE**	**SE**	**SE**
X					**1302871.603**	**1302871.603**	**1302871.603**
Y	**SMS_Marine_ SCO_SCUMII**	**SMS_Marine_ CSL_SCUMII**	**AET_Marine_ SCO_SCUMII**	**AET_Marine_ CSL_SCUMII**	**374375.3905**	**374375.3905**	**374375.3905**
Analyte							
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)					--	--	--
Total PCB Congener TEQ 2005 (Mammal) (U = 0)					--	--	--
Radionuclides (pci/g)							
Cesium 137					--	--	--
Lead 210					--	--	--
Dioxin Furans and PCB Congeners (mg/kg-OC)							
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**0.00015194429348 J**	**0.00014106703911 J**	4.140983607E-05 U
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**0.0001102173913 J**	**0.00010920614525 J**	4.140983607E-05 U
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**0.00010578804348 J**	**0.00010312290503 J**	4.140983607E-05 U
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**0.00010118002717 J**	**8.774664804E-05 J**	4.140983607E-05 U
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**5.734103261E-05 J**	**5.62924581E-05 J**	4.140983607E-05 U
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**5.668070652E-05 J**	**5.411145251E-05 J**	4.140983607E-05 U
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**5.041576087E-05 J**	**3.442625698E-05 J**	4.140983607E-05 U
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**4.46467391E-06 J**	**3.37877095E-06 J**	4.140983607E-05 U
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**7.57336957E-06 J**	**5.1E-06 J**	4.140983607E-05 U
Dioxin Furans and PCB Congeners (ng/kg)							
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = limit)					**0.559155 J**	**0.50502 J**	0.1263 U
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = limit)					**0.4056 J**	**0.390958 J**	0.1263 U
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)					**0.3893 J**	**0.36918 J**	0.1263 U
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 1/2)					**0.3723425 J**	**0.314133 J**	0.1263 U
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 1/2)					**0.211015 J**	**0.201527 J**	0.1263 U
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)					**0.208585 J**	**0.193719 J**	0.1263 U
Total Dioxin/Furan and PCB Congener TEQ 1998 (Avian) (Calculated U = 0)					**0.18553 J**	**0.123246 J**	0.1263 U
Total Dioxin/Furan and PCB Congener TEQ 1998 (Fish) (Calculated U = 0)					**0.01643 J**	**0.012096 J**	0.1263 U
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)					**0.02787 J**	**0.018258 J**	0.1263 U

Table H-2
Subsurface Sediment Results

Notes:

Total LPAH represents the sum of naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, and anthracene.

Total HPAH represents the sum of fluoranthene, pyrene, benz(a)anthracene, chrysene, benzo(b,j,k)fluoranthenes, benzo(a)pyrene, indeno(1,2,3,-c,d)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene.

Total LPAH represents the sum of naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, and anthracene.

Total HPAH represents the sum of fluoranthene, pyrene, benz(a)anthracene, chrysene, benzo(b,j,k)fluoranthenes, benzo(a)pyrene, indeno(1,2,3,-c,d)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene.

TOC in range (0.5% - 3.5%)

🟨 Detected concentration is greater than SMS_Marine_SCO_SCUMII screening level

🟦 Detected concentration is greater than SMS_Marine_CSL_SCUMII screening level

TOC out of range

🟩 Detected concentration is greater than AET_Marine_SCO_SCUMII screening level

🟧 Detected concentration is greater than AET_Marine_CSL_SCUMII screening level

Bold = detected result

µg/kg = micrograms per kilogram dry weight

-- = not applicable

cPAH = carcinogenic polycyclic aromatic hydrocarbon

CAEPA = California Environmental Protection Agency

FD = field duplicate sample

ft = foot

HPAH = high-molecular-weight polycyclic aromatic hydrocarbon

J = estimated value

LPAH = low-molecular-weight polycyclic aromatic hydrocarbon

mg/kg = milligram per kilogram dry weight

N = normal environmental sample

ng/kg = nanogram per kilogram dry weight

OC = organic carbon

PCB = polychlorinated biphenyl

pct = percent

SE = sediment

TEQ = toxicity equivalency factor

TOC = total organic carbon

U = compound analyzed but not detected above detection limit

UJ = compound analyzed but not detected above estimated detection limit

Table H-3
Summary of Core Sieving Wood Fragment Results

H-3a - Geochronology Subsurface Core GC-1

Matrix	Interval (cm)	% Wood	% Shell	Description of Material Retained on 200-Sieve
Sandy Silt*	0 to 2	2		Trace small bark fragments up to 0.125 inch x 0.25 inch, trace short orange wood fibers
	2 to 4	2	<5	Contains small clam, small bark fragments up to 0.125 inch x 0.25 inch, substantial fine sand retained
	4 to 6	5		3 small bark fragments up to 0.5 inch x 0.125 inch, trace red wood splinters
	6 to 8	5		2 large bark fragments up to 1 inch x 0.5 inch, contains small reddish wood splinters
	8 to 10	10		4 bark fragments up to 0.5 inch x 0.25 inch, contains trace reddish wood splinters
	10 to 12	10		5 bark fragments up to 1 inch x 0.25 inch, contains trace reddish wood splinters, wood, and bark fragments
	12 to 14	10		1 bark fragment 1.5 inches x 1 inch, 1 wood splinter 1 inch x 0.33 inch, contains small wood and bark fragments and fibers
	14 to 16	15		1 bark fragment 1 inch x 0.5 inch, contains small bark fragments up to 0.5 inch x 0.125 inch
	16 to 18	20		1 to 2-inch yellow wood splinter, contains small bark fragments up to 0.5 inch x 0.125 inch
	18 to 20	5		Contains small bark fragments up to 0.125 inch x 0.25 inch, trace yellow wood splinters
	20 to 22	5		Contains small bark fragments up to 0.125 inch x 0.25 inch, trace yellow wood splinters
	22 to 24	2		Contains trace bark fragments and fibers
Sand with Silt	24 to 26	5		3 bark fragments up to 0.5 inch x 0.25 inch, contains small bark fragments and fibers
	26 to 28	2		Contains trace bark fibers
	28 to end of core	0		No wood or bark

H-3b - Geochronology Subsurface Core GC-2

Matrix	Interval (cm)	% Wood	% Shell	Description of Material Retained on 200-Sieve
Sandy Silt*	0 to 2	10		Contains small bark slivers up to 2.5 inches x 0.125 inch, 4 small wood and bark fragments, trace brownish orange wood fibers
	2 to 4	5	<5	2 small wood fragments up to 0.125 inch x 0.25 inch
	4 to 6	2	<5	1 large bark fragment 1.5 inches x 0.5 inch, contains orange wood fibers
	6 to 8	5		3 small bark fragments up to 0.125 inch x 0.25 inch, 5 splintered wood fragments up to 1.5 inches x 0.25 inch
	8 to 10	10		8 large bark fragments up to 1.5 inch x 0.5 inch, 1 splintered wood fragment 1.5 inches x 0.25 inch, trace organic fibers
	10 to 12	15		6 large bark fragments up to 1.5 inches x 0.5 inch
	12 to 14	10		Contains large and small bark fragments up to 1.5 inch x 0.5 inch
	14 to 16	5		1 large bark fragment 1 inch x 1 inch, contains wood splinters up to 0.5 inch and small bark fragments
	16 to 18	10		Contains large and small bark fragments up to 1 inch x 0.25 inch, small wood fragments and fibers
	18 to 20	5		Contains small bark fragments up to 0.125 inch x 0.25 inch, trace bark fibers and brownish orange fibers
	20 to 22	5		Contains shredded reddish bark fragments
	22 to 30	5		Contains small bark and shredded reddish bark fragments up to 0.125 inch x 0.25 inch; trace bark fibers and brownish orange fibers
	30 to 32	15		Contains large and small bark fragments up to 1.5 inches x 1 inch
Sand with Silt	32 to 34	10		Contains small bark fragments up to 0.125 inch x 0.25 inch, substantial fine sand retained
	34 to 36	2		Contains bark and woody fibers, substantial fine sand retained
	36 to 38	10		Contains large and small bark fragments up to 1.5 inches x 0.5 inch
	38 to 40	2		Contains trace bark fragments
	40 to 42	0		No bark or wood fragments
	42 to end of core	0		No wood or bark

Notes:

cm = centimeter

*The nearshore tidal lands adjacent to the southern extent of the Former Nord Door Facility are a homogenous sandy SILT sediment matrix. The mean surficial sediment grain size results (gravel 3%, sand 35%, and silt and clay 63%) collected from the southern extent of the site (EA-06, EA-07, EA-08, EA-09, and EA-10) were considered when determining the total percentage of wood observed.

Table H-4
Tissue Results

Task	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	JeldWend2014Tissue	JeldWend2014Tissue	JeldWend2014Tissue	JeldWend2014Tissue
Location ID	JW-DR-Tissue	JW-EA01-Tissue	JW-EA10-Tissue	JW-RG-Tissue	JW-UR-Tissue	P-100	P-100	P-25	P-50
Sample ID	JW-DR-TISSUE-120508	JW-EA01-TISSUE-120516	JW-EA10-TISSUE-120516	JW-RG-TISSUE-120508	JW-UR-TISSUE-120508	JW-TISSUE-01-140428	JW-TISSUE-01-140428-DUP	JW-TISSUE-03-140428	JW-TISSUE-02-140428
Sample Date	05/08/2012	05/16/2012	05/16/2012	05/08/2012	05/08/2012	04/29/2014	04/29/2014	04/29/2014	04/29/2014
Sample Type	N	N	N	N	N	N	FD	N	N
Matrix	TA	TA	TA	TA	TA	TA	TA	TA	TA
X	1301953.88	1303385.74	1302901.691	1302616.709	1306498.34	1302756.413	1302756.413	1302506.518	1302753.529
Y	370102.4568	373575.7223	372488.6797	382542.3177	374273.3559	372242.2397	372242.2397	372341.8726	371894.7329
Analyte									
Conventional Parameters (pct)									
Lipids	**0.319**	**0.5**	**0.519**	**0.459**	**0.559**	**0.5**	**0.5**	**0.6**	**0.5**
Polycyclic Aromatic Hydrocarbons (µg/kg)									
1-Methylnaphthalene	7.96 U	**0.721 J**	**0.758 J**	7.92 U	**0.569**	--	--	--	--
2-Methylnaphthalene	**1.08 J**	**0.821 J**	**0.759 J**	7.92 U	**0.76**	--	--	--	--
Acenaphthene	7.96 U	**1.45 J**	1.74 U	7.92 U	0.389 U	--	--	--	--
Acenaphthylene	7.96 U	1.86 U	1.74 U	7.92 U	0.389 U	--	--	--	--
Anthracene	7.96 U	**0.733 J**	**0.765 J**	7.92 U	**0.352 J**	--	--	--	--
Benzo(a)anthracene	7.96 U	**5.55**	**2.58**	7.92 U	**2.72**	--	--	--	--
Benzo(a)pyrene	7.96 U	**0.627 J**	**0.671 J**	7.92 U	0.389 U	--	--	--	--
Benzo(b)fluoranthene	**2.33 J**	**2.66**	1.74 U	7.92 U	0.389 U	--	--	--	--
Benzo(e)pyrene	**2.38 J**	**2.48**	**2.33**	7.92 U	0.389 U	--	--	--	--
Benzo(g,h,i)perylene	**3.06 J**	1.86 U	1.74 U	**18.4**	0.389 U	--	--	--	--
Benzo(k)fluoranthene	7.96 U	**1.11 J**	1.74 U	7.92 U	0.389 U	--	--	--	--
Chrysene	**1.5 J**	**5.56**	**3.42**	7.92 U	**3.61**	--	--	--	--
Dibenzo(a,h)anthracene	7.96 UJ	1.86 U	**0.909 J**	7.92 UJ	0.389 UJ	--	--	--	--
Dibenzofuran	7.96 U	**1.27 J**	1.74 U	7.92 U	**0.362 J**	--	--	--	--
Fluoranthene	**5.09 J**	**25.2**	**15.9**	7.92 U	**6.86**	--	--	--	--
Fluorene	7.96 U	**2.09**	**1.39 J**	7.92 U	**0.549**	--	--	--	--
Indeno(1,2,3-c,d)pyrene	**1.81 J**	1.86 U	1.74 U	7.92 U	0.389 U	--	--	--	--
Naphthalene	**1.63 J**	**0.709 J**	**1.14 J**	**1.2 J**	**0.704**	--	--	--	--
Perylene	**3.25 J**	**1.83 J**	**7.16**	**2.54 J**	**0.618**	--	--	--	--
Phenanthrene	**3.42 J**	**12.1**	**8.99**	**1.93 J**	**3.24**	--	--	--	--
Pyrene	**5.67 J**	**18.3**	**8.78**	7.92 U	**5.39**	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)	**10.78 J**	**1.987 J**	**1.576 J**	7.92 UJ	**0.853 J**	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)	**0.43 J**	**1.615 J**	**1.054 J**	7.92 UJ	**0.308 J**	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)	**5.6 J**	**1.801 J**	**1.315 J**	7.92 UJ	**0.58 J**	--	--	--	--
Total cPAH TEQ (EPA 1993) (U = 0)	**0.42 J**	**1.465 J**	**1.841 J**	7.92 UJ	**0.276 J**	--	--	--	--
Total HPAH (9 of 15) (U = 0)	**19.46 J**	**59.007 J**	**32.26 J**	**18.4 J**	**18.58 J**	--	--	--	--
Total HPAH (9 of 15) (U = 1/2)	**35.38 J**	**61.797 J**	**35.74 J**	**54.04 J**	**19.747 J**	--	--	--	--
Total HPAH (9 of 15) (U = limit)	**51.3 J**	**64.587 J**	**39.22 J**	**89.68 J**	**20.914 J**	--	--	--	--
Total LPAH (6 of 15) (U = 0)	**5.05 J**	**17.082 J**	**12.285 J**	**3.13 J**	**4.845 J**	--	--	--	--
Total LPAH (6 of 15) (U = 1/2)	**20.97 J**	**18.012 J**	**14.025 J**	**18.97 J**	**5.234 J**	--	--	--	--
Total LPAH (6 of 15) (U = limit)	**36.89 J**	**18.942 J**	**15.765 J**	**34.81 J**	**5.623 J**	--	--	--	--
Total PAH (15) (U = 0)	**24.51 J**	**76.089 J**	**44.545 J**	**21.53 J**	**23.425 J**	--	--	--	--
Total PAH (15) (U = 1/2)	**56.35 J**	**79.809 J**	**49.765 J**	**73.01 J**	**24.981 J**	--	--	--	--
Total PAH (15) (U = limit)	**88.19 J**	**83.529 J**	**54.985 J**	**124.49 J**	**26.537 J**	--	--	--	--
Polycyclic Aromatic Hydrocarbons (mg/kg-lipid)									
1-Methylnaphthalene	2.50 U	**0.14 J**	**0.15 J**	1.73 U	**0.10**	--	--	--	--
2-Methylnaphthalene	**0.34 J**	**0.16 J**	**0.15 J**	1.73 U	**0.14**	--	--	--	--
Acenaphthene	2.50 U	**0.29 J**	0.34 U	1.73 U	0.07 U	--	--	--	--
Acenaphthylene	2.50 U	0.37 U	0.34 U	1.73 U	0.07 U	--	--	--	--
Anthracene	2.50 U	**0.15 J**	**0.15 J**	1.73 U	**0.06 J**	--	--	--	--
Benzo(a)anthracene	2.50 U	**1.11**	**0.50**	1.73 U	**0.49**	--	--	--	--

Table H-4
Tissue Results

Task	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	JeldWend2014Tissue	JeldWend2014Tissue	JeldWend2014Tissue	JeldWend2014Tissue
Location ID	**JW-DR-Tissue**	**JW-EA01-Tissue**	**JW-EA10-Tissue**	**JW-RG-Tissue**	**JW-UR-Tissue**	**P-100**	**P-100**	**P-25**	**P-50**
Sample ID	**JW-DR-TISSUE-120508**	**JW-EA01-TISSUE-120516**	**JW-EA10-TISSUE-120516**	**JW-RG-TISSUE-120508**	**JW-UR-TISSUE-120508**	**JW-TISSUE-01-140428**	**JW-TISSUE-01-140428-DUP**	**JW-TISSUE-03-140428**	**JW-TISSUE-02-140428**
Sample Date	**05/08/2012**	**05/16/2012**	**05/16/2012**	**05/08/2012**	**05/08/2012**	**04/29/2014**	**04/29/2014**	**04/29/2014**	**04/29/2014**
Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**FD**	**N**	**N**
Matrix	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**
X	**1301953.88**	**1303385.74**	**1302901.691**	**1302616.709**	**1306498.34**	**1302756.413**	**1302756.413**	**1302506.518**	**1302753.529**
Y	**370102.4568**	**373575.7223**	**372488.6797**	**382542.3177**	**374273.3559**	**372242.2397**	**372242.2397**	**372341.8726**	**371894.7329**
Analyte									
Benzo(a)pyrene	2.50 U	**0.13 J**	**0.13 J**	1.73 U	0.07 U	--	--	--	--
Benzo(b)fluoranthene	**0.73 J**	**0.53**	0.34 U	1.73 U	0.07 U	--	--	--	--
Benzo(e)pyrene	**0.75 J**	**0.50**	**0.45**	1.73 U	0.07 U	--	--	--	--
Benzo(g,h,i)perylene	**0.96 J**	0.37 U	0.34 U	**4.01**	0.07 U	--	--	--	--
Benzo(k)fluoranthene	2.50 U	**0.22 J**	0.34 U	1.73 U	0.07 U	--	--	--	--
Chrysene	**0.47 J**	**1.11**	**0.66**	1.73 U	**0.65**	--	--	--	--
Dibenzo(a,h)anthracene	2.50UJ	0.37 U	**0.18 J**	1.73UJ	0.07UJ	--	--	--	--
Dibenzofuran	2.4953 U	**0.254 J**	0.33526 U	1.72549 U	**0.064758 J**	--	--	--	--
Fluoranthene	**1.60 J**	**5.04**	**3.06**	1.73 U	**1.23**	--	--	--	--
Fluorene	2.50 U	**0.42**	**0.27 J**	1.73 U	**0.10**	--	--	--	--
Indeno(1,2,3-c,d)pyrene	**0.57 J**	0.37 U	0.34 U	1.73 U	0.07 U	--	--	--	--
Naphthalene	**0.51 J**	**0.14 J**	**0.22 J**	**0.26 J**	**0.13**	--	--	--	--
Perylene	**1.02 J**	**0.37 J**	**1.38**	**0.55 J**	**0.11**	--	--	--	--
Phenanthrene	**1.07 J**	**2.42**	**1.73**	**0.42 J**	**0.58**	--	--	--	--
Pyrene	**1.78 J**	**3.66**	**1.69**	1.73 U	**0.96**	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = limit)	**3.38 J**	**0.40 J**	**0.30 J**	1.73UJ	**0.15 J**	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)	**0.13 J**	**0.32 J**	**0.20 J**	1.73UJ	**0.06 J**	--	--	--	--
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2)	**1.76 J**	**0.36 J**	**0.25 J**	1.73UJ	**0.10 J**	--	--	--	--
Total HPAH (9 of 15) (U = 0)	**6.10 J**	**11.80 J**	**6.22 J**	**4.01 J**	**3.32 J**	--	--	--	--
Total HPAH (9 of 15) (U = 1/2)	**11.09 J**	**12.36 J**	**6.89 J**	**11.77 J**	**3.53 J**	--	--	--	--
Total HPAH (9 of 15) (U = limit)	**16.08 J**	**12.92 J**	**7.56 J**	**19.54 J**	**3.74 J**	--	--	--	--
Total LPAH (6 of 15) (U = 0)	**1.58 J**	**3.42 J**	**2.37 J**	**0.68 J**	**0.87 J**	--	--	--	--
Total LPAH (6 of 15) (U = 1/2)	**6.57 J**	**3.60 J**	**2.70 J**	**4.13 J**	**0.94 J**	--	--	--	--
Total PAH (15) (U = 0)	**7.68 J**	**15.22 J**	**8.58 J**	**4.69 J**	**4.19 J**	--	--	--	--
Total PAH (15) (U = 1/2)	**17.66 J**	**15.96 J**	**9.59 J**	**15.91 J**	**4.47 J**	--	--	--	--
Total PAH (15) (U = limit)	**27.65 J**	**16.71 J**	**10.59 J**	**27.12 J**	**4.75 J**	--	--	--	--
Dioxin Furans (ng/kg)									
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	0.0469 U	0.0809 U	0.0565 U	0.064 U	0.0494 U	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	0.0344 U	0.0565 U	0.0469 U	0.0423 U	0.0481 U	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.06 U	0.138 U	0.0623 U	0.141 U	0.076 U	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	**0.133 J**	0.143 U	**0.241 J**	0.155 U	0.0817 U	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.0626 U	0.14 U	0.0661 U	0.148 U	0.0788 U	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	**1.11 J**	**0.948 J**	**2.05 J**	**0.655 J**	**1.26 J**	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	9.8 U	7.92 U	19.4 U	10.1 U	12.1 U	--	--	--	--
Total Tetrachlorodibenzo-p-dioxin (TCDD)	**0.95 J**	**0.616 J**	**0.409 J**	**0.623 J**	**0.764 J**	--	--	--	--
Total Pentachlorodibenzo-p-dioxin (PeCDD)	0.0344 U	0.0565 U	0.0469 U	0.0423 U	0.0481 U	--	--	--	--
Total Hexachlorodibenzo-p-dioxin (HxCDD)	**0.92 J**	**0.318 J**	**1.18 J**	**0.163 J**	**0.26 J**	--	--	--	--
Total Heptachlorodibenzo-p-dioxin (HpCDD)	**3.32 J**	**2.91 J**	**5.1 J**	**1.65 J**	**3.37 J**	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.0499 U	0.062 U	0.0542 U	**0.109 J**	0.0492 U	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	0.0497 U	0.0938 U	0.114 U	0.0514 U	0.0541 U	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	0.0295 U	0.0395 U	0.063 U	0.0288 U	0.0301 U	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.0308 U	0.0638 U	**0.389 J**	0.0293 U	0.0319 U	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.0275 U	0.0579 U	**0.196 J**	0.0256 U	0.0285 U	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.0436 U	0.0987 U	**0.12 J**	0.0436 U	0.0459 U	--	--	--	--

Table H-4
Tissue Results

Task	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	JeldWend2014Tissue	JeldWend2014Tissue	JeldWend2014Tissue	JeldWend2014Tissue
Location ID	**JW-DR-Tissue**	**JW-EA01-Tissue**	**JW-EA10-Tissue**	**JW-RG-Tissue**	**JW-UR-Tissue**	**P-100**	**P-100**	**P-25**	**P-50**
Sample ID	**JW-DR-TISSUE-120508**	**JW-EA01-TISSUE-120516**	**JW-EA10-TISSUE-120516**	**JW-RG-TISSUE-120508**	**JW-UR-TISSUE-120508**	**JW-TISSUE-01-140428**	**JW-TISSUE-01-140428-DUP**	**JW-TISSUE-03-140428**	**JW-TISSUE-02-140428**
Sample Date	**05/08/2012**	**05/16/2012**	**05/16/2012**	**05/08/2012**	**05/08/2012**	**04/29/2014**	**04/29/2014**	**04/29/2014**	**04/29/2014**
Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**FD**	**N**	**N**
Matrix	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**
X	**1301953.88**	**1303385.74**	**1302901.691**	**1302616.709**	**1306498.34**	**1302756.413**	**1302756.413**	**1302506.518**	**1302753.529**
Y	**370102.4568**	**373575.7223**	**372488.6797**	**382542.3177**	**374273.3559**	**372242.2397**	**372242.2397**	**372341.8726**	**371894.7329**
Analyte									
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.0346 U	0.0523 U	**0.165 J**	0.0314 U	**0.0726 J**	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.329 U	0.334 U	**1.91 J**	0.254 U	0.358 U	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.0996 U	0.177 U	**0.288 J**	0.0842 U	0.111 U	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	0.375 U	0.494 U	**4.59**	0.338 U	**1.26 J**	--	--	--	--
Total Tetrachlorodibenzofuran (TCDF)	0.0499 U	0.062 U	0.0542 U	0.449 U	0.0492 U	--	--	--	--
Total Pentachlorodibenzofuran (PeCDF)	**0.226 J**	**0.386 J**	**0.281 J**	**0.156 J**	**0.192 J**	--	--	--	--
Total Hexachlorodibenzofuran (HxCDF)	**0.49 J**	**0.417 J**	**1.94 J**	0.0436 U	**0.43 J**	--	--	--	--
Total Heptachlorodibenzofuran (HpCDF)	**0.57 J**	0.671 U	**3.24**	0.443 U	0.837 U	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)	**0.1543 J**	**0.2447 J**	**0.3048 J**	**0.1978 J**	**0.1759 J**	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)	**0.0893 J**	**0.1271 J**	**0.2299 J**	**0.1076 J**	**0.0981 J**	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)	**0.0244 J**	**0.0095 J**	**0.155 J**	**0.0175 J**	**0.0202 J**	--	--	--	--
Dioxin Furans (µg/kg-lipid)									
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	15.0 U	16.0 U	11.0 U	14.0 U	9.0 U	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	11.0 U	11.0 U	9.0 U	9.0 U	9.0 U	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	19.0 U	28.0 U	12.0 U	31.0 U	14.0 U	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	**42.0 J**	29.0 U	**46.0 J**	34.0 U	15.0 U	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	20.0 U	28.0 U	13.0 U	32.0 U	14.0 U	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	**348.0 J**	**190.0 J**	**395.0 J**	**143.0 J**	**225.0 J**	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	3,072.0 U	1,584.0 U	3,738.0 U	2,200.0 U	2,165.0 U	--	--	--	--
Total Tetrachlorodibenzo-p-dioxin (TCDD)	**298.0 J**	**123.0 J**	**79.0 J**	**136.0 J**	**137.0 J**	--	--	--	--
Total Pentachlorodibenzo-p-dioxin (PeCDD)	11.0 U	11.0 U	9.0 U	9.0 U	9.0 U	--	--	--	--
Total Hexachlorodibenzo-p-dioxin (HxCDD)	**288.0 J**	**64.0 J**	**227.0 J**	**36.0 J**	**47.0 J**	--	--	--	--
Total Heptachlorodibenzo-p-dioxin (HpCDD)	**1,041.0 J**	**582.0 J**	**983.0 J**	**359.0 J**	**603.0 J**	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	16.0 U	12.0 U	10.0 U	**24.0 J**	9.0 U	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	16.0 U	19.0 U	22.0 U	11.0 U	10.0 U	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	9.0 U	8.0 U	12.0 U	6.0 U	5.0 U	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	10.0 U	13.0 U	**75.0 J**	6.0 U	6.0 U	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	9.0 U	12.0 U	**38.0 J**	6.0 U	5.0 U	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	14.0 U	20.0 U	**23.0 J**	9.0 U	8.0 U	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	11.0 U	10.0 U	**32.0 J**	7.0 U	**13.0 J**	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	103.0 U	67.0 U	**368.0 J**	55.0 U	64.0 U	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	31.0 U	35.0 U	**55.0 J**	18.0 U	20.0 U	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	118.0 U	99.0 U	**884.0**	74.0 U	**225.0 J**	--	--	--	--
Total Tetrachlorodibenzofuran (TCDF)	16.0 U	12.0 U	10.0 U	98.0 U	9.0 U	--	--	--	--
Total Pentachlorodibenzofuran (PeCDF)	**71.0 J**	**77.0 J**	**54.0 J**	**34.0 J**	**34.0 J**	--	--	--	--
Total Hexachlorodibenzofuran (HxCDF)	**154.0 J**	**83.0 J**	**374.0 J**	9.0 U	**77.0 J**	--	--	--	--
Total Heptachlorodibenzofuran (HpCDF)	**179.0 J**	134.0 U	**624.0**	97.0 U	150.0 U	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = limit)	**48.0 J**	**49.0 J**	**59.0 J**	**43.0 J**	**31.0 J**	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2)	**28.0 J**	**25.0 J**	**44.0 J**	**23.0 J**	**18.0 J**	--	--	--	--
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)	**8.0 J**	**2.0 J**	**30.0 J**	**4.0 J**	**4.0 J**	--	--	--	--
PCB Congeners (ng/kg)									
PCB-001	**1.97**	**1.65**	**1.46**	**1.15**	**1.45**	4 UJ	8.41 UJ	26.1 UJ	12.5 UJ
PCB-002	**2.95**	**1.48**	**2.34**	**1.76**	**2.08**	**2.79**	**3.58**	**9.43 J**	**5.94 J**
PCB-003	**1.78**	**1.24**	**1.56**	**1.15**	**1.41**	2.66 U	4.16 U	10.9 UJ	7.28 UJ

Table H-4
Tissue Results

Task	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	JeldWend2014Tissue	JeldWend2014Tissue	JeldWend2014Tissue	JeldWend2014Tissue
Location ID	JW-DR-Tissue	JW-EA01-Tissue	JW-EA10-Tissue	JW-RG-Tissue	JW-UR-Tissue	P-100	P-100	P-25	P-50
Sample ID	JW-DR-TISSUE-120508	JW-EA01-TISSUE-120516	JW-EA10-TISSUE-120516	JW-RG-TISSUE-120508	JW-UR-TISSUE-120508	JW-TISSUE-01-140428	JW-TISSUE-01-140428-DUP	JW-TISSUE-03-140428	JW-TISSUE-02-140428
Sample Date	05/08/2012	05/16/2012	05/16/2012	05/08/2012	05/08/2012	04/29/2014	04/29/2014	04/29/2014	04/29/2014
Sample Type	N	N	N	N	N	N	FD	N	N
Matrix	TA	TA	TA	TA	TA	TA	TA	TA	TA
X	1301953.88	1303385.74	1302901.691	1302616.709	1306498.34	1302756.413	1302756.413	1302506.518	1302753.529
Y	370102.4568	373575.7223	372488.6797	382542.3177	374273.3559	372242.2397	372242.2397	372341.8726	371894.7329
Analyte									
PCB-004	**3.03 J**	**24.9 J**	**7.56 J**	**2.68 J**	**2.44 J**	**5.62 J**	5.8 UJ	**6.36 J**	**5.13 J**
PCB-005	4.82 UJ	3.72 UJ	4.51 UJ	2.77 UJ	1.3 UJ	0.408 UJ	0.439 UJ	0.325 UJ	0.44 UJ
PCB-006	**1.94 J**	**8.5 J**	**3.96 J**	**1.18 J**	**1.41 J**	**4.13 J**	**4.32 J**	**4.44 J**	**3.92 J**
PCB-007	4.32 UJ	**1.64 J**	4.05 UJ	2.49 UJ	1.16 UJ	**0.615 J**	**0.529 J**	**0.576 J**	**0.539 J**
PCB-008	**5.96 J**	**26.2 J**	**8.66 J**	**3.68 J**	**3.55 J**	**11.6 J**	**13.7 J**	**12.7 J**	**10.9 J**
PCB-009	5.09 UJ	**2.1 J**	4.77 UJ	2.93 UJ	1.37 UJ	**1.32 J**	**1.51 J**	**1.52 J**	**1.55 J**
PCB-010	3.84 UJ	**1.61 J**	4.93 UJ	2.95 UJ	2.02 UJ	0.324 UJ	0.338 UJ	0.321 UJ	0.291 UJ
PCB-011	**130 J**	**52.9 J**	**121 J**	**58.3 J**	**59 J**	**104 J**	**116 J**	**108 J**	**117 J**
PCB-012/013	4.8 UJ	**5.04 J**	4.5 UJ	2.77 UJ	**0.834 J**	0.406 UJ	0.437 UJ	0.323 UJ	0.438 UJ
PCB-014	4.11 UJ	3.17 UJ	3.85 UJ	2.37 UJ	1.11 UJ	0.35 UJ	0.377 UJ	0.279 UJ	0.378 UJ
PCB-015	**2.21 J**	**34.1 J**	**6.22 J**	**1.32 J**	**1.97 J**	**3.54 J**	**3.82 J**	**3.49 J**	0.449 UJ
PCB-016	**3.93 J**	**92.8**	**12.6**	**2.86**	**3.91**	**6.74**	**7.31**	**7.79**	**6.56**
PCB-017	**4.65**	**104**	**15.2**	**2.97 J**	**4.72**	**8.23**	**8.8**	**9.52**	**7.43**
PCB-018/030	**8.73**	**115**	**24.5**	**6.25**	**8.95**	**16.1**	**17.8**	**17.6**	**15**
PCB-019	**1.15**	**18.4**	**4.84**	**0.787 J**	**1.07**	**2.7**	**2.72**	**2.31**	**2.4**
PCB-020/028	**12.6**	**389**	**41.5**	**10**	**16.4**	**19.1**	**23.3**	**24.4**	**20.3**
PCB-021/033	**4.04**	**67.3**	**9.21**	**3.17**	**3.79**	**6.64**	**7.7**	**7.12**	**6.48**
PCB-022	**4.08**	**134**	**14.5**	**2.94**	**4.94**	**6.52**	**7.81**	**7.92**	**7.19**
PCB-023	0.573 U	0.672 U	0.509 U	0.306 U	0.233 U	0.412 U	0.423 U	0.403 U	0.514 U
PCB-024	0.4 U	**4.33**	**0.781 J**	0.245 U	0.206 U	0.433 U	0.471 U	0.404 U	0.446 U
PCB-025	**1.5**	**24.8**	**6.16**	**1.22**	**2.38**	**2.45**	**2.94**	**3.09**	**2.47**
PCB-026/029	**2.83**	**50.5**	**14.2**	**2.29**	**3.64**	**5.37**	**6.49**	**5.24**	**5.34**
PCB-027	**1.23**	**21.1**	**8.07**	**0.805 J**	**1.32**	**3.15**	**3.38**	**2.5**	**2.74**
PCB-031	**10**	**298**	**31**	**7.89**	**12.3**	**15.1**	**18.2**	**18.3**	**16.1**
PCB-032	**3.18**	**72.7**	**12.3**	**2.16**	**3.44**	**5.52**	**5.83**	**5.95**	**5.08**
PCB-034	0.59 U	0.691 U	0.523 U	0.314 U	0.239 U	0.419 U	0.43 U	0.41 U	0.523 U
PCB-035	**1.31**	**3.87**	**1.66**	**0.735 J**	**0.942**	**1.46**	**1.66 J**	**1.49**	**1.57**
PCB-036	0.581 U	0.681 U	**0.71 J**	**0.32 J**	**0.304 J**	**0.767 J**	**1.09**	0.397 U	0.506 U
PCB-037	**3.21**	**62.9**	**6.87**	**2.3**	**4.02**	**5.66**	**6.46**	**6.77**	**5.81**
PCB-038	0.619 U	0.726 U	0.55 U	0.33 U	0.251 U	0.438 U	0.449 U	0.429 U	0.546 U
PCB-039	0.554 U	**1.81**	0.492 U	0.295 U	0.225 U	0.394 U	0.404 U	0.385 U	0.491 U
PCB-040/071	**7.3**	**118**	**24**	**5.36**	**8.76**	**30.5**	**37.4**	**27.6**	**30.6**
PCB-041	**1.01 J**	**37.7**	**3.45**	**1.04**	**1.54**	**4.13**	**4.16 J**	**5.06**	**3.93**
PCB-042	**5.03**	**83.2**	**12.2**	**4.02**	**6.42**	**16**	**19.4**	**17.5**	**16.2**
PCB-043	**0.563 J**	**14.1**	**1.63**	**0.482 J**	**0.9 J**	**2.71 J**	0.477 UJ	**2.78**	**3.77**
PCB-044/047/065	**19.8**	**282**	**55.9**	**16.1**	**24.8**	**130**	**153**	**105**	**94.8**
PCB-045	**1.81**	**40.6**	**5.28**	**1.37**	**2.2**	**4.66**	**5.36**	**5.03**	**4.54**
PCB-046	**0.692 J**	**14.4**	**2.57**	**0.638 J**	**0.935**	**2.56**	**3.24**	**2.83**	**2.58**
PCB-048	**3.23**	**77.2**	**8.85**	**2.36**	**4.07**	**10.2**	**12.3**	**11.4**	**10.9**
PCB-049/069	**12.2**	**162**	**39.2**	**9.88**	**15.2**	**48.2**	**56**	**43.6**	**45.7**
PCB-050/053	**2.23**	**33.6**	**11.1**	**1.74 J**	**2.81**	**7**	**8.77**	**6.97**	**7.02**
PCB-051	**1.04**	**10.9**	**4.22**	**0.677 J**	**1.33**	**19.7**	**23.7**	**16.5**	**12.8**
PCB-052	**27.8**	**283**	**96.3**	**22.9**	**34.8**	**122**	**144**	**99.4**	**119**
PCB-054	0.263 U	**0.818 J**	**0.661 J**	0.137 U	0.114 U	0.262 U	0.261 U	0.227 U	0.246 U

Table H-4
Tissue Results

Task	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	JeldWend2014Tissue	JeldWend2014Tissue	JeldWend2014Tissue	JeldWend2014Tissue
Location ID	**JW-DR-Tissue**	**JW-EA01-Tissue**	**JW-EA10-Tissue**	**JW-RG-Tissue**	**JW-UR-Tissue**	**P-100**	**P-100**	**P-25**	**P-50**
Sample ID	**JW-DR-TISSUE-120508**	**JW-EA01-TISSUE-120516**	**JW-EA10-TISSUE-120516**	**JW-RG-TISSUE-120508**	**JW-UR-TISSUE-120508**	**JW-TISSUE-01-140428**	**JW-TISSUE-01-140428-DUP**	**JW-TISSUE-03-140428**	**JW-TISSUE-02-140428**
Sample Date	**05/08/2012**	**05/16/2012**	**05/16/2012**	**05/08/2012**	**05/08/2012**	**04/29/2014**	**04/29/2014**	**04/29/2014**	**04/29/2014**
Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**FD**	**N**	**N**
Matrix	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**
X	**1301953.88**	**1303385.74**	**1302901.691**	**1302616.709**	**1306498.34**	**1302756.413**	**1302756.413**	**1302506.518**	**1302753.529**
Y	**370102.4568**	**373575.7223**	**372488.6797**	**382542.3177**	**374273.3559**	**372242.2397**	**372242.2397**	**372341.8726**	**371894.7329**
Analyte									
PCB-055	0.374 U	**1.96**	**0.894 J**	0.201 U	**0.775 J**	0.432 U	0.504 U	0.365 U	0.48 U
PCB-056	**8.23**	**14.9**	**12.3**	**6.07**	**9.65**	**22**	**26.1**	**23.4**	**22.6**
PCB-057	0.374 U	**1.34 J**	0.35 U	0.201 U	**0.311 J**	**0.661 J**	0.494 U	**0.67 J**	0.47 U
PCB-058	0.368 U	**0.705 J**	**0.396 J**	0.197 U	**0.27 J**	**0.726 J**	0.492 U	0.356 U	0.468 U
PCB-059/062/075	**2.83**	**37**	**5.35**	**2.02 J**	**3.13**	**8.84**	**10.6**	**9.12**	**8.56**
PCB-060	**4.19**	**7.45**	**5.87**	**3.08**	**4.91**	**10.3**	**11.8**	**10.7**	**10**
PCB-061/070/074/076	**33.5**	**157**	**69.4**	**24.8**	**40.8**	**102**	**118**	**92.6**	**102**
PCB-063	**0.952**	**5.92**	**1.55**	**0.629 J**	**1.05**	**2.52**	**3**	**2.56**	**2.46**
PCB-064	**7.43**	**124**	**19.1**	**5.8**	**9.04**	**25.4**	**31.2**	**24.7**	**26.2**
PCB-066	**19.1**	**75.2**	**33.7**	**15.9**	**23.3**	**54.1**	**62.6**	**53.7**	**52.1**
PCB-067	**2.12**	**7.9**	**2.59**	**1.4**	**3.44**	**4.99**	**5.96**	**7.17**	**4.9**
PCB-068	**0.394 J**	**1.29**	**1.53**	**0.327 J**	**0.596 J**	**11.1**	**12.3**	**8.79**	**5.95**
PCB-072	**0.65 J**	**2.42**	**1.41**	**0.567 J**	**1.03**	**2.78**	**3.13**	**2.67**	**2.26**
PCB-073	0.254 U	**0.99**	**0.355 J**	0.142 U	0.147 U	0.217 U	0.289 U	**0.481 J**	0.236 U
PCB-077	**1.29 J**	**1.38**	**2.36**	**1.32**	**1.92**	**4.06**	**5.06**	**4.55**	**4.32**
PCB-078	0.404 U	0.338 U	0.377 U	0.216 U	0.214 U	0.456 U	0.532 U	0.385 U	0.506 U
PCB-079	**0.64 J**	**0.686 J**	**0.897 J**	**0.318 J**	**0.535 J**	**1.58**	**2.04**	**1.57**	**1.77**
PCB-080	0.334 U	0.279 U	0.312 U	0.179 U	0.177 U	0.377 U	0.44 U	0.318 U	0.418 U
PCB-081	0.329 U	0.276 U	0.308 U	0.176 U	0.175 U	0.456 U	0.531 U	0.384 U	0.505 U
PCB-082	**5.88**	**5.74**	**14.7**	**3.82**	**6.48**	**19.4**	**23.8**	**15.1**	**20**
PCB-083	**4.87**	**5.02**	**11**	**3.2**	**5.51**	**14.6**	**19.2**	**12.3**	**14.4**
PCB-084	**9.92**	**15.3**	**28.1**	**6.24**	**11.2**	**40**	**46.2**	**29.5**	**37.5**
PCB-085/116	**8.97**	**10.7**	**21.7**	**5.67**	**9.45**	**31.8**	**35.5**	**25.3**	**37.2**
PCB-086/087/097/109/119/125	**31.6**	**35.1**	**78.1**	**21**	**34.3**	**106**	**126**	**78.2**	**101**
PCB-088	0.616 U	0.56 U	0.914 U	0.421 U	0.681 U	**35.3 J**	0.877 UJ	0.791 U	0.606 U
PCB-089	0.609 U	**1.01 J**	0.902 U	0.415 U	0.673 U	**2.07**	**2.5**	**1.74**	**1.95**
PCB-090/101/113	**57.3**	**76.8**	**147**	**41.5**	**66.1**	**197**	**225**	**148**	**174**
PCB-091	**6.95**	**15.5**	**17.8**	**4.38**	**7.39**	0.433 UJ	**28.8 J**	**18.7**	**22.1**
PCB-092	**17.2**	**26.1**	**41.5**	**14.1**	**22.6**	**67**	**75.2**	**52.1**	**56.7**
PCB-093/100	0.542 U	**2.7**	**1.71 J**	**0.596 J**	**0.948 J**	**3.06**	0.71 U	**2.92**	**2.9**
PCB-094	0.579 U	**1.3 J**	0.858 U	0.395 U	0.639 U	**1.37**	**1.62**	**1.26**	**1.2**
PCB-095	**38.6**	**91.4**	**112**	**28.5**	**45.4**	**153**	**182**	**113**	**140**
PCB-096	0.352 U	**2.54**	**0.994**	0.246 U	**0.297 J**	**1.18 J**	**1.39**	**1.1 J**	**1.11 J**
PCB-098	0.615 U	0.558 U	0.911 U	0.419 U	0.679 U	0.532 U	0.761 U	0.687 U	0.526 U
PCB-099	**36.6**	**42.6**	**88**	**26.2**	**40.8**	**111**	**126**	**83**	**96.8**
PCB-102	**1.26 J**	**5.26**	**3.95**	**0.875 J**	**1.67**	**7.26**	**8.22**	**5.97**	**6.19**
PCB-103	0.505 U	**1.39 J**	**1.42**	0.345 U	**0.928**	**2.56**	**2.75**	**2.52**	**1.98 J**
PCB-104	0.342 U	0.27 U	0.439 U	0.239 U	0.2 U	0.101 U	0.128 U	0.111 U	0.118 U
PCB-105	**15.9**	**16.4**	**40.5**	**10.2**	**17.1**	**47.2**	**58**	**35.5**	**50**
PCB-106	0.428 U	0.388 U	0.634 U	0.292 U	0.473 U	0.414 U	0.592 U	0.535 U	0.41 U
PCB-107	**4.51**	**4.09**	**9.92**	**2.86**	**4.87**	**5.86**	**7.08**	**4.51**	**5.7**
PCB-108/124	**1.98**	**2.68**	**4.84**	**1.41 J**	**2.27**	**12.5**	**14.3**	**9.5**	**11.1**
PCB-110	**57.1**	**72.2**	**150**	**36.8**	**63.8**	**186**	**227**	**135**	**183**
PCB-111	0.414 U	0.376 U	0.614 U	0.283 U	0.458 U	0.365 U	0.523 U	0.472 U	0.361 U

Table H-4
Tissue Results

Task	**Anchor QEA 2012/2013**	**Anchor QEA 2012/2013**	**Anchor QEA 2012/2013**	**Anchor QEA 2012/2013**	**Anchor QEA 2012/2013**	**JeldWend2014Tissue**	**JeldWend2014Tissue**	**JeldWend2014Tissue**	**JeldWend2014Tissue**
Location ID	**JW-DR-Tissue**	**JW-EA01-Tissue**	**JW-EA10-Tissue**	**JW-RG-Tissue**	**JW-UR-Tissue**	**P-100**	**P-100**	**P-25**	**P-50**
Sample ID	**JW-DR-TISSUE-120508**	**JW-EA01-TISSUE-120516**	**JW-EA10-TISSUE-120516**	**JW-RG-TISSUE-120508**	**JW-UR-TISSUE-120508**	**JW-TISSUE-01-140428**	**JW-TISSUE-01-140428-DUP**	**JW-TISSUE-03-140428**	**JW-TISSUE-02-140428**
Sample Date	**05/08/2012**	**05/16/2012**	**05/16/2012**	**05/08/2012**	**05/08/2012**	**04/29/2014**	**04/29/2014**	**04/29/2014**	**04/29/2014**
Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**FD**	**N**	**N**
Matrix	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**
X	**1301953.88**	**1303385.74**	**1302901.691**	**1302616.709**	**1306498.34**	**1302756.413**	**1302756.413**	**1302506.518**	**1302753.529**
Y	**370102.4568**	**373575.7223**	**372488.6797**	**382542.3177**	**374273.3559**	**372242.2397**	**372242.2397**	**372341.8726**	**371894.7329**
Analyte									
PCB-112	0.403 U	0.366 U	0.597 U	0.275 U	0.445 U	0.374 U	0.535 U	0.483 U	0.37 U
PCB-114	**0.821 J**	**0.834 J**	**2.07**	**0.704 J**	**1.09**	**2.95 J**	0.51 UJ	**2.28**	**2.98**
PCB-115	**1.52**	**0.922**	**3.46**	**0.877 J**	**1.5**	0.383 U	0.549 U	0.495 U	0.38 U
PCB-117	**2.87**	**1.86**	**4.07**	**2.05**	**3.13**	**5.3**	**7.53**	**3.18**	0.408 U
PCB-118	**39.5**	**41.2**	**98.8**	**26.2**	**42.3**	**108**	**132**	**78.7**	**106**
PCB-120	0.409 U	0.371 U	0.606 U	0.279 U	**0.652 J**	0.369 U	0.528 U	0.476 U	0.365 U
PCB-121	0.414 U	0.376 U	0.614 U	0.283 U	0.458 U	0.366 U	0.524 U	0.472 U	0.362 U
PCB-122	0.442 U	**0.747 J**	0.736 U	0.313 U	0.448 U	**1.76**	**2.45**	**1.58**	**2.1**
PCB-123	**1.15**	**1.21 J**	**1.84**	**0.606 J**	**1.14**	**2.33**	**3.11**	**2**	**2.48**
PCB-126	0.382 U	0.322 U	0.402 U	0.256 U	0.239 U	0.705 UJ	0.592 UJ	0.515 U	0.584 U
PCB-127	0.415 U	0.378 U	0.691 U	0.283 U	0.438 U	0.384 U	0.528 U	0.493 U	0.383 U
PCB-128/166	**11.1**	**13**	**27.8**	**7.02**	**10.3**	**38.3**	**47.5**	**27.4**	**33.9**
PCB-129/138/163	**85.8**	**92.9**	**202**	**59**	**83.4**	**218**	**258**	**168**	**187**
PCB-130	**9.43**	**9.77**	**19.9**	**6.69**	**9.28**	**26.2**	**30.9**	**19.5**	**21.7**
PCB-131	0.354 U	**0.93**	**2.06 J**	0.255 U	**0.935**	**2.44**	**3.53**	**2.01**	**2.62**
PCB-132	**19.5**	**22**	**50**	**12.1**	**17.3**	**56.6**	**72.5**	**45.6**	**52.6**
PCB-133	**4.11**	**4.59**	**8.11**	**3.76**	**4.83**	**11.4**	**12.4**	**9.45**	**8.94**
PCB-134	**5.15 J**	**6.31**	**12.3**	**3.51**	**4.95**	**17.1**	**21.8**	**13.8**	**15.6**
PCB-135/151	**34.2**	**36.1**	**74.7**	**25.6**	**37.2**	**96.2**	**122**	**85.6**	**84.9**
PCB-136	**7.65**	**8.32**	**19.3**	**5.46**	**8.36**	**21.9**	**29.5**	**20.6**	**21.5**
PCB-137	**4.2**	**5.73**	**10.1**	**2.98**	**5.03**	**14.1**	**14.3**	**7.94**	**10.5**
PCB-139/140	**1.83 J**	**2.14 J**	**3.93 J**	**1.21 J**	**1.82**	**5.54**	**6.21**	**4.08**	**4.66**
PCB-141	**6.61**	**8.99**	**18.3**	**4.53**	**6.37**	**15.1**	**18.4**	**11.1**	**12.2**
PCB-142	0.326 U	0.26 U	0.305 U	0.235 U	0.167 U	0.14 U	0.24 U	0.154 U	0.201 U
PCB-143	0.316 U	0.251 U	0.295 U	0.228 U	0.162 U	0.123 U	0.212 U	0.136 U	0.178 U
PCB-144	**3.06**	**3.15**	**7.93**	**2.1**	**3.14**	**8.51**	**10.7**	**7.02**	**7.74**
PCB-145	0.236 U	0.188 U	0.221 U	0.17 U	0.121 U	0.0888 U	0.142 U	0.0954 U	0.119 U
PCB-146	**25.7**	**26.2**	**50.5**	**20.8**	**26.7**	**67.6**	**75.8**	**56.4**	**52.8**
PCB-147/149	**64.9**	**65.8**	**148**	**46.1**	**63.8**	**178**	**220**	**150**	**157**
PCB-148	0.305 U	0.243 U	0.286 U	0.22 U	**0.614 J**	**1.11**	**1.21**	**1.32**	**0.848 J**
PCB-150	0.221 U	0.176 U	0.206 U	0.159 U	**0.225 J**	**0.509 J**	**0.603 J**	**0.541 J**	**0.449 J**
PCB-152	0.224 U	0.178 U	0.21 U	0.162 U	0.115 U	0.0837 U	**0.344 J**	0.09 U	0.112 U
PCB-153/168	**83**	**82.5**	**185**	**60.5**	**81**	**201**	**228**	**156**	**156**
PCB-154	**2.02**	**1.74**	**4.41**	**1.53**	**2**	**4.32**	**5.49**	**4.18**	**3.6**
PCB-155	0.208 U	0.166 U	0.195 U	0.15 U	**0.231 J**	**0.215 J**	**0.27 J**	**0.266 J**	**0.185 J**
PCB-156/157	**5.01**	**6**	**11.6**	**3.31**	**5.14**	**14.9**	**17.6**	**10.5**	**13**
PCB-158	**7.25**	**8.49**	**19.5**	**5.12**	**7.7**	**19.6**	**22.6**	**14.2**	**16.5**
PCB-159	0.296 U	0.236 U	0.366 U	0.188 U	0.121 U	**0.806 J**	**1.01**	**0.661 J**	**0.464 J**
PCB-160	0.241 U	0.191 U	0.225 U	0.174 U	0.123 U	0.1 U	0.172 U	0.111 U	0.145 U
PCB-161	0.233 U	0.185 U	0.218 U	0.168 U	0.119 U	0.0941 U	0.162 U	0.104 U	0.136 U
PCB-162	0.286 U	0.228 U	**0.662 J**	0.182 U	**0.331 J**	**0.874 J**	**1.12**	**0.673 J**	**0.866 J**
PCB-164	**6.58**	**7.09**	**14.7**	**4.55**	**5.74**	**14.6**	**18.2**	**12.8**	**14**
PCB-165	0.266 U	0.212 U	0.249 U	0.192 U	0.136 U	0.104 U	0.178 U	0.114 U	0.149 U
PCB-167	**2.38**	**2.87**	**5.42**	**1.71**	**2.59**	**6.3**	**7.11**	**4.77**	**5.18**

Table H-4
Tissue Results

Task	**Anchor QEA 2012/2013**	**Anchor QEA 2012/2013**	**Anchor QEA 2012/2013**	**Anchor QEA 2012/2013**	**Anchor QEA 2012/2013**	**JeldWend2014Tissue**	**JeldWend2014Tissue**	**JeldWend2014Tissue**	**JeldWend2014Tissue**
Location ID	**JW-DR-Tissue**	**JW-EA01-Tissue**	**JW-EA10-Tissue**	**JW-RG-Tissue**	**JW-UR-Tissue**	**P-100**	**P-100**	**P-25**	**P-50**
Sample ID	**JW-DR-TISSUE-120508**	**JW-EA01-TISSUE-120516**	**JW-EA10-TISSUE-120516**	**JW-RG-TISSUE-120508**	**JW-UR-TISSUE-120508**	**JW-TISSUE-01-140428**	**JW-TISSUE-01-140428-DUP**	**JW-TISSUE-03-140428**	**JW-TISSUE-02-140428**
Sample Date	**05/08/2012**	**05/16/2012**	**05/16/2012**	**05/08/2012**	**05/08/2012**	**04/29/2014**	**04/29/2014**	**04/29/2014**	**04/29/2014**
Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**FD**	**N**	**N**
Matrix	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**
X	**1301953.88**	**1303385.74**	**1302901.691**	**1302616.709**	**1306498.34**	**1302756.413**	**1302756.413**	**1302506.518**	**1302753.529**
Y	**370102.4568**	**373575.7223**	**372488.6797**	**382542.3177**	**374273.3559**	**372242.2397**	**372242.2397**	**372341.8726**	**371894.7329**
Analyte									
PCB-169	0.324 U	0.292 U	0.479 U	0.209 U	0.144 U	0.395 U	0.372 U	0.3 U	0.326 U
PCB-170	**5.53**	**4.09**	**12.9**	**4.05**	**4.82**	**21.9 J**	**25.6 J**	0.33 U	**14.7**
PCB-171/173	**5.28**	**3.98**	**11**	**3.29**	**5.21**	**15.5 J**	**18.9 J**	**12.8 J**	**12.1**
PCB-172	**0.974 J**	**0.84 J**	**2.39**	**0.68 J**	**0.8 J**	**4.23 J**	**5.28 J**	0.305 U	**3**
PCB-174	**8.28**	**6.88**	**21.2**	**5.52**	**7.72**	**24 J**	**30.3 J**	**17.9 J**	**16.8**
PCB-175	**0.958 J**	**0.625 J**	**2.15**	**0.968**	**1.26**	**3.58 J**	**4.15 J**	**3.05 J**	**2.46**
PCB-176	**2.22**	**1.59**	**4.47**	**1.37 J**	**1.83**	**6.03**	**7.65**	**5.25**	**4.87**
PCB-177	**17.3**	**11.9**	**31.8**	**12.4**	**16.7**	**49.1 J**	**59.6 J**	**42.1 J**	**37.5**
PCB-178	**11.9**	**8.3**	**16.8 J**	**9.68**	**11.9**	**29.8**	**35.4**	**24.5**	**22.7**
PCB-179	**9.72**	**6.87**	**19.3**	**6.05 J**	**9.5**	**28.3**	**34.9**	**24.4**	**23**
PCB-180/193	**23.7**	**19.2**	**52.6**	**18.2**	**23.1**	**77.8 J**	**90.7 J**	**60.8 J**	**54.8**
PCB-181	0.451 U	0.41 U	0.651 U	0.388 U	0.215 U	**0.479 J**	0.356 U	0.277 U	0.302 U
PCB-182	0.435 U	0.396 U	0.628 U	0.374 U	0.208 U	**0.673 J**	**0.51 J**	0.259 U	**0.444 J**
PCB-183	**10.5**	**8.38**	**23.3**	**7.74**	**11.2**	**32 J**	**38.5 J**	**26.5 J**	**24**
PCB-184	0.33 U	0.295 U	0.401 U	0.24 U	0.161 U	**0.283 J**	**0.458 J**	**0.335 J**	0.175 U
PCB-185	0.482 U	0.439 U	**1.51**	0.415 U	0.23 U	**1.68 J**	0.352 U	**0.86 J**	0.299 U
PCB-186	0.307 U	0.275 U	0.374 U	0.223 U	0.15 U	0.137 U	0.205 U	0.161 U	0.168 U
PCB-187	**40.7**	**28**	**77**	**31.1**	**40.8**	**105 J**	**124 J**	**87.1 J**	**77.6**
PCB-188	0.325 U	0.291 U	0.396 U	0.237 U	0.158 U	**0.324 J**	0.183 U	0.144 U	0.15 U
PCB-189	0.262 U	0.204 U	**0.628 J**	0.165 U	0.141 U	0.969 UJ	0.997 U	0.65 U	0.502 UJ
PCB-190	**1.97**	**1.45**	**3.73**	**1.44**	**1.49 J**	**5.63 J**	**6.66 J**	0.241 U	**3.92**
PCB-191	0.34 U	**0.507 J**	**1.32**	**0.499 J**	**0.599 J**	**1.99 J**	**2.42 J**	0.225 U	**1.33 J**
PCB-192	0.351 U	0.287 U	0.448 U	0.271 U	0.157 U	0.211 U	0.304 U	0.236 U	0.258 U
PCB-194	**1.69 J**	**1.14**	**5.81**	**1.45**	**1.84**	**7.03**	**7.6**	**4.03**	**3.4**
PCB-195	**0.984**	**0.579 J**	**2.51**	**0.778 J**	**0.797 J**	**8.42**	**6.29 J**	**3.3**	**2.53**
PCB-196	**3.15 J**	**2.42**	**9.23**	**2.3**	**2.66**	**6.37 J**	**9.18 J**	**5.17**	**5.38**
PCB-197	**0.928 J**	0.266 U	**1.78**	**0.494 J**	**0.647 J**	**1.64**	**1.66**	**0.978 J**	**1.15**
PCB-198/199	**9.73**	**6.67**	**23.9**	**7.67**	**9.23**	**26.9**	**32.1**	**15.8**	**17**
PCB-200	0.238 U	0.28 U	0.337 U	0.269 U	0.148 U	**0.621 J**	**0.608 J**	**0.255 J**	0.184 U
PCB-201	**2.26**	**1.42**	**4.5**	**1.58**	**1.97**	**6.62**	**7.34**	**4.45**	**4.26**
PCB-202	**8.33**	**4.78**	**15.8**	**6.41**	**6.5**	**22.6**	**24.5**	**13.6**	**14.7**
PCB-203	**3.27**	**1.94 J**	**7.92**	**2.29**	**2.47**	**7.01**	**8.72**	**4.22**	**4.27**
PCB-204	0.221 U	0.26 U	0.312 U	0.249 U	0.138 U	0.149 U	0.219 U	0.183 U	0.187 U
PCB-205	0.294 U	0.239 U	0.313 U	0.196 U	0.125 U	1.31 U	0.591 U	0.583 U	0.513 U
PCB-206	0.503 U	0.441 U	**2.05 J**	0.379 U	**0.745 J**	**3.77**	**4.37**	**1.51 J**	**1.97**
PCB-207	0.299 U	0.332 U	0.511 U	0.278 U	0.171 U	0.359 U	0.338 U	0.257 U	0.277 U
PCB-208	0.304 U	0.338 U	**0.641 J**	0.282 U	**0.269 J**	**1.17 J**	**1.49**	**0.545 J**	**0.659 J**
PCB-209	0.247 U	0.362 U	0.381 U	0.246 U	0.139 U	**1.29 J**	**1.71**	**0.608 J**	**0.866 J**
Total PCB Congener (U = limit)	**1,329.355 J**	**4,258.752 J**	**2,962.815 J**	**918.909 J**	**1,312.881 J**	**3,616.4366 J**	**4,255.95 J**	**2,963.4954 J**	**3,200.345 J**
Total PCB Congener TEQ 2005 (Mammal) (U = limit)	**0.05 J**	**0.043 J**	**0.06 J**	**0.033 J**	**0.031**	**0.08837227 J**	**0.07760511 J**	**0.0651022**	**0.07416776 J**
Total PCB Congener (U = 1/2)	**1,304.511 J**	**4,247.533 J**	**2,939.337 J**	**903.476 J**	**1,303.821 J**	**3,610.0368 J**	**4,246.661 J**	**2,955.9797 J**	**3,192.086 J**
Total PCB Congener (U = 0)	**1,279.666 J**	**4,236.313 J**	**2,915.859 J**	**888.042 J**	**1,294.76 J**	**3,603.637 J**	**4,237.371 J**	**2,948.464 J**	**3,183.826 J**
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)	**0.026 J**	**0.023 J**	**0.032 J**	**0.017 J**	**0.016**	**0.08237887 J**	**0.07193781 J**	**0.0605446**	**0.06920201 J**
Total PCB Congener TEQ 2005 (Mammal) (U = 0)	**0.002 J**	**0.002 J**	**0.005 J**	**0.001 J**	**0.002**	**0.07638547 J**	**0.06627051 J**	**0.055987**	**0.06423626 J**

Table H-4
Tissue Results

Task	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	JeldWend2014Tissue	JeldWend2014Tissue	JeldWend2014Tissue	JeldWend2014Tissue
Location ID	JW-DR-Tissue	JW-EA01-Tissue	JW-EA10-Tissue	JW-RG-Tissue	JW-UR-Tissue	P-100	P-100	P-25	P-50
Sample ID	JW-DR-TISSUE-120508	JW-EA01-TISSUE-120516	JW-EA10-TISSUE-120516	JW-RG-TISSUE-120508	JW-UR-TISSUE-120508	JW-TISSUE-01-140428	JW-TISSUE-01-140428-DUP	JW-TISSUE-03-140428	JW-TISSUE-02-140428
Sample Date	05/08/2012	05/16/2012	05/16/2012	05/08/2012	05/08/2012	04/29/2014	04/29/2014	04/29/2014	04/29/2014
Sample Type	N	N	N	N	N	N	FD	N	N
Matrix	TA	TA	TA	TA	TA	TA	TA	TA	TA
X	1301953.88	1303385.74	1302901.691	1302616.709	1306498.34	1302756.413	1302756.413	1302506.518	1302753.529
Y	370102.4568	373575.7223	372488.6797	382542.3177	374273.3559	372242.2397	372242.2397	372341.8726	371894.7329
Analyte									
PCB Congeners (µg/kg-lipid)									
PCB-001	**0.618**	**0.330**	**0.281**	**0.251**	**0.259**	0.8 UJ	1.682 UJ	4.35 UJ	2.5 UJ
PCB-002	**0.925**	**0.296**	**0.451**	**0.383**	**0.372**	**0.558**	**0.716**	**1.57167 J**	**1.188 J**
PCB-003	**0.558**	**0.248**	**0.301**	**0.251**	**0.252**	0.532 U	0.832 U	1.8167 UJ	1.456 UJ
PCB-004	**0.950 J**	**4.980 J**	**1.457 J**	**0.584 J**	**0.436 J**	**1.124 J**	1.16 UJ	**1.06 J**	**1.026 J**
PCB-005	1.511UJ	0.744UJ	0.869UJ	0.603UJ	0.233UJ	0.0816 UJ	0.0878 UJ	0.054167 UJ	0.088 UJ
PCB-006	**0.608 J**	**1.700 J**	**0.763 J**	**0.257 J**	**0.252 J**	**0.826 J**	**0.864 J**	**0.74 J**	**0.784 J**
PCB-007	1.354UJ	**0.328 J**	0.780UJ	0.542UJ	0.208UJ	**0.123 J**	**0.1058 J**	**0.096 J**	**0.1078 J**
PCB-008	**1.868 J**	**5.240 J**	**1.669 J**	**0.802 J**	**0.635 J**	**2.32 J**	**2.74 J**	**2.1167 J**	**2.18 J**
PCB-009	1.596UJ	**0.420 J**	0.919UJ	0.638UJ	0.245UJ	**0.264 J**	**0.302 J**	**0.25333 J**	**0.31 J**
PCB-010	1.204UJ	**0.322 J**	0.950UJ	0.643UJ	0.361UJ	0.0648 UJ	0.0676 UJ	0.0535 UJ	0.0582 UJ
PCB-011	**40.752 J**	**10.580 J**	**23.314 J**	**12.702 J**	**10.555 J**	**20.8 J**	**23.2 J**	**18 J**	**23.4 J**
PCB-012/013	1.505UJ	**1.008 J**	0.867UJ	0.603UJ	**0.149 J**	0.0812 UJ	0.0874 UJ	0.053833 UJ	0.0876 UJ
PCB-014	1.288UJ	0.634UJ	0.742UJ	0.516UJ	0.199UJ	0.07 UJ	0.0754 UJ	0.0465 UJ	0.0756 UJ
PCB-015	**0.693 J**	**6.820 J**	**1.198 J**	**0.288 J**	**0.352 J**	**0.708 J**	**0.764 J**	**0.58167 J**	0.0898 UJ
PCB-016	**1.232 J**	**18.560**	**2.428**	**0.623**	**0.699**	**1.348**	**1.462**	**1.29833**	**1.312**
PCB-017	**1.458**	**20.800**	**2.929**	**0.647 J**	**0.844**	**1.646**	**1.76**	**1.58667**	**1.486**
PCB-018/030	**2.737**	**23.000**	**4.721**	**1.362**	**1.601**	**3.22**	**3.56**	**2.9333**	**3**
PCB-019	**0.361**	**3.680**	**0.933**	**0.171 J**	**0.191**	**0.54**	**0.544**	**0.385**	**0.48**
PCB-020/028	**3.950**	**77.800**	**7.996**	**2.179**	**2.934**	**3.82**	**4.66**	**4.0667**	**4.06**
PCB-021/033	**1.266**	**13.460**	**1.775**	**0.691**	**0.678**	**1.328**	**1.54**	**1.18667**	**1.296**
PCB-022	**1.279**	**26.800**	**2.794**	**0.641**	**0.884**	**1.304**	**1.562**	**1.32**	**1.438**
PCB-023	0.180 U	0.134 U	0.098 U	0.067 U	0.042 U	0.0824 U	0.0846 U	0.067167 U	0.1028 U
PCB-024	0.125 U	**0.866**	**0.150 J**	0.053 U	0.037 U	0.0866 U	0.0942 U	0.067333 U	0.0892 U
PCB-025	**0.470**	**4.960**	**1.187**	**0.266**	**0.426**	**0.49**	**0.588**	**0.515**	**0.494**
PCB-026/029	**0.887**	**10.100**	**2.736**	**0.499**	**0.651**	**1.074**	**1.298**	**0.87333**	**1.068**
PCB-027	**0.386**	**4.220**	**1.555**	**0.175 J**	**0.236**	**0.63**	**0.676**	**0.4167**	**0.548**
PCB-031	**3.135**	**59.600**	**5.973**	**1.719**	**2.200**	**3.02**	**3.64**	**3.05**	**3.22**
PCB-032	**0.997**	**14.540**	**2.370**	**0.471**	**0.615**	**1.104**	**1.166**	**0.99167**	**1.016**
PCB-034	0.185 U	0.138 U	0.101 U	0.068 U	0.043 U	0.0838 U	0.086 U	0.06833 U	0.1046 U
PCB-035	**0.411**	**0.774**	**0.320**	**0.160 J**	**0.169**	**0.292**	**0.332 J**	**0.24833**	**0.314**
PCB-036	0.182 U	0.136 U	**0.137 J**	**0.070 J**	**0.054 J**	**0.1534 J**	**0.218**	0.066167 U	0.1012 U
PCB-037	**1.006**	**12.580**	**1.324**	**0.501**	**0.719**	**1.132**	**1.292**	**1.12833**	**1.162**
PCB-038	0.194 U	0.145 U	0.106 U	0.072 U	0.045 U	0.0876 U	0.0898 U	0.0715 U	0.1092 U
PCB-039	0.174 U	**0.362**	0.095 U	0.064 U	0.040 U	0.0788 U	0.0808 U	0.064167 U	0.0982 U
PCB-040/071	**2.288**	**23.600**	**4.624**	**1.168**	**1.567**	**6.1**	**7.48**	**4.6**	**6.12**
PCB-041	**0.317 J**	**7.540**	**0.665**	**0.227**	**0.275**	**0.826**	**0.832 J**	**0.84333**	**0.786**
PCB-042	**1.577**	**16.640**	**2.351**	**0.876**	**1.148**	**3.2**	**3.88**	**2.9167**	**3.24**
PCB-043	**0.176 J**	**2.820**	**0.314**	**0.105 J**	**0.161 J**	**0.542 J**	0.0954 UJ	**0.46333**	**0.754**
PCB-044/047/065	**6.207**	**56.400**	**10.771**	**3.508**	**4.437**	**26**	**30.6**	**17.5**	**18.96**
PCB-045	**0.567**	**8.120**	**1.017**	**0.298**	**0.394**	**0.932**	**1.072**	**0.83833**	**0.908**
PCB-046	**0.217 J**	**2.880**	**0.495**	**0.139 J**	**0.167**	**0.512**	**0.648**	**0.47167**	**0.516**
PCB-048	**1.013**	**15.440**	**1.705**	**0.514**	**0.728**	**2.04**	**2.46**	**1.9**	**2.18**
PCB-049/069	**3.825**	**32.400**	**7.553**	**2.153**	**2.719**	**9.64**	**11.2**	**7.2667**	**9.14**

Table H-4
Tissue Results

Task	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	JeldWend2014Tissue	JeldWend2014Tissue	JeldWend2014Tissue	JeldWend2014Tissue
Location ID	**JW-DR-Tissue**	**JW-EA01-Tissue**	**JW-EA10-Tissue**	**JW-RG-Tissue**	**JW-UR-Tissue**	**P-100**	**P-100**	**P-25**	**P-50**
Sample ID	**JW-DR-TISSUE-120508**	**JW-EA01-TISSUE-120516**	**JW-EA10-TISSUE-120516**	**JW-RG-TISSUE-120508**	**JW-UR-TISSUE-120508**	**JW-TISSUE-01-140428**	**JW-TISSUE-01-140428-DUP**	**JW-TISSUE-03-140428**	**JW-TISSUE-02-140428**
Sample Date	**05/08/2012**	**05/16/2012**	**05/16/2012**	**05/08/2012**	**05/08/2012**	**04/29/2014**	**04/29/2014**	**04/29/2014**	**04/29/2014**
Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**FD**	**N**	**N**
Matrix	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**
X	**1301953.88**	**1303385.74**	**1302901.691**	**1302616.709**	**1306498.34**	**1302756.413**	**1302756.413**	**1302506.518**	**1302753.529**
Y	**370102.4568**	**373575.7223**	**372488.6797**	**382542.3177**	**374273.3559**	**372242.2397**	**372242.2397**	**372341.8726**	**371894.7329**
Analyte									
PCB-050/053	**0.699**	**6.720**	**2.139**	**0.379 J**	**0.503**	**1.4**	**1.754**	**1.16167**	**1.404**
PCB-051	**0.326**	**2.180**	**0.813**	**0.147 J**	**0.238**	**3.94**	**4.74**	**2.75**	**2.56**
PCB-052	**8.715**	**56.600**	**18.555**	**4.989**	**6.225**	**24.4**	**28.8**	**16.5667**	**23.8**
PCB-054	0.082 U	**0.164 J**	**0.127 J**	0.030 U	0.020 U	0.0524 U	0.0522 U	0.037833 U	0.0492 U
PCB-055	0.117 U	**0.392**	**0.172 J**	0.044 U	**0.139 J**	0.0864 U	0.1008 U	0.060833 U	0.096 U
PCB-056	**2.580**	**2.980**	**2.370**	**1.322**	**1.726**	**4.4**	**5.22**	**3.9**	**4.52**
PCB-057	0.117 U	**0.268 J**	0.067 U	0.044 U	**0.056 J**	**0.1322 J**	0.0988 U	**0.11167 J**	0.094 U
PCB-058	0.115 U	**0.141 J**	**0.076 J**	0.043 U	**0.048 J**	**0.1452 J**	0.0984 U	0.059333 U	0.0936 U
PCB-059/062/075	**0.887**	**7.400**	**1.031**	**0.440 J**	**0.560**	**1.768**	**2.12**	**1.52**	**1.712**
PCB-060	**1.313**	**1.490**	**1.131**	**0.671**	**0.878**	**2.06**	**2.36**	**1.7833**	**2**
PCB-061/070/074/076	**10.502**	**31.400**	**13.372**	**5.403**	**7.299**	**20.4**	**23.6**	**15.4333**	**20.4**
PCB-063	**0.298**	**1.184**	**0.299**	**0.137 J**	**0.188**	**0.504**	**0.6**	**0.42667**	**0.492**
PCB-064	**2.329**	**24.800**	**3.680**	**1.264**	**1.617**	**5.08**	**6.24**	**4.1167**	**5.24**
PCB-066	**5.988**	**15.040**	**6.493**	**3.464**	**4.168**	**10.82**	**12.52**	**8.95**	**10.42**
PCB-067	**0.665**	**1.580**	**0.499**	**0.305**	**0.615**	**0.998**	**1.192**	**1.195**	**0.98**
PCB-068	**0.124 J**	**0.258**	**0.295**	**0.071 J**	**0.107 J**	**2.22**	**2.46**	**1.465**	**1.19**
PCB-072	**0.204 J**	**0.484**	**0.272**	**0.124 J**	**0.184**	**0.556**	**0.626**	**0.445**	**0.452**
PCB-073	0.080 U	**0.198**	**0.068 J**	0.031 U	0.026 U	0.0434 U	0.0578 U	**0.080167 J**	0.0472 U
PCB-077	**0.404 J**	**0.276**	**0.455**	**0.288**	**0.343**	**0.812**	**1.012**	**0.75833**	**0.864**
PCB-078	0.127 U	0.068 U	0.073 U	0.047 U	0.038 U	0.0912 U	0.1064 U	0.064167 U	0.1012 U
PCB-079	**0.201 J**	**0.137 J**	**0.173 J**	**0.069 J**	**0.096 J**	**0.316**	**0.408**	**0.26167**	**0.354**
PCB-080	0.105 U	0.056 U	0.060 U	0.039 U	0.032 U	0.0754 U	0.088 U	0.053 U	0.0836 U
PCB-081	0.103 U	0.055 U	0.059 U	0.038 U	0.031 U	0.0912 U	0.1062 U	0.064 U	0.101 U
PCB-082	**1.843**	**1.148**	**2.832**	**0.832**	**1.159**	**3.88**	**4.76**	**2.5167**	**4**
PCB-083	**1.527**	**1.004**	**2.119**	**0.697**	**0.986**	**2.92**	**3.84**	**2.05**	**2.88**
PCB-084	**3.110**	**3.060**	**5.414**	**1.359**	**2.004**	**8**	**9.24**	**4.9167**	**7.5**
PCB-085/116	**2.812**	**2.140**	**4.181**	**1.235**	**1.691**	**6.36**	**7.1**	**4.2167**	**7.44**
PCB-086/087/097/109/119/125	**9.906**	**7.020**	**15.048**	**4.575**	**6.136**	**21.2**	**25.2**	**13.0333**	**20.2**
PCB-088	0.193 U	0.112 U	0.176 U	0.092 U	0.122 U	**7.06 J**	0.1754 UJ	0.131833 U	0.1212 U
PCB-089	0.191 U	**0.202 J**	0.174 U	0.090 U	0.120 U	**0.414**	**0.5**	**0.29**	**0.39**
PCB-090/101/113	**17.962**	**15.360**	**28.324**	**9.041**	**11.825**	**39.4**	**45**	**24.667**	**34.8**
PCB-091	**2.179**	**3.100**	**3.430**	**0.954**	**1.322**	0.0866 UJ	**5.76 J**	**3.1167**	**4.42**
PCB-092	**5.392**	**5.220**	**7.996**	**3.072**	**4.043**	**13.4**	**15.04**	**8.6833**	**11.34**
PCB-093/100	0.170 U	**0.540**	**0.329 J**	**0.130 J**	**0.170 J**	**0.612**	0.142 U	**0.48667**	**0.58**
PCB-094	0.182 U	**0.260 J**	0.165 U	0.086 U	0.114 U	**0.274**	**0.324**	**0.21**	**0.24**
PCB-095	**12.100**	**18.280**	**21.580**	**6.209**	**8.122**	**30.6**	**36.4**	**18.833**	**28**
PCB-096	0.110 U	**0.508**	**0.192**	0.054 U	**0.053 J**	**0.236 J**	**0.278**	**0.1833 J**	**0.222 J**
PCB-098	0.193 U	0.112 U	0.176 U	0.091 U	0.121 U	0.1064 U	0.1522 U	0.1145 U	0.1052 U
PCB-099	**11.473**	**8.520**	**16.956**	**5.708**	**7.299**	**22.2**	**25.2**	**13.833**	**19.36**
PCB-102	**0.395 J**	**1.052**	**0.761**	**0.191 J**	**0.299**	**1.452**	**1.644**	**0.995**	**1.238**
PCB-103	0.158 U	**0.278 J**	**0.274**	0.075 U	**0.166**	**0.512**	**0.55**	**0.42**	**0.396 J**
PCB-104	0.107 U	0.054 U	0.085 U	0.052 U	0.036 U	0.0202 U	0.0256 U	0.0185 U	0.0236 U
PCB-105	**4.984**	**3.280**	**7.804**	**2.222**	**3.059**	**9.44**	**11.6**	**5.9167**	**10**
PCB-106	0.134 U	0.078 U	0.122 U	0.064 U	0.085 U	0.0828 U	0.1184 U	0.089167 U	0.082 U

Table H-4
Tissue Results

Task	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	JeldWend2014Tissue	JeldWend2014Tissue	JeldWend2014Tissue	JeldWend2014Tissue
Location ID	JW-DR-Tissue	JW-EA01-Tissue	JW-EA10-Tissue	JW-RG-Tissue	JW-UR-Tissue	P-100	P-100	P-25	P-50
Sample ID	JW-DR-TISSUE-120508	JW-EA01-TISSUE-120516	JW-EA10-TISSUE-120516	JW-RG-TISSUE-120508	JW-UR-TISSUE-120508	JW-TISSUE-01-140428	JW-TISSUE-01-140428-DUP	JW-TISSUE-03-140428	JW-TISSUE-02-140428
Sample Date	05/08/2012	05/16/2012	05/16/2012	05/08/2012	05/08/2012	04/29/2014	04/29/2014	04/29/2014	04/29/2014
Sample Type	N	N	N	N	N	N	FD	N	N
Matrix	TA	TA	TA	TA	TA	TA	TA	TA	TA
X	1301953.88	1303385.74	1302901.691	1302616.709	1306498.34	1302756.413	1302756.413	1302506.518	1302753.529
Y	370102.4568	373575.7223	372488.6797	382542.3177	374273.3559	372242.2397	372242.2397	372341.8726	371894.7329
Analyte									
PCB-107	**1.414**	**0.818**	**1.911**	**0.623**	**0.871**	**1.172**	**1.416**	**0.75167**	**1.14**
PCB-108/124	**0.621**	**0.536**	**0.933**	**0.307 J**	**0.406**	**2.5**	**2.86**	**1.5833**	**2.22**
PCB-110	**17.900**	**14.440**	**28.902**	**8.017**	**11.413**	**37.2**	**45.4**	**22.5**	**36.6**
PCB-111	0.130 U	0.075 U	0.118 U	0.062 U	0.082 U	0.073 U	0.1046 U	0.078667 U	0.0722 U
PCB-112	0.126 U	0.073 U	0.115 U	0.060 U	0.080 U	0.0748 U	0.107 U	0.0805 U	0.074 U
PCB-114	**0.257 J**	**0.167 J**	**0.399**	**0.153 J**	**0.195**	**0.59 J**	0.102 UJ	**0.38**	**0.596**
PCB-115	**0.476**	**0.184**	**0.667**	**0.191 J**	**0.268**	0.0766 U	0.1098 U	0.0825 U	0.076 U
PCB-117	**0.900**	**0.372**	**0.784**	**0.447**	**0.560**	**1.06**	**1.506**	**0.53**	0.0816 U
PCB-118	**12.382**	**8.240**	**19.037**	**5.708**	**7.567**	**21.6**	**26.4**	**13.1167**	**21.2**
PCB-120	0.128 U	0.074 U	0.117 U	0.061 U	**0.117 J**	0.0738 U	0.1056 U	0.079333 U	0.073 U
PCB-121	0.130 U	0.075 U	0.118 U	0.062 U	0.082 U	0.0732 U	0.1048 U	0.078667 U	0.0724 U
PCB-122	0.139 U	**0.149 J**	0.142 U	0.068 U	0.080 U	**0.352**	**0.49**	**0.26333**	**0.42**
PCB-123	**0.361**	**0.242 J**	**0.355**	**0.132 J**	**0.204**	**0.466**	**0.622**	**0.333**	**0.496**
PCB-126	0.120 U	0.064 U	0.077 U	0.056 U	0.043 U	0.141 UJ	0.1184 UJ	0.085833 U	0.1168 U
PCB-127	0.130 U	0.076 U	0.133 U	0.062 U	0.078 U	0.0768 U	0.1056 U	0.082167 U	0.0766 U
PCB-128/166	**3.480**	**2.600**	**5.357**	**1.529**	**1.843**	**7.66**	**9.5**	**4.5667**	**6.78**
PCB-129/138/163	**26.897**	**18.580**	**38.921**	**12.854**	**14.920**	**43.6**	**51.6**	**28**	**37.4**
PCB-130	**2.956**	**1.954**	**3.834**	**1.458**	**1.660**	**5.24**	**6.18**	**3.25**	**4.34**
PCB-131	0.111 U	**0.186**	**0.397 J**	0.056 U	**0.167**	**0.488**	**0.706**	**0.335**	**0.524**
PCB-132	**6.113**	**4.400**	**9.634**	**2.636**	**3.095**	**11.32**	**14.5**	**7.6**	**10.52**
PCB-133	**1.288**	**0.918**	**1.563**	**0.819**	**0.864**	**2.28**	**2.48**	**1.575**	**1.788**
PCB-134	**1.614 J**	**1.262**	**2.370**	**0.765**	**0.886**	**3.42**	**4.36**	**2.3**	**3.12**
PCB-135/151	**10.721**	**7.220**	**14.393**	**5.577**	**6.655**	**19.24**	**24.4**	**14.2667**	**16.98**
PCB-136	**2.398**	**1.664**	**3.719**	**1.190**	**1.496**	**4.38**	**5.9**	**3.4333**	**4.3**
PCB-137	**1.317**	**1.146**	**1.946**	**0.649**	**0.900**	**2.82**	**2.86**	**1.32333**	**2.1**
PCB-139/140	**0.574 J**	**0.428 J**	**0.757 J**	**0.264 J**	**0.326**	**1.108**	**1.242**	**0.68**	**0.932**
PCB-141	**2.072**	**1.798**	**3.526**	**0.987**	**1.140**	**3.02**	**3.68**	**1.85**	**2.44**
PCB-142	0.102 U	0.052 U	0.059 U	0.051 U	0.030 U	0.028 U	0.048 U	0.025667 U	0.0402 U
PCB-143	0.099 U	0.050 U	0.057 U	0.050 U	0.029 U	0.0246 U	0.0424 U	0.022667 U	0.0356 U
PCB-144	**0.959**	**0.630**	**1.528**	**0.458**	**0.562**	**1.702**	**2.14**	**1.17**	**1.548**
PCB-145	0.074 U	0.038 U	0.043 U	0.037 U	0.022 U	0.01776 U	0.0284 U	0.0159 U	0.0238 U
PCB-146	**8.056**	**5.240**	**9.730**	**4.532**	**4.776**	**13.52**	**15.16**	**9.4**	**10.56**
PCB-147/149	**20.345**	**13.160**	**28.516**	**10.044**	**11.413**	**35.6**	**44**	**25**	**31.4**
PCB-148	0.096 U	0.049 U	0.055 U	0.048 U	**0.110 J**	**0.222**	**0.242**	**0.22**	**0.1696 J**
PCB-150	0.069 U	0.035 U	0.040 U	0.035 U	**0.040 J**	**0.1018 J**	**0.1206 J**	**0.090167 J**	**0.0898 J**
PCB-152	0.070 U	0.036 U	0.040 U	0.035 U	0.021 U	0.01674 U	**0.0688 J**	0.015 U	0.0224 U
PCB-153/168	**26.019**	**16.500**	**35.645**	**13.181**	**14.490**	**40.2**	**45.6**	**26**	**31.2**
PCB-154	**0.633**	**0.348**	**0.850**	**0.333**	**0.358**	**0.864**	**1.098**	**0.69667**	**0.72**
PCB-155	0.065 U	0.033 U	0.038 U	0.033 U	**0.041 J**	**0.043 J**	**0.054 J**	**0.044333 J**	**0.037 J**
PCB-156/157	**1.571**	**1.200**	**2.235**	**0.721**	**0.920**	**2.98**	**3.52**	**1.75**	**2.6**
PCB-158	**2.273**	**1.698**	**3.757**	**1.115**	**1.378**	**3.92**	**4.52**	**2.3667**	**3.3**
PCB-159	0.093 U	0.047 U	0.071 U	0.041 U	0.022 U	**0.1612 J**	**0.202**	**0.110167 J**	**0.0928 J**
PCB-160	0.076 U	0.038 U	0.043 U	0.038 U	0.022 U	0.02 U	0.0344 U	0.0185 U	0.029 U
PCB-161	0.073 U	0.037 U	0.042 U	0.037 U	0.021 U	0.01882 U	0.0324 U	0.017333 U	0.0272 U

Table H-4
Tissue Results

Task	**Anchor QEA 2012/2013**	**Anchor QEA 2012/2013**	**Anchor QEA 2012/2013**	**Anchor QEA 2012/2013**	**Anchor QEA 2012/2013**	**JeldWend2014Tissue**	**JeldWend2014Tissue**	**JeldWend2014Tissue**	**JeldWend2014Tissue**
Location ID	**JW-DR-Tissue**	**JW-EA01-Tissue**	**JW-EA10-Tissue**	**JW-RG-Tissue**	**JW-UR-Tissue**	**P-100**	**P-100**	**P-25**	**P-50**
Sample ID	**JW-DR-TISSUE-120508**	**JW-EA01-TISSUE-120516**	**JW-EA10-TISSUE-120516**	**JW-RG-TISSUE-120508**	**JW-UR-TISSUE-120508**	**JW-TISSUE-01-140428**	**JW-TISSUE-01-140428-DUP**	**JW-TISSUE-03-140428**	**JW-TISSUE-02-140428**
Sample Date	**05/08/2012**	**05/16/2012**	**05/16/2012**	**05/08/2012**	**05/08/2012**	**04/29/2014**	**04/29/2014**	**04/29/2014**	**04/29/2014**
Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**FD**	**N**	**N**
Matrix	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**	**TA**
X	**1301953.88**	**1303385.74**	**1302901.691**	**1302616.709**	**1306498.34**	**1302756.413**	**1302756.413**	**1302506.518**	**1302753.529**
Y	**370102.4568**	**373575.7223**	**372488.6797**	**382542.3177**	**374273.3559**	**372242.2397**	**372242.2397**	**372341.8726**	**371894.7329**
Analyte									
PCB-162	0.090 U	0.046 U	**0.128 J**	0.040 U	**0.059 J**	**0.1748 J**	**0.224**	**0.112167 J**	**0.1732 J**
PCB-164	**2.063**	**1.418**	**2.832**	**0.991**	**1.027**	**2.92**	**3.64**	**2.1333**	**2.8**
PCB-165	0.083 U	0.042 U	0.048 U	0.042 U	0.024 U	0.0208 U	0.0356 U	0.019 U	0.0298 U
PCB-167	**0.746**	**0.574**	**1.044**	**0.373**	**0.463**	**1.26**	**1.422**	**0.795**	**1.036**
PCB-169	0.102 U	0.058 U	0.092 U	0.046 U	0.026 U	0.079 U	0.0744 U	0.05 U	0.0652 U
PCB-170	**1.734**	**0.818**	**2.486**	**0.882**	**0.862**	**4.38 J**	**5.12 J**	0.055 U	**2.94**
PCB-171/173	**1.655**	**0.796**	**2.119**	**0.717**	**0.932**	**3.1 J**	**3.78 J**	**2.1333 J**	**2.42**
PCB-172	**0.305 J**	**0.168 J**	**0.461**	**0.148 J**	**0.143 J**	**0.846 J**	**1.056 J**	0.050833 U	**0.6**
PCB-174	**2.596**	**1.376**	**4.085**	**1.203**	**1.381**	**4.8 J**	**6.06 J**	**2.9833 J**	**3.36**
PCB-175	**0.300 J**	**0.125 J**	**0.414**	**0.211**	**0.225**	**0.716 J**	**0.83 J**	**0.50833 J**	**0.492**
PCB-176	**0.696**	**0.318**	**0.861**	**0.298 J**	**0.327**	**1.206**	**1.53**	**0.875**	**0.974**
PCB-177	**5.423**	**2.380**	**6.127**	**2.702**	**2.988**	**9.82 J**	**11.92 J**	**7.0167 J**	**7.5**
PCB-178	**3.730**	**1.660**	**3.237 J**	**2.109**	**2.129**	**5.96**	**7.08**	**4.0833**	**4.54**
PCB-179	**3.047**	**1.374**	**3.719**	**1.318 J**	**1.700**	**5.66**	**6.98**	**4.0667**	**4.6**
PCB-180/193	**7.430**	**3.840**	**10.135**	**3.965**	**4.132**	**15.56 J**	**18.14 J**	**10.1333 J**	**10.96**
PCB-181	0.141 U	0.082 U	0.125 U	0.085 U	0.038 U	**0.0958 J**	0.0712 U	0.046167 U	0.0604 U
PCB-182	0.136 U	0.079 U	0.121 U	0.081 U	0.037 U	**0.1346 J**	**0.102 J**	0.043167 U	**0.0888 J**
PCB-183	**3.292**	**1.676**	**4.489**	**1.686**	**2.004**	**6.4 J**	**7.7 J**	**4.4167 J**	**4.8**
PCB-184	0.103 U	0.059 U	0.077 U	0.052 U	0.029 U	**0.0566 J**	**0.0916 J**	**0.055833 J**	0.035 U
PCB-185	0.151 U	0.088 U	**0.291**	0.090 U	0.041 U	**0.336 J**	0.0704 U	**0.14333 J**	0.0598 U
PCB-186	0.096 U	0.055 U	0.072 U	0.049 U	0.027 U	0.0274 U	0.041 U	0.026833 U	0.0336 U
PCB-187	**12.759**	**5.600**	**14.836**	**6.776**	**7.299**	**21 J**	**24.8 J**	**14.5167 J**	**15.52**
PCB-188	0.102 U	0.058 U	0.076 U	0.052 U	0.028 U	**0.0648 J**	0.0366 U	0.024 U	0.03 U
PCB-189	0.082 U	0.041 U	**0.121 J**	0.036 U	0.025 U	0.1938 UJ	0.1994 U	0.10833 U	0.1004 UJ
PCB-190	**0.618**	**0.290**	**0.719**	**0.314**	**0.267 J**	**1.126 J**	**1.332 J**	0.040167 U	**0.784**
PCB-191	0.107 U	**0.101 J**	**0.254**	**0.109 J**	**0.107 J**	**0.398 J**	**0.484 J**	0.0375 U	**0.266 J**
PCB-192	0.110 U	0.057 U	0.086 U	0.059 U	0.028 U	0.0422 U	0.0608 U	0.039333 U	0.0516 U
PCB-194	**0.530 J**	**0.228**	**1.119**	**0.316**	**0.329**	**1.406**	**1.52**	**0.67167**	**0.68**
PCB-195	**0.308**	**0.116 J**	**0.484**	**0.169 J**	**0.143 J**	**1.684**	**1.258 J**	**0.55**	**0.506**
PCB-196	**0.987 J**	**0.484**	**1.778**	**0.501**	**0.476**	**1.274 J**	**1.836 J**	**0.86167**	**1.076**
PCB-197	**0.291 J**	0.053 U	**0.343**	**0.108 J**	**0.116 J**	**0.328**	**0.332**	**0.163 J**	**0.23**
PCB-198/199	**3.050**	**1.334**	**4.605**	**1.671**	**1.651**	**5.38**	**6.42**	**2.6333**	**3.4**
PCB-200	0.075 U	0.056 U	0.065 U	0.059 U	0.026 U	**0.1242 J**	**0.1216 J**	**0.0425 J**	0.0368 U
PCB-201	**0.708**	**0.284**	**0.867**	**0.344**	**0.352**	**1.324**	**1.468**	**0.74167**	**0.852**
PCB-202	**2.611**	**0.956**	**3.044**	**1.397**	**1.163**	**4.52**	**4.9**	**2.2667**	**2.94**
PCB-203	**1.025**	**0.388 J**	**1.526**	**0.499**	**0.442**	**1.402**	**1.744**	**0.70333**	**0.854**
PCB-204	0.069 U	0.052 U	0.060 U	0.054 U	0.025 U	0.0298 U	0.0438 U	0.0305 U	0.0374 U
PCB-205	0.092 U	0.048 U	0.060 U	0.043 U	0.022 U	0.262 U	0.1182 U	0.097167 U	0.1026 U
PCB-206	0.158 U	0.088 U	**0.395 J**	0.083 U	**0.133 J**	**0.754**	**0.874**	**0.25167 J**	**0.394**
PCB-207	0.094 U	0.066 U	0.098 U	0.061 U	0.031 U	0.0718 U	0.0676 U	0.042833 U	0.0554 U
PCB-208	0.095 U	0.068 U	**0.124 J**	0.061 U	**0.048 J**	**0.234 J**	**0.298**	**0.090833 J**	**0.1318 J**
PCB-209	0.077 U	0.072 U	0.073 U	0.054 U	0.025 U	**0.258 J**	**0.342**	**0.101333 J**	**0.1732 J**
Total PCB Congener (U = limit)	**416.726 J**	**851.750 J**	**570.870 J**	**200.198 J**	**234.862 J**	**723.28732 J**	**851.19 J**	**493.9159 J**	**640.069 J**
Total PCB Congener TEQ 2005 (Mammal) (U = limit)	**0.016 J**	**0.009 J**	**0.012 J**	**0.007 J**	**0.005**	**0.017674454 J**	**0.015521022 J**	**0.010850367**	**0.014833552 J**

Table H-4
Tissue Results

Task	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	Anchor QEA 2012/2013	JeldWend2014Tissue	JeldWend2014Tissue	JeldWend2014Tissue	JeldWend2014Tissue
Location ID	JW-DR-Tissue	JW-EA01-Tissue	JW-EA10-Tissue	JW-RG-Tissue	JW-UR-Tissue	P-100	P-100	P-25	P-50
Sample ID	JW-DR-TISSUE-120508	JW-EA01-TISSUE-120516	JW-EA10-TISSUE-120516	JW-RG-TISSUE-120508	JW-UR-TISSUE-120508	JW-TISSUE-01-140428	JW-TISSUE-01-140428-DUP	JW-TISSUE-03-140428	JW-TISSUE-02-140428
Sample Date	05/08/2012	05/16/2012	05/16/2012	05/08/2012	05/08/2012	04/29/2014	04/29/2014	04/29/2014	04/29/2014
Sample Type	N	N	N	N	N	N	FD	N	N
Matrix	TA	TA	TA	TA	TA	TA	TA	TA	TA
X	1301953.88	1303385.74	1302901.691	1302616.709	1306498.34	1302756.413	1302756.413	1302506.518	1302753.529
Y	370102.4568	373575.7223	372488.6797	382542.3177	374273.3559	372242.2397	372242.2397	372341.8726	371894.7329
Analyte									
Total PCB Congener (U = 1/2)	408.937 J	849.507 J	566.346 J	196.836 J	233.242 J	722.00736 J	849.3321 J	492.6632833 J	638.4171 J
Total PCB Congener (U = 0)	401.149 J	847.263 J	561.823 J	193.473 J	231.621 J	720.7274 J	847.4742 J	491.4106667 J	636.7652 J
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)	0.008 J	0.005 J	0.006 J	0.004 J	0.003	0.016475774 J	0.014387562 J	0.010090767	0.013840402 J
Total PCB Congener TEQ 2005 (Mammal) (U = 0)	0.001 J	0.0004 J	0.001 J	0.0003J	0.0004	0.015277094 J	0.013254102 J	0.009331167	0.012847252 J
Dioxin Furans and PCB Congeners (ng/kg)									
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)	0.204 J	0.288 J	0.365 J	0.231 J	0.207 J	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)	0.115 J	0.150 J	0.262 J	0.125 J	0.115 J	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)	0.027 J	0.012 J	0.160 J	0.019 J	0.023 J	--	--	--	--
Dioxin Furans and PCB Congeners (µg/kg-lipid)									
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = limit)	0.064 J	0.058 J	0.070 J	0.050 J	0.037 J	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 1/2)	0.036 J	0.030 J	0.051 J	0.027 J	0.020 J	--	--	--	--
Total Dioxin/Furan and PCB Congener TEQ 2005 (Mammal) (Calculated U = 0)	0.008 J	0.002 J	0.031 J	0.004 J	0.004 J	--	--	--	--

Table H-4
Tissue Results

Notes:

Total LPAH represents the sum of naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, and anthracene.

Total HPAH represents the sum of fluoranthene, pyrene, benz(a)anthracene, chrysene, benzo(b,j,k)fluoranthenes, benzo(a)pyrene, indeno(1,2,3,-c,d)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene.

Bold = detected result

µg/kg = microgram per kilogram wet weight
CAEPA = California Environmental Protection Agency
cPAH = carcinogenic polycyclic aromatic hydrocarbon
FD = field duplicate sample
HPAH = high-molecular-weight polycyclic aromatic hydrocarbon
J = estimated value
LPAH = low-molecular-weight polycyclic aromatic hydrocarbon
mg/kg = milligram per kilogram wet weight
N = normal environmental sample
ng/kg = nanogram per kilogram wet weight
PCB = polychlorinated biphenyl
pct = percentage
TA = tissue sample
TEQ = toxicity equivalency factor
U = compound analyzed but not detected above detection limit
UJ = compound analyzed but not detected above estimated detection limit

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Memorandum

March 29, 2021

To: Nathan Soccorsy, Anchor QEA, LLC
From: Masa Kanematsu, Anchor QEA, LLC
cc: Scott Miller, SLR Consulting

Re: In Situ Measurement of Freely Dissolved Polychlorinated Biphenyls in Seep Porewater and Groundwater by Solid-Phase Microextraction, Former E.A. Nord Door, Inc. Facility

Introduction

This document presents the results of in situ solid-phase microextraction (SPME) sampling to determine the freely dissolved concentrations of polychlorinated biphenyls (PCBs) in seep porewater and groundwater at the former E.A. Nord, Inc., door facility (through its successor, JELD-WEN, Inc.). The site is located at 300 West Marine View Drive, Everett, Washington, 98201.

The SPME method is a continuous sampling process, providing time-averaged concentrations of PCBs at sampling locations during the deployment period. In this study, stainless-steel sampling devices loading SPME fibers are deployed at the seep locations and monitoring wells for approximately 28 days.

Methods

Selection of Performance Reference Compounds

In circumstances where the deployment conditions vary between sampling locations and events, differences in the PCB uptake rates to SPME fiber are estimated using the performance reference compound (PRC) approach. PRCs are isotope-labeled versions of target analytes that do not occur naturally. PRCs were added to quality assurance/quality control (QA/QC) and field-deployed SPME fibers during fabrication. During deployment, PRCs diffuse out of the SPME fibers as target PCBs diffuse into the SPME fibers. The isotropic exchange kinetics is generally assumed for the PRC method. Based on the assumption, the depletion rates of PRCs during deployment reflect the uptake rates of target analytes. By measuring the amounts of PRC losses during field deployment, the PCB uptake rates can be estimated. In this study, six different ^{13}C-labeled PCBs (i.e., ^{13}C-PCB-008, ^{13}C-PCB-031, ^{13}C-PCB-060, ^{13}C-PCB-85, ^{13}C-PCB-128, and ^{13}C-PCB-182) were obtained from Cambridge Isotope Inc. (Tewksbury, Massachusetts).

SPME Sampler Preparation

The SPME fiber was obtained from Polymicro Technologies Inc. (Phoenix, Arizona; Part No. 1068020213). This SPME fiber consists of an inert glass core (1,000-micron [µm] diameter) coated with 35 µm of polydimethylsiloxane (PDMS). Figure 1a shows a photograph of the SPME fiber. Prior to use, SPME fibers were sequentially soaked in high-performance liquid chromatography (HPLC)-grade n-hexane, methanol, and water in a glass tube on a shaker table to remove any potential contaminants that may interfere with subsequent analysis. Clean SPME fibers were then soaked in a methanol and water (70:30) mixture spiked with the six different ^{13}C-labeled PRCs and allowed to equilibrate for 14 days on a shaker table. Subsequently, all SPME fibers were removed from the PRC spiking solution and rinsed with HPLC-grade water to remove residual methanol.

Five of the PRC-spiked SPME samples (approximately 70 centimeters [cm] each) were immediately sent to the analytical laboratory to measure the initial PRC concentrations for QA/QC (i.e., the PRC-loaded SPME reproducibility standards). Due to the delay of the groundwater sampling in monitoring wells MW-13 and MW-14, one additional PRC-spiked SPME sample was sent later to assess the loss of the PRCs during storage in a refrigerator at 4°C.

In Situ SPME Sampling

For seep porewater sampling, custom-designed push-point samplers that can hold two 12-inch-long SPME fibers were purchased from MHE Products (East Tawas, Michigan). The push-point sampler consists of two parts: 1) a 15-inch-long stainless-steel guard-rod with a 12-inch SPME fiber holding section; and 2) a protective outer sleeve with 0.025-inch slits at a 1-cm spacing to allow equilibration of the SPME fiber with seep porewater (Figure 1b).

For groundwater sampling, the SPME sampler assemblies were prepared by assembling a stainless metal plate, perforated stainless-steel tube, and Teflon plug (Figure 1c). The groundwater SPME sampler assemblies consisted of two approximately 15-inch SPME fibers.

The SPME sampler assemblies were deployed in the field for 28 days from September 27 to October 25, 2019, and for 28 days from October 30 to November 25, 2019, for seep porewater and groundwater, respectively. After retrieval, PRCs and target PCBs were extracted and quantified in the laboratory. By combining the measured loss of PRCs with equations describing diffusive transport, the uptake of target PCBs can be estimated (called “the fraction of equilibrium”), allowing a calculation of the freely dissolved concentration of the target PCBs as described below.

Analytical Program

The SPMEs were analyzed for PCBs using high-resolution gas chromatography/mass spectrometry (HR-GCMS) by SGS, Inc., in Wilmington, North Carolina (U.S. Environmental Protection Agency Method 1668C).

SPME Data Assessment

The following QA/QC samples were prepared to ensure SPME data quality: 1) a method blank; 2) an n-hexane rinsate of the SPME sampler assembly; 3) SPME fibers to determine initial PRC concentrations (i.e., PRC-loaded SPME reproducibility standards); and 4) a field blank.

The method blank was a 12-inch-long SPME fiber stored under an inert atmosphere at 4°C after cleaning by the solvents. The method blank accounts for contamination during the cleaning process. The n-hexane rinsate of the SPME sampler assembly was 60 milliliters of n-hexane rinsate prepared by thoroughly washing one complete SPME sampler assembly (the push-point sampler loaded with clean SPME fibers) with HPLC-grade n-hexane. This rinsate sample was used to evaluate interference and contamination incurred from the preparation of the SPME sampler assemblies. No notable PCB contamination was found in these QA/QC samples; the total PCB (TPCB) mass in the method blank and the hexane rinsate samples were 0.11 nanograms (ng) and 0.04 ng, respectively.

The PRC-loaded SPME reproducibility standards were also analyzed for target PCB congeners to assess contamination during the PRC spiking process. No notable PCB contamination was found in these QA/QC samples (0.03 to 0.05 ng). The field blank was concurrently prepared with field-deployed SPME fibers, transported to the field site, and set out on the work area of the sampling vessel to expose it to the atmosphere during retrieval. The field blank accounts for contamination incurred during exposure to air at the field site. The field blank was accidentally contacted with field soil and water; the TPCB mass in the field blank was slightly higher than the other QA/QC samples (0.51 ng).

Calculation of Freely Dissolved PCB Concentrations

Freely dissolved PCB concentration in seep porewater and groundwater (C_W) can be estimated using the PCB concentration measured on the SPME fiber after deployment (C_{PDMS}) divided by PDMS-water partition coefficients ($K_{PDMS\text{-}w}$) and the fraction of equilibrium achieved within the SPME fiber (f_e), as shown in Equation 1.

Equation 1

$$C_W = \frac{C_{PDMS}}{K_{PDMS-W} \times f_e}$$

where:

C_W = Concentration in porewater
C_{PDMS} = Concentration in PDMS polymer
$K_{PDMS\text{-}W}$ = PDMS-water partitioning coefficient
f_e = Fraction of equilibrium

A regression of measured $K_{PDMS\text{-}water}$ values against published octanol-water partitioning coefficient (K_{ow}) values for many PCB congeners, as well as different but related (i.e., hydrophobic organics) chemicals, including polycyclic aromatic hydrocarbons (PAHs) and pesticides, was developed (Equation 2).[1] By incorporating these related hydrophobic organic chemicals, the final regression is more robust. Using this regression equation, the $K_{PDMS\text{-}water}$ value for each PCB congener was calculated based on the K_{ow} value of the congener used in this analysis.

Equation 2

$$\log K_{PDMS-water} = 0.903 \times \log K_{ow} - 0.159 \qquad (r^2 = 0.937)$$

where:

$K_{PDMS\text{-}water}$ = PDMS-water partitioning coefficient of a compound
K_{ow} = Octanol-water partitioning coefficient of a compound

The fraction of equilibrium for each of the six PRCs was calculated for each SPME sample using the ratio of the final concentration of PRC (i.e., following deployment) to the initial concentration, as shown in Equation 3.

---

[1] Log K_{ow} values of PAHs were obtained from the U.S. Environmental Protection (EPA 2003). Log K_{ow} values of PCBs were taken from Hawker and Connell (1988) and were adjusted based on the K_{ow} values measured by De Bruijn et al. (1989) with a slow stirring method, which is generally considered a more reliable method for K_{ow} values (OECD 2006). Log $K_{PDMS\text{-}water}$ values for PCBs measured by Smedes et al. (2009) were used in this study because they were recommended by the passive sampling workshop sponsored by the Society of Environmental Toxicology and Chemistry (Ghosh et al. 2014). Log K_{ow} values of pesticides were obtained from De Bruijn et al. (1989), EPA (2012), and Simpson et al. (1995). Log $K_{PDMS\text{-}water}$ values for PAHs were obtained from Smedes et al. (2009). Log $K_{PDMS\text{-}water}$ values of pesticides were obtained from Zeng et al. (2005) and Xing et al. (2009).

Equation 3

$$f_{e,PRC} = 1 - \frac{C_{PRC,final}}{C_{PRC,init}}$$

where:

$f_{e,PRC}$ = Fraction of equilibrium of a PRC
$C_{PRC,final}$ = Final PRC concentration in SPME fiber of a PRC
$C_{PRC,init}$ = Initial PRC concentration in SPME fiber of a PRC

Subsequently, the calculated fraction of equilibrium (f_e) values are incorporated into the external resistance diffusion model of Lampert et al. (2015), along with the $K_{PDMS\text{-}water}$ value for each PCB congener to estimate the f_e value for each target PCB congener.

Results

Uptake Kinetics of PCBs

As stated earlier, all field-deployed SPME fibers were spiked with six different ^{13}C-labeled PCB congeners. Low variability in initial PRC concentrations is a key step in accurately determining the fraction of equilibrium of target PCB congeners. Initial concentrations of the PRCs in the QC samples are shown in Figure 2. Overall, the initial PRC concentrations in the QC samples (n = 6) had low variability (the coefficient of variation ranged from 2.3% to 6.9%). The additional QC sample had a slightly higher concentration of ^{13}C-PCB-031 than the other QC samples, which resulted in higher variability of ^{13}C-PCB-031 (15.2%).

The values of f_e of the PRCs are shown as a function of their $K_{PDMS\text{-}W}$ values for all SPME samples in Figure 3. The f_e values of target PCBs present in the SPME fiber samples can be estimated using the f_e of the PRCs and the uptake kinetics model as described in Lampert et al. (2015). The predicted values of f_e of target PCBs in the SPME samples deployed at Seep-S-18 and MW-13 are shown in Figures 4a and 4b, respectively.

Freely Dissolved PCB Concentrations

The estimated freely dissolved TPCB concentrations in groundwater and seep porewater are shown in Figure 5 and included in Table 1. The highest TPCB concentration was observed at Seep-S-18 (59 ng/L). The second highest TPCB concentration was detected at Seep-S-16 (45 ng/L). The estimated TPCB porewater concentrations in groundwater were 4.7 and 1.8 ng/L at MW-13 and MW-14, respectively. The PCB concentrations at Seep-S-3A, Seep-S-3B, and Seep-S-17 were estimated to be very low (0.2 to 0.3 ng/L) compared to other sampling locations.

The compositional homolog profiles of freely dissolved PCBs in seep porewater and groundwater are presented in Figure 6. The 2-CBs, 3-CBs, 4-CBs, and 5-CBs were the dominant homolog groups, accounting for 3.9% to 27.2% (mean: 17.0%), 13.2% to 51.9% (mean: 31.4%), 19.3% to 41.2% (mean: 30.9%), and 3.5% to 30.2% (mean: 16.9%) of TPCBs, respectively. The homolog profiles are slightly different in each sample. It is noted that the ratio of the 3-CBs was higher at the two seep locations where elevated TPCB concentrations (Seep-S-16 and Seep-S-18) were observed.

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Tables

Table 1
Former E.A. Nord Door, Inc., SPME Dissolved-Phase Results

	Task	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**
	Location ID	**MW13-2019**	**MW14-2019**	**S-16-2019**	**S-17-2019**	**S-18-2019**	**S-3A-2019**	**S-3B-2019**
	Sample ID	**JW-MW13-SPME-20191127**	**JW-MW14-SPME-20191127**	**SEEP-S-16-20191025**	**SEEP-S-17-20191025**	**SEEP-S-18-20191025**	**SEEP-S-3A-20191025**	**SEEP-S-3B-20191025**
	Sample Date	**11/27/2019**	**11/27/2019**	**10/25/2019**	**10/25/2019**	**10/25/2019**	**10/25/2019**	**10/25/2019**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Matrix	**SPME**	**SPME**	**SPME**	**SPME**	**SPME**	**SPME**	**SPME**
	X	**1302902.776**	**1302925.171953**	**1302898.29930297**	**1302869.24260256**	**1302860.510**	**1303023.840**	**1303396.159**
	Y	**372190.010666**	**372289.750296**	**372295.489457637**	**372035.848244637**	**372151.182659641**	**372498.099944815**	**372538.921**
PCB Congeners (ng/L)								
PCB-001	E1668C	**0.056216**	**0.014279 J**	**0.08412 J**	0.00564 U	**0.49398**	0.01021 U	0.00606 U
PCB-002	E1668C	**0.004293 J**	**0.008518 J**	0.00324 U	0.00457 U	**0.00681 J**	0.00742 U	0.00494 U
PCB-003	E1668C	**0.003693 J**	**0.00261 J**	**0.01037 J**	0.00445 U	**0.01573**	0.00723 U	0.0048 U
PCB-004	E1668C	**0.570999**	**0.086407**	**0.74613**	**0.01417 J**	**4.61133**	**0.01384 J**	**0.01122 J**
PCB-005	E1668C	0.00722 UJ	0.005735 U	0.00204 U	0.00591 U	0.00466 U	0.00522 U	0.00465 U
PCB-006	E1668C	**0.338006 J**	**0.012941 J**	**0.56337**	**0.00461 J**	**2.34138**	**0.00445 J**	0.00342 U
PCB-007	E1668C	**0.006622 J**	0.00461 U	**0.05904**	0.00508 U	**0.10289**	0.00432 U	0.00394 U
PCB-008	E1668C	**0.125005 J**	**0.040381**	**0.23399**	**0.01239 J**	**1.44161**	**0.00953 J**	**0.00595 J**
PCB-009	E1668C	**0.007373 J**	0.004268 U	**0.04574**	0.00472 U	**0.15508**	0.00403 U	0.00366 U
PCB-010	E1668C	**0.008838 J**	0.00228 U	**0.01555**	0.00653 U	**0.12254**	0.00601 U	0.004 U
PCB-011	E1668C	**0.031208 J**	**0.092578**	**0.01237**	0.02066 U	**0.03327**	0.02113 U	0.01471 U
PCB-012/013	E1668C	**0.011256 J**	0.003909 U	**0.04247**	0.00404 U	**0.14065**	0.00317 U	0.00304 U
PCB-014	E1668C	0.004775 UJ	0.004003 U	0.00106 U	0.00392 U	0.00261 U	0.00305 U	0.00294 U
PCB-015	E1668C	**0.006464 J**	**0.005503**	**0.02192**	**0.00246 J**	**0.10009**	**0.00269 J**	0.00254 U
PCB-016	E1668C	**0.129838 J**	**0.057955**	**0.10125**	0.01093 U	**0.1852**	0.01087 U	0.0074 U
PCB-017	E1668C	**0.382972 J**	**0.072222**	**2.35668**	0.00959 U	**3.07862**	0.00915 U	0.00638 U
PCB-018/030	E1668C	**0.690152 J**	**0.135647**	**3.41718**	**0.01456 J**	**7.27835**	**0.01151 J**	**0.0096 J**
PCB-019	E1668C	**0.188362 J**	**0.053232**	**3.14312**	0.01145 U	**3.92438**	0.01198 U	0.0079 U
PCB-020/028	E1668C	**0.118325**	**0.054874**	**0.40708**	**0.00746 J**	**0.75713**	**0.00538 J**	**0.00636 J**
PCB-021/033	E1668C	**0.028246**	**0.02072**	**0.1319**	**0.00424 J**	**0.10038**	**0.00448 J**	**0.00334 J**
PCB-022	E1668C	**0.015073**	**0.011804**	**0.01618**	0.00408 U	**0.04218**	0.0027 U	0.0031 U
PCB-023	E1668C	0.001919 U	0.001223 U	0.00146 U	0.0047 U	0.00244 U	0.00315 U	0.00361 U
PCB-024	E1668C	**0.002895 J**	**0.001129 J**	**0.0131**	0.00595 U	**0.01842 J**	0.00542 U	0.0039 U
PCB-025	E1668C	**0.137369**	**0.006372**	**1.26935**	0.00351 U	**1.28473**	0.00222 U	0.00263 U
PCB-026/029	E1668C	**0.34944**	**0.019392**	**2.74639**	**0.00562 J**	**4.00789**	**0.00515 J**	**0.00391 J**
PCB-027	E1668C	**0.130489 J**	**0.009521**	**2.6617**	0.00557 U	**5.08624**	0.00487 U	0.0036 U
PCB-031	E1668C	**0.147708**	**0.042381**	**0.46453**	**0.00583 J**	**1.0354**	**0.00429 J**	**0.00415 J**
PCB-032	E1668C	**0.142579 J**	**0.047503**	**2.44769**	0.00499 U	**2.16718**	**0.00489 J**	0.00324 U
PCB-034	E1668C	0.001649 U	0.001072 U	**0.01436**	0.00427 U	**0.02644**	0.00271 U	0.0032 U
PCB-035	E1668C	0.001294 U	0.000882 U	**0.00095 J**	0.00351 U	0.00178 U	0.00206 U	0.00257 U
PCB-036	E1668C	0.001087 U	0.000753 U	0.00078 U	0.00289 U	0.00148 U	0.00164 U	0.0021 U
PCB-037	E1668C	0.001205 U	**0.003316 J**	**0.00565**	0.00315 U	**0.00948**	0.00184 U	0.00231 U
PCB-038	E1668C	0.001281 U	0.000857 U	0.00101 U	0.0036 U	0.00183 U	0.00218 U	0.00266 U
PCB-039	E1668C	0.001138 U	0.00079 U	**0.00136**	0.00312 U	0.0016 U	0.00177 U	0.00226 U
PCB-040/071	E1668C	**0.054956**	**0.033294 J**	**0.99692**	**0.00286 J**	**0.72947**	**0.00488 J**	**0.00413 J**
PCB-041	E1668C	**0.001549 J**	**0.001743 J**	0.00082 U	0.00399 U	0.00087 U	0.00301 U	0.00339 U
PCB-042	E1668C	**0.025507**	**0.024046 J**	**0.28035**	0.00332 U	**0.14794**	0.00242 U	0.00279 U
PCB-043	E1668C	0.000458 U	**0.001553 J**	**0.01323**	0.00284 U	**0.00915**	0.00208 U	0.00239 U

Table 1
Former E.A. Nord Door, Inc., SPME Dissolved-Phase Results

	Task	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**
	Location ID	**MW13-2019**	**MW14-2019**	**S-16-2019**	**S-17-2019**	**S-18-2019**	**S-3A-2019**	**S-3B-2019**
	Sample ID	**JW-MW13-SPME-20191127**	**JW-MW14-SPME-20191127**	**SEEP-S-16-20191025**	**SEEP-S-17-20191025**	**SEEP-S-18-20191025**	**SEEP-S-3A-20191025**	**SEEP-S-3B-20191025**
	Sample Date	**11/27/2019**	**11/27/2019**	**10/25/2019**	**10/25/2019**	**10/25/2019**	**10/25/2019**	**10/25/2019**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Matrix	**SPME**	**SPME**	**SPME**	**SPME**	**SPME**	**SPME**	**SPME**
	X	**1302902.776**	**1302925.171953**	**1302898.29930297**	**1302869.24260256**	**1302860.510**	**1303023.840**	**1303396.159**
	Y	**372190.010666**	**372289.750296**	**372295.489457637**	**372035.848244637**	**372151.182659641**	**372498.099944815**	**372538.921**
PCB-044/047/065	E1668C	**0.121069**	**0.09368 J**	**1.82046**	**0.00917 J**	**1.27309**	**0.01559 J**	**0.00988 J**
PCB-045	E1668C	**0.069128**	**0.026472 J**	0.00112 U	0.005 U	0.00111 U	0.00408 U	0.00433 U
PCB-046	E1668C	**0.028561**	**0.012444 J**	**0.48712**	0.00465 U	**0.33114**	0.0038 U	0.00402 U
PCB-048	E1668C	**0.007886**	**0.008717 J**	**0.03495**	0.00296 U	**0.04745**	0.00214 U	0.00247 U
PCB-049/069	E1668C	**0.145855**	**0.086152 J**	**2.80562**	**0.0083 J**	**3.02529**	**0.00978**	**0.00767 J**
PCB-050/053	E1668C	**0.071197**	**0.033106 J**	**3.86312**	**0.00498 J**	**3.72227**	**0.00726 J**	**0.00376 J**
PCB-051	E1668C	**0.014495**	**0.008075 J**	**1.33479**	0.00305 U	**0.92147**	0.00238 U	0.00261 U
PCB-052	E1668C	**0.280235**	**0.18676 J**	**5.10846**	**0.01711**	**6.24747**	**0.03207**	**0.02128**
PCB-054	E1668C	**0.003036 J**	**0.003969 J**	**0.83891**	0.00388 U	**0.28891**	0.00367 U	0.00316 U
PCB-055	E1668C	0.000161 U	0.000217 UJ	0.00033 U	0.00119 U	0.00047 U	0.00086 U	0.00119 U
PCB-056	E1668C	**0.004172**	**0.007473 J**	**0.02538**	0.00124 U	**0.01913**	**0.00142 J**	**0.00116 J**
PCB-057	E1668C	0.000153 U	0.000209 UJ	**0.00392**	0.00124 U	**0.00141 J**	0.00087 U	0.00123 U
PCB-058	E1668C	0.00014 U	**0.000295 J**	**0.00245 J**	0.00109 U	0.00044 U	0.00076 U	0.00108 U
PCB-059/062/075	E1668C	**0.015741**	**0.00455 J**	**0.09112**	0.00188 U	**0.14187**	0.00123 U	0.00153 U
PCB-060	E1668C	**0.000929 J**	**0.001855 J**	**0.00222 J**	0.00145 U	**0.00365**	0.00105 U	0.00146 U
PCB-061/070/074/076	E1668C	**0.020161**	**0.045369 J**	**0.31282**	**0.00667 J**	**0.18077**	**0.01041 J**	**0.00766 J**
PCB-063	E1668C	**0.000434 J**	**0.001053 J**	**0.00814**	0.00132 U	**0.00331**	0.00092 U	0.00131 U
PCB-064	E1668C	**0.039913**	**0.021156 J**	**0.165**	**0.00277 J**	**0.2136**	**0.00381 J**	**0.00283 J**
PCB-066	E1668C	**0.010356**	**0.02206 J**	**0.19214**	**0.00222 J**	**0.09056**	**0.00249 J**	**0.00172 J**
PCB-067	E1668C	**0.000508 J**	0.000189 UJ	**0.01477**	0.00103 U	**0.02639**	0.00071 U	0.00102 U
PCB-068	E1668C	**0.000565 J**	**0.000734 J**	**0.01932**	0.00114 U	**0.01681**	0.00075 U	0.00111 U
PCB-072	E1668C	**0.000736 J**	**0.000833 J**	**0.02516**	0.00108 U	**0.0305**	0.00071 U	0.00106 U
PCB-073	E1668C	**0.001267 J**	**0.000603 J**	**0.03153**	0.00167 U	**0.0336**	0.00105 U	0.00134 U
PCB-077	E1668C	**0.000354 J**	**0.000356 J**	**0.00253**	0.00105 U	**0.00204**	0.00068 U	0.00096 U
PCB-078	E1668C	0.000144 U	0.000208 UJ	0.00032 U	0.001 U	0.00045 U	0.00063 U	0.00097 U
PCB-079	E1668C	0.000108 U	**0.000512 J**	**0.00323**	0.0008 U	**0.00159**	0.00049 U	0.00077 U
PCB-080	E1668C	0.000105 U	0.000158 UJ	0.00031 U	0.00084 U	0.00041 U	0.00049 U	0.0008 U
PCB-081	E1668C	0.000131 U	0.000191 UJ	0.00033 U	0.00101 U	0.00046 U	0.00064 U	0.00098 U
PCB-082	E1668C	**0.002036 J**	**0.004951**	**0.02351**	0.00131 U	**0.01041**	**0.00141 J**	0.00099 U
PCB-083	E1668C	**0.000954 J**	**0.002234 J**	**0.03719**	0.00152 U	0.0007 U	0.00112 U	0.00114 U
PCB-084	E1668C	**0.022916 J**	**0.03541**	**0.38453**	**0.00342 J**	**0.25261**	**0.0071**	**0.0048 J**
PCB-085/116	E1668C	**0.001882 J**	**0.005132**	**0.03668**	0.00098 U	**0.01541**	**0.00183 J**	**0.00125 J**
PCB-086/087/097/109/119/125	E1668C	**0.011474 J**	**0.032781**	**0.24825**	**0.00562 J**	**0.11538**	**0.00931 J**	**0.00687 J**
PCB-088	E1668C	0.000331 UJ	0.000665 U	0.00061 U	0.00174 U	0.00073 U	0.00142 U	0.00134 U
PCB-089	E1668C	0.00032 UJ	**0.000483 J**	0.00053 U	0.0015 U	**0.00205**	0.00122 U	0.00115 U
PCB-090/101/113	E1668C	**0.017493 J**	**0.053405**	**0.59473**	**0.00748 J**	**0.25348**	**0.01148**	**0.00834**
PCB-091	E1668C	**0.009417 J**	**0.014214**	**0.18789**	0.00137 U	**0.13963**	**0.00271 J**	**0.00176 J**
PCB-092	E1668C	**0.005024 J**	**0.013181**	**0.15072**	0.00118 U	**0.05418**	**0.0027**	**0.00129 J**
PCB-093/100	E1668C	**0.000683 J**	**0.000955 J**	**0.04014**	0.00149 U	**0.01734**	0.00117 U	0.00113 U

Table 1
Former E.A. Nord Door, Inc., SPME Dissolved-Phase Results

	Task	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**
	Location ID	**MW13-2019**	**MW14-2019**	**S-16-2019**	**S-17-2019**	**S-18-2019**	**S-3A-2019**	**S-3B-2019**
	Sample ID	**JW-MW13-SPME-20191127**	**JW-MW14-SPME-20191127**	**SEEP-S-16-20191025**	**SEEP-S-17-20191025**	**SEEP-S-18-20191025**	**SEEP-S-3A-20191025**	**SEEP-S-3B-20191025**
	Sample Date	**11/27/2019**	**11/27/2019**	**10/25/2019**	**10/25/2019**	**10/25/2019**	**10/25/2019**	**10/25/2019**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Matrix	**SPME**	**SPME**	**SPME**	**SPME**	**SPME**	**SPME**	**SPME**
	X	**1302902.776**	**1302925.171953**	**1302898.29930297**	**1302869.24260256**	**1302860.510**	**1303023.840**	**1303396.159**
	Y	**372190.010666**	**372289.750296**	**372295.489457637**	**372035.848244637**	**372151.182659641**	**372498.099944815**	**372538.921**
PCB-094	E1668C	0.000328 UJ	0.000671 U	**0.01078**	0.00166 U	**0.00263**	0.00131 U	0.00127 U
PCB-095	E1668C	**0.059182 J**	**0.098339**	**1.17831**	**0.01108**	**0.81268**	**0.02058**	**0.01409**
PCB-096	E1668C	**0.002242 J**	**0.001788 J**	**0.04889**	0.00123 U	**0.03423**	0.0013 U	0.00088 U
PCB-098	E1668C	0.000321 UJ	0.000655 U	0.00052 U	0.00146 U	0.00063 U	0.00115 U	0.00112 U
PCB-099	E1668C	**0.0066 J**	**0.020675**	**0.25798**	**0.00351 J**	**0.11487**	**0.00516**	**0.0038**
PCB-102	E1668C	**0.002027 J**	**0.00238**	**0.10638**	0.00105 U	**0.0392**	0.00082 U	0.0008 U
PCB-103	E1668C	**0.000866 J**	**0.001112 J**	**0.06535**	0.00125 U	**0.03102**	0.00094 U	0.00094 U
PCB-104	E1668C	0.000283 U	0.000147 U	**0.03639**	0.00109 U	**0.00262**	0.0011 U	0.00077 U
PCB-105	E1668C	**0.001234 J**	**0.004528**	**0.02895**	**0.00138 J**	**0.00958**	**0.0018 J**	**0.00156 J**
PCB-106	E1668C	0.000117 UJ	0.000283 U	0.00032 U	0.00057 U	0.00034 U	0.00034 U	0.00041 U
PCB-107	E1668C	**0.000365 J**	**0.001186 J**	**0.01445**	0.00051 U	**0.00462**	0.00029 U	0.00036 U
PCB-108/124	E1668C	**0.000215 J**	**0.000458 J**	**0.00359**	0.00054 U	**0.0016 J**	0.0003 U	0.00038 U
PCB-110	E1668C	**0.019262 J**	**0.04903**	**0.68492**	**0.00807**	**0.27249**	**0.0117**	**0.0094**
PCB-111	E1668C	0.000099 UJ	0.000249 U	0.00036 U	0.00054 U	0.00036 U	0.0003 U	0.00038 U
PCB-112	E1668C	0.000129 UJ	0.000292 U	0.00028 U	0.00063 U	**0.00044 J**	0.00042 U	0.00046 U
PCB-114	E1668C	0.000116 UJ	0.000282 U	**0.00101 J**	0.00053 U	0.00033 U	0.00032 U	0.00037 U
PCB-115	E1668C	0.000126 UJ	0.000288 U	0.00026 U	0.00055 U	0.0003 U	0.00036 U	0.0004 U
PCB-117	E1668C	0.000174 UJ	**0.00102 J**	**0.01021**	0.00077 U	**0.00233 J**	0.0005 U	0.00056 U
PCB-118	E1668C	**0.003814 J**	**0.014019**	**0.18028**	**0.00312**	**0.05735**	**0.00382**	**0.00366**
PCB-120	E1668C	0.00008 UJ	0.000204 U	**0.00347**	0.00042 U	**0.00096 J**	0.00023 U	0.00029 U
PCB-121	E1668C	0.0001 UJ	0.00024 U	0.00032 U	0.00056 U	0.00034 U	0.00033 U	0.0004 U
PCB-122	E1668C	0.000157 UJ	0.000379 U	**0.00125**	0.00069 U	0.00042 U	0.00041 U	0.00047 U
PCB-123	E1668C	0.000101 UJ	0.000252 U	**0.00171**	0.0005 U	0.00033 U	0.00028 U	0.00035 U
PCB-126	E1668C	0.000057 U	0.000069 U	0.00022 U	0.00046 U	0.0002 U	0.00016 U	0.0003 U
PCB-127	E1668C	0.000092 UJ	0.000241 U	0.00036 U	0.00042 U	0.00033 U	0.00021 U	0.00026 U
PCB-128/166	E1668C	**0.000531 J**	**0.001592 J**	**0.01567**	0.00058 U	**0.00466**	**0.00057 J**	**0.00053 J**
PCB-129/138/163	E1668C	**0.003951 J**	**0.008898**	**0.09775**	**0.00302 J**	**0.02688**	**0.0026 J**	**0.00293 J**
PCB-130	E1668C	**0.000456 J**	**0.000766 J**	**0.00805**	0.00053 U	**0.00243**	**0.00048 J**	0.00037 U
PCB-131	E1668C	0.000096 UJ	0.000079 U	**0.00136**	0.00062 U	**0.00075 J**	0.00027 U	0.00045 U
PCB-132	E1668C	**0.002977 J**	**0.005195**	**0.06035**	0.00059 U	**0.01922**	**0.00142 J**	**0.00129 J**
PCB-133	E1668C	0.000058 UJ	0.000053 U	**0.00335**	0.00041 U	**0.00092 J**	0.00016 U	0.00029 U
PCB-134	E1668C	**0.000615 J**	**0.001499**	**0.0156**	0.00079 U	**0.00516**	0.00035 U	0.00057 U
PCB-135/151	E1668C	**0.003009 J**	**0.005346**	**0.06858**	0.00052 U	**0.02083**	**0.00135 J**	**0.00108 J**
PCB-136	E1668C	**0.00311**	**0.004238 J**	**0.05623**	**0.00113 J**	**0.02417**	**0.0011 J**	**0.00114 J**
PCB-137	E1668C	**0.000215 J**	**0.000383 J**	**0.0042**	0.00046 U	**0.00102 J**	**0.00029 J**	0.00032 U
PCB-139/140	E1668C	0.00007 UJ	**0.000214 J**	**0.00319**	0.00048 U	**0.00086 J**	0.0002 U	0.00034 U
PCB-141	E1668C	**0.000827 J**	**0.001458**	**0.01132**	0.00044 U	**0.00277 J**	**0.00044 J**	0.00031 U
PCB-142	E1668C	0.000107 UJ	0.000087 U	0.00021 U	0.00067 U	0.00019 U	0.00031 U	0.00049 U
PCB-143	E1668C	0.000074 UJ	0.000062 U	0.00018 U	0.00052 U	0.00016 U	0.00023 U	0.00038 U

Table 1
Former E.A. Nord Door, Inc., SPME Dissolved-Phase Results

	Task	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**	**JeldWenPCB_Porewater2019**
	Location ID	**MW13-2019**	**MW14-2019**	**S-16-2019**	**S-17-2019**	**S-18-2019**	**S-3A-2019**	**S-3B-2019**
	Sample ID	**JW-MW13-SPME-20191127**	**JW-MW14-SPME-20191127**	**SEEP-S-16-20191025**	**SEEP-S-17-20191025**	**SEEP-S-18-20191025**	**SEEP-S-3A-20191025**	**SEEP-S-3B-20191025**
	Sample Date	**11/27/2019**	**11/27/2019**	**10/25/2019**	**10/25/2019**	**10/25/2019**	**10/25/2019**	**10/25/2019**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Matrix	**SPME**	**SPME**	**SPME**	**SPME**	**SPME**	**SPME**	**SPME**
	X	**1302902.776**	**1302925.171953**	**1302898.29930297**	**1302869.24260256**	**1302860.510**	**1303023.840**	**1303396.159**
	Y	**372190.010666**	**372289.750296**	**372295.489457637**	**372035.848244637**	**372151.182659641**	**372498.099944815**	**372538.921**
PCB-144	E1668C	**0.000411 J**	**0.000452 J**	**0.00452**	0.00052 U	**0.0015**	0.00022 U	0.00037 U
PCB-145	E1668C	0.000092 U	0.000062 U	0.00013 U	0.00054 U	0.00013 U	0.00026 U	0.00041 U
PCB-146	E1668C	**0.000625 J**	**0.001164 J**	**0.02034**	0.00033 U	**0.00521**	**0.00033 J**	**0.00035 J**
PCB-147/149	E1668C	**0.006074 J**	**0.010796**	**0.19814**	**0.00326 J**	**0.05317**	**0.00318**	**0.00275 J**
PCB-148	E1668C	0.000065 UJ	0.000057 U	**0.00183**	0.00048 U	**0.00027 J**	0.0002 U	0.00034 U
PCB-150	E1668C	0.000087 U	0.00006 U	**0.01254**	0.00053 U	**0.00048 J**	0.00025 U	0.0004 U
PCB-152	E1668C	0.000088 U	0.000059 U	**0.00048 J**	0.00052 U	0.00012 U	0.00026 U	0.0004 U
PCB-153/168	E1668C	**0.002717 J**	**0.005643**	**0.15424**	**0.0018 J**	**0.02752**	**0.00179**	**0.00163 J**
PCB-154	E1668C	**0.00013 J**	**0.000217 J**	**0.09124**	0.00044 U	**0.00227**	0.00018 U	0.00031 U
PCB-155	E1668C	0.000068 U	0.000048 U	**0.00418**	0.00045 U	0.00012 U	0.0002 U	0.00033 U
PCB-156/157	E1668C	**0.000211 J**	**0.000523 J**	**0.00494**	0.0005 U	**0.00118 J**	**0.0002 J**	0.00029 U
PCB-158	E1668C	**0.000311 J**	**0.000739 J**	**0.0086**	0.00026 U	**0.00234**	**0.00025 J**	**0.00019 J**
PCB-159	E1668C	0.000048 U	0.000075 U	0.0002 U	0.0003 U	0.00015 U	0.00007 U	0.00016 U
PCB-160	E1668C	0.000048 UJ	0.000044 U	0.00017 U	0.00031 U	0.00013 U	0.00011 U	0.00021 U
PCB-161	E1668C	0.000033 UJ	0.000032 U	0.00017 U	0.00024 U	0.00011 U	0.00008 U	0.00017 U
PCB-162	E1668C	0.000054 U	0.000084 U	0.00023 U	0.00035 U	0.00017 U	0.00009 U	0.00019 U
PCB-164	E1668C	**0.000202 J**	**0.000544 J**	**0.00891**	0.00024 U	**0.00231**	**0.00019 J**	0.00017 U
PCB-165	E1668C	0.000041 UJ	0.000039 U	0.00019 U	0.00028 U	0.00013 U	0.0001 U	0.00019 U
PCB-167	E1668C	**0.000084 J**	0.000077 U	**0.00215**	0.00031 U	**0.00063 J**	0.00008 U	0.00017 U
PCB-169	E1668C	0.000047 U	0.000071 U	0.00028 U	0.00031 U	0.00017 U	0.00007 U	0.00016 U
PCB-170	E1668C	**0.000232 J**	**0.000333 J**	**0.00293 J**	0.00045 U	**0.00073 J**	0.00017 U	0.00034 U
PCB-171/173	E1668C	**0.000122 J**	**0.000122 J**	**0.0011 J**	0.00053 U	**0.00042 J**	0.0002 U	0.00041 U
PCB-172	E1668C	0.000053 UJ	0.000064 UJ	**0.00112 J**	0.00039 U	0.00032 U	0.00013 U	0.0003 U
PCB-174	E1668C	**0.000254 J**	**0.000507 J**	**0.00755**	0.00047 U	**0.00206**	0.00018 U	0.00037 U
PCB-175	E1668C	0.000066 UJ	0.000075 UJ	0.00039 U	0.00048 U	0.00034 U	0.00017 U	0.00037 U
PCB-176	E1668C	0.000044 UJ	0.000051 U	**0.0013**	0.00042 U	**0.00027 J**	0.00013 U	0.00033 U
PCB-177	E1668C	**0.000121 J**	**0.000379 J**	**0.00366 J**	0.00048 U	**0.00106 J**	0.00018 U	0.00038 U
PCB-178	E1668C	0.000036 UJ	0.000047 U	**0.00668**	0.00038 U	**0.00071 J**	0.00009 U	0.00028 U
PCB-179	E1668C	**0.000465 J**	**0.00062 J**	**0.00911**	0.00036 U	**0.00152**	0.00011 U	0.00028 U
PCB-180/193	E1668C	**0.00042 J**	**0.000595 J**	**0.01613**	0.00029 U	**0.00226 J**	**0.00019 J**	0.00022 U
PCB-181	E1668C	0.000057 UJ	0.000064 UJ	0.00032 U	0.00044 U	0.00029 U	0.00016 U	0.00034 U
PCB-182	E1668C	0.000049 UJ	0.000057 UJ	0.00032 U	0.00038 U	0.00027 U	0.00014 U	0.0003 U
PCB-183	E1668C	**0.000225 J**	**0.000339 J**	**0.00699**	0.0004 U	**0.00097 J**	**0.00015 J**	0.00031 U
PCB-184	E1668C	0.000035 UJ	0.000042 U	0.00018 U	0.00036 U	0.00017 U	0.00011 U	0.00028 U
PCB-185	E1668C	0.000073 UJ	**0.000184 J**	**0.00076 J**	0.00051 U	**0.00042 J**	0.00019 U	0.0004 U
PCB-186	E1668C	0.00004 UJ	0.000045 U	0.00015 U	0.00038 U	0.00015 U	0.00012 U	0.00029 U
PCB-187	E1668C	**0.000465 J**	**0.000819 J**	**0.0534**	**0.00036 J**	**0.00414**	**0.00035 J**	**0.00033 J**
PCB-188	E1668C	0.000033 UJ	0.000039 U	**0.00263**	0.00035 U	0.00015 U	0.0001 U	0.00027 U
PCB-189	E1668C	0.00002 U	0.000043 U	0.00031 U	0.00018 U	0.0002 U	0.00005 U	0.00014 U

Table 1
Former E.A. Nord Door, Inc., SPME Dissolved-Phase Results

	Task	JeldWenPCB_Porewater2019	JeldWenPCB_Porewater2019	JeldWenPCB_Porewater2019	JeldWenPCB_Porewater2019	JeldWenPCB_Porewater2019	JeldWenPCB_Porewater2019	JeldWenPCB_Porewater2019
	Location ID	MW13-2019	MW14-2019	S-16-2019	S-17-2019	S-18-2019	S-3A-2019	S-3B-2019
	Sample ID	JW-MW13-SPME-20191127	JW-MW14-SPME-20191127	SEEP-S-16-20191025	SEEP-S-17-20191025	SEEP-S-18-20191025	SEEP-S-3A-20191025	SEEP-S-3B-20191025
	Sample Date	11/27/2019	11/27/2019	10/25/2019	10/25/2019	10/25/2019	10/25/2019	10/25/2019
	Sample Type	N	N	N	N	N	N	N
	Matrix	SPME	SPME	SPME	SPME	SPME	SPME	SPME
	X	1302902.776	1302925.171953	1302898.29930297	1302869.24260256	1302860.510	1303023.840	1303396.159
	Y	372190.010666	372289.750296	372295.489457637	372035.848244637	372151.182659641	372498.099944815	372538.921
PCB-190	E1668C	0.000037 UJ	**0.000043 J**	**0.00071 J**	0.00026 U	0.00024 U	0.00009 U	0.00019 U
PCB-191	E1668C	0.000031 UJ	0.000041 UJ	0.00038 U	0.00025 U	0.00026 U	0.00007 U	0.00019 U
PCB-192	E1668C	0.000028 UJ	0.000036 UJ	0.00033 U	0.00023 U	0.00023 U	0.00007 U	0.00017 U
PCB-194	E1668C	0.000024 UJ	0.00004 U	**0.00398**	0.00025 U	**0.00043 J**	0.00006 U	0.00014 U
PCB-195	E1668C	0.000035 UJ	0.000054 U	**0.00067 J**	0.00033 U	0.00026 U	0.00009 U	0.00019 U
PCB-196	E1668C	0.000028 U	0.000075 U	**0.0028**	0.00016 U	**0.00021 J**	0.00006 U	0.00015 U
PCB-197	E1668C	0.000031 U	0.000073 U	0.00016 U	0.00016 U	0.00013 U	0.00007 U	0.00015 U
PCB-198/199	E1668C	**0.000145 J**	**0.000241 J**	**0.0116**	0.00017 U	**0.00132 J**	0.00007 U	0.00016 U
PCB-200	E1668C	0.000036 U	0.000083 U	**0.00085 J**	0.00018 U	0.00015 U	0.00008 U	0.00017 U
PCB-201	E1668C	0.000023 U	0.00006 U	**0.00177 J**	0.00014 U	0.00016 U	0.00005 U	0.00012 U
PCB-202	E1668C	0.00003 U	**0.000136 J**	**0.00524**	0.00016 U	**0.00061 J**	0.00007 U	0.00015 U
PCB-203	E1668C	**0.000045 J**	0.00006 U	**0.00497**	0.00013 U	**0.00073 J**	0.00005 U	0.00012 U
PCB-204	E1668C	0.00003 U	0.000069 U	0.00016 U	0.00016 U	0.00013 U	0.00007 U	0.00015 U
PCB-205	E1668C	0.000017 UJ	0.000029 U	0.00039 U	0.00017 U	0.0002 U	0.00004 U	0.00009 U
PCB-206	E1668C	0.000018 U	0.000039 U	**0.00313**	0.00054 U	0.00064 U	0.0001 U	0.00024 U
PCB-207	E1668C	0.00002 UJ	0.000037 UJ	0.00053 U	0.00037 U	0.00032 U	0.00008 U	0.00017 U
PCB-208	E1668C	0.000021 UJ	0.000037 UJ	**0.001 J**	0.00032 U	0.00027 U	0.00007 U	0.00015 U
PCB-209	E1668C	0.000023 U	0.000024 U	0.0005 U	0.00019 U	0.00023 U	0.00004 U	0.00009 U
Total PCB Congener (U = 0)		**4.748667 J**	**1.837411 J**	**44.8626 J**	**0.17867 J**	**58.54778 J**	**0.2484 J**	**0.17366 J**
Total PCB Congener (U = 1/2)		**4.762624 J**	**1.856783 J**	**44.87384 J**	**0.30218 J**	**58.56394 J**	**0.34486 J**	**0.26898 J**
Total PCB Congener (U = limit)		**4.77658 J**	**1.876155 J**	**44.88508 J**	**0.42568 J**	**58.58009 J**	**0.44132 J**	**0.3643 J**
Total PCB Congener TEQ 1998 (Avian) (U = 0)		**0.00001788348 J**	**0.00001844529 J**	**0.0001318314 J**	**0.0000001692 J**	**0.0001036558 J**	**0.0000002382 J**	**0.0000001926 J**
Total PCB Congener TEQ 1998 (Avian) (U = 1/2)		**0.00002731339 J**	**0.00003149675 J**	**0.000159473 J**	**0.0001001307 J**	**0.00013676 J**	**0.0000572913 J**	**0.0000883089 J**
Total PCB Congener TEQ 1998 (Avian) (U = limit)		**0.00003674329 J**	**0.00004454821 J**	**0.0001871145 J**	**0.0002000921 J**	**0.0001698641 J**	**0.0001143443 J**	**0.0001764252 J**
Total PCB Congener TEQ 1998 (Fish) (U = 0)		**0.000000062115 J**	**0.00000013095 J**	**0.0000013482 J**	**0.0000000225 J**	**0.0000005477 J**	**0.0000000291 J**	**0.0000000261 J**
Total PCB Congener TEQ 1998 (Fish) (U = 1/2)		**0.000000239133 J**	**0.000000354611 J**	**0.00000198848 J**	**0.0000014903 J**	**0.0000011691 J**	**0.00000062668 J**	**0.0000010764 J**
Total PCB Congener TEQ 1998 (Fish) (U = limit)		**0.00000041615 J**	**0.00000057827 J**	**0.00000262875 J**	**0.0000029581 J**	**0.0000017905 J**	**0.00000122425 J**	**0.0000021267 J**
Total PCB Congener TEQ 2005 (Mammal) (U = 0)		**0.00000019569 J**	**0.0000006077 J**	**0.0000068242 J**	**0.000000135 J**	**0.0000022662 J**	**0.0000001746 J**	**0.0000001566 J**
Total PCB Congener TEQ 2005 (Mammal) (U = 1/2)		**0.0000037739 J**	**0.00000516116 J**	**0.0000220784 J**	**0.0000280193 J**	**0.0000148981 J**	**0.0000093656 J**	**0.0000177714 J**
Total PCB Congener TEQ 2005 (Mammal) (U = limit)		**0.0000073521 J**	**0.00000971462 J**	**0.0000373325 J**	**0.0000559036 J**	**0.00002753 J**	**0.0000185565 J**	**0.0000353862 J**

Notes:

Bold: Detected result

J: estimated value

ng/L: nanogram per liter

PCB: polychlorinated biphenyl

SPME: solid-phase microextraction

TEQ: toxic equivalents quotient

U: compound analyzed, but not detected above detection limit

UJ: compound analyzed, but not detected above estimated detection limit

Figures

Figure 1
Images of the SPME fiber (a), Stainless-Steel Push-Point Sampler for Seep Porewater Sampling (b), and Groundwater Sampler Assembly (c)

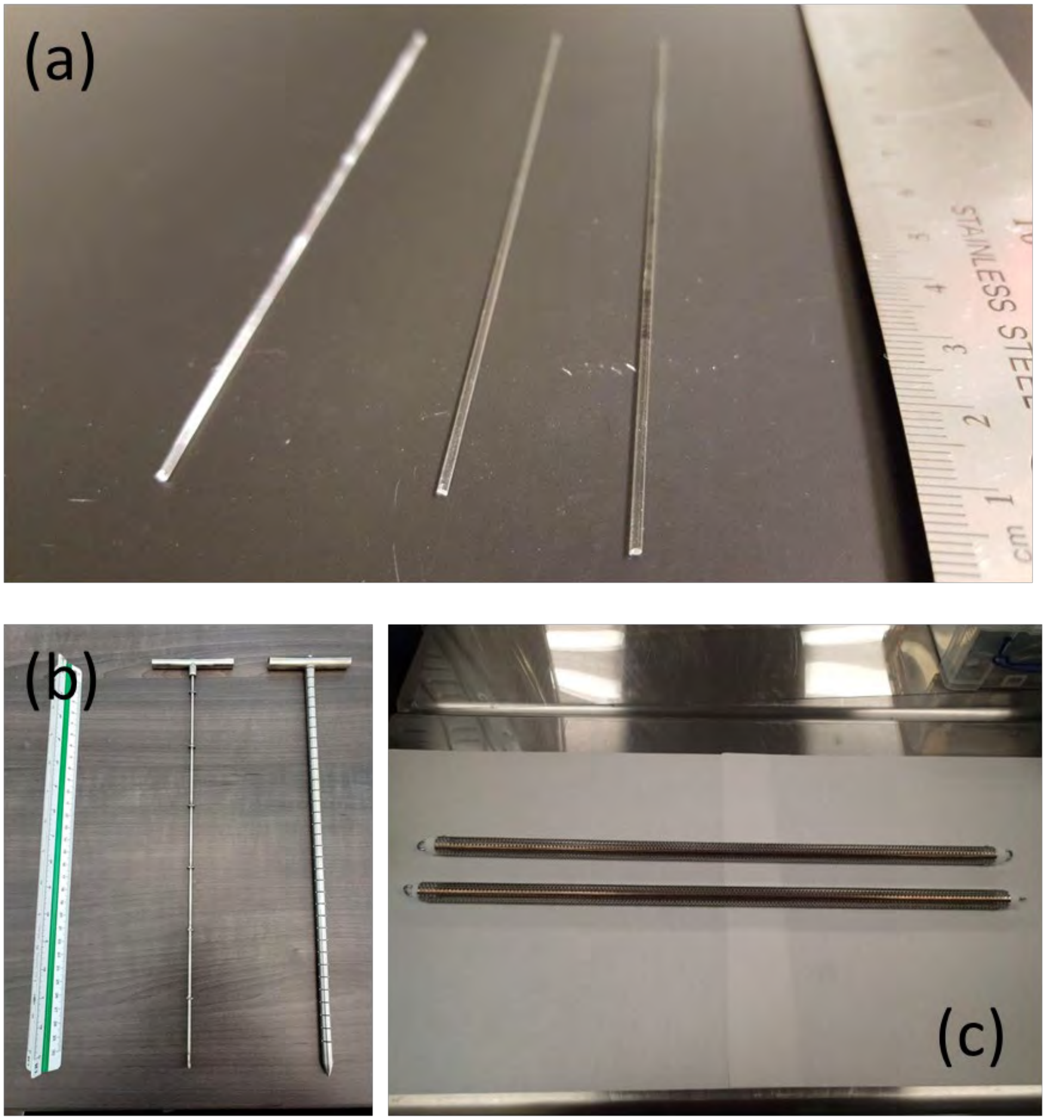
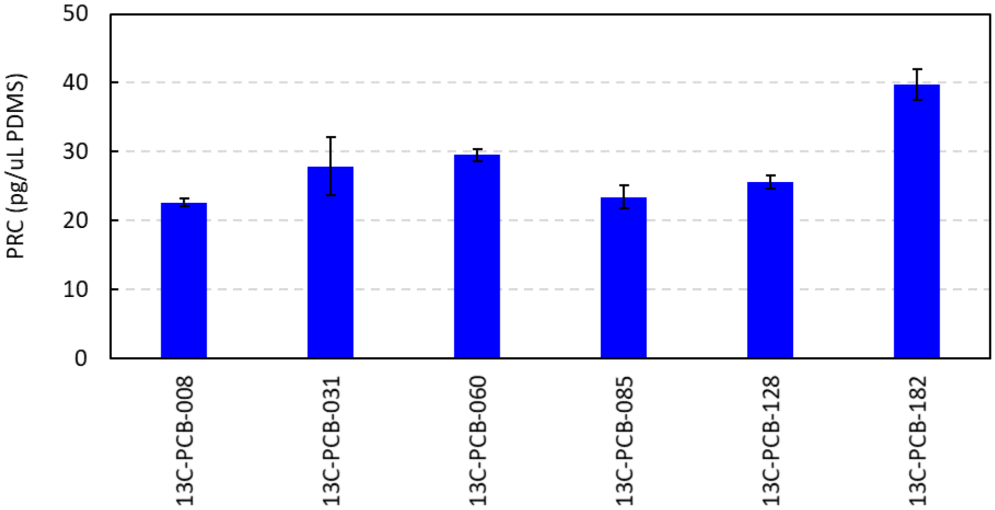


Figure 2
Initial Concentrations of PRCs in SPME QA/QC Samples



Note: Error bars denote +/- 1 standard deviation (n = 6)

Figure 3
Fraction of Equilibrium (f_e) of PRCs in All Deployed SPME Samplers

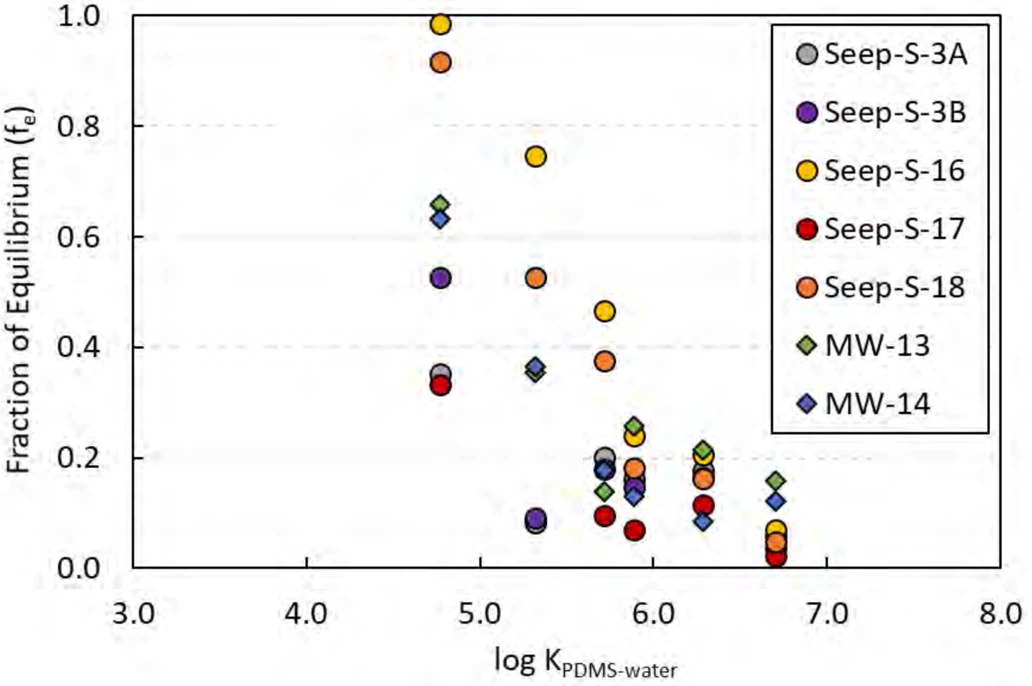


Figure 4
Predicted Fraction of Equilibrium Achieved for PCBs by the External Diffusion Model at Seep-S-18 (a) and MW-13 (b)

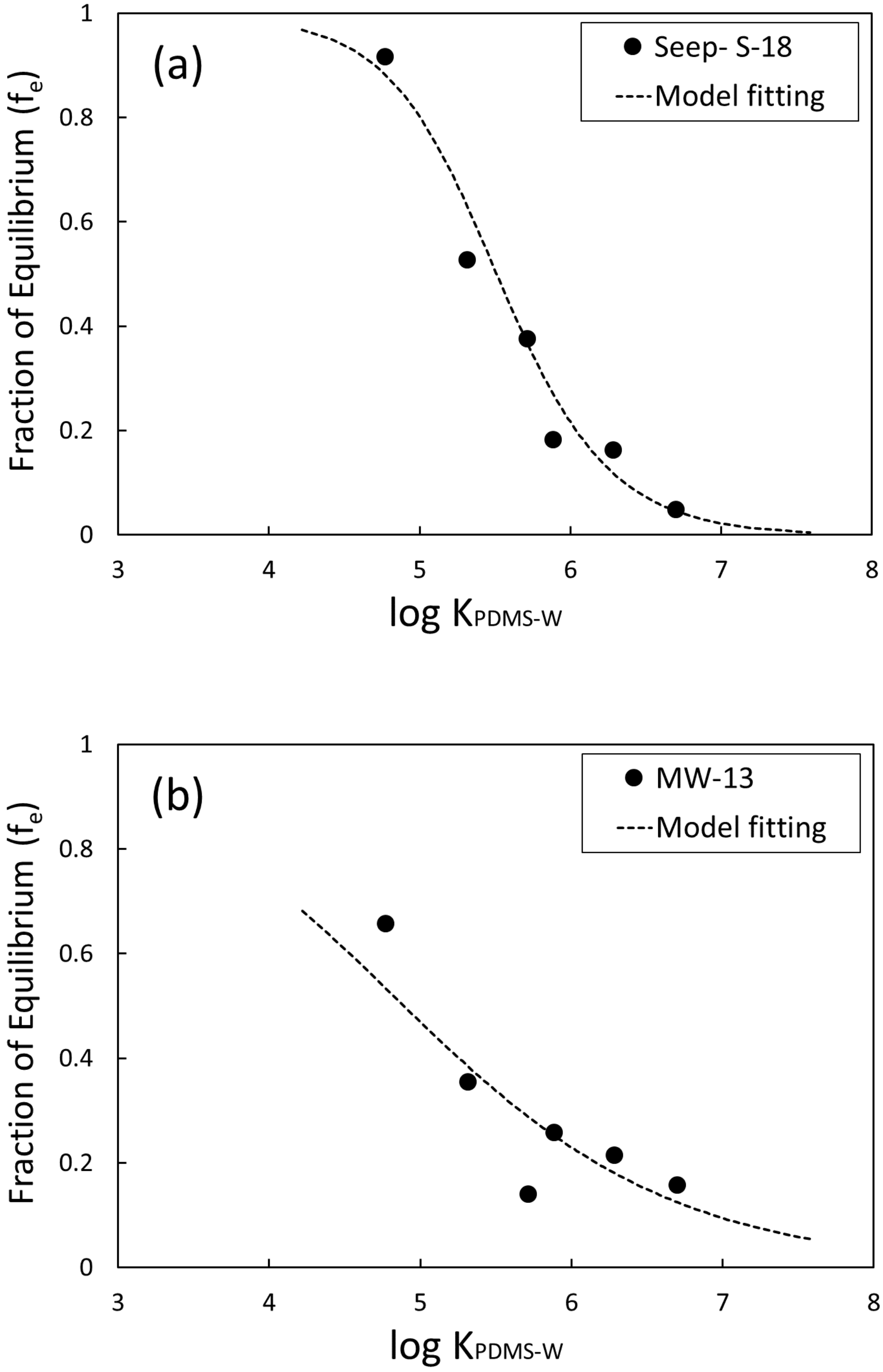
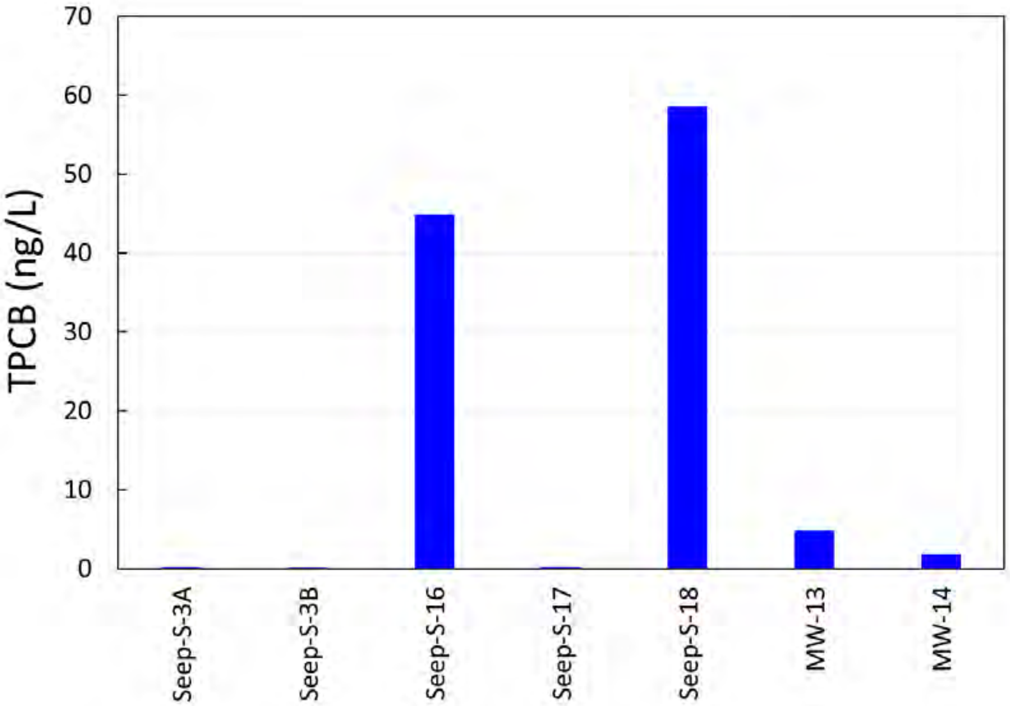
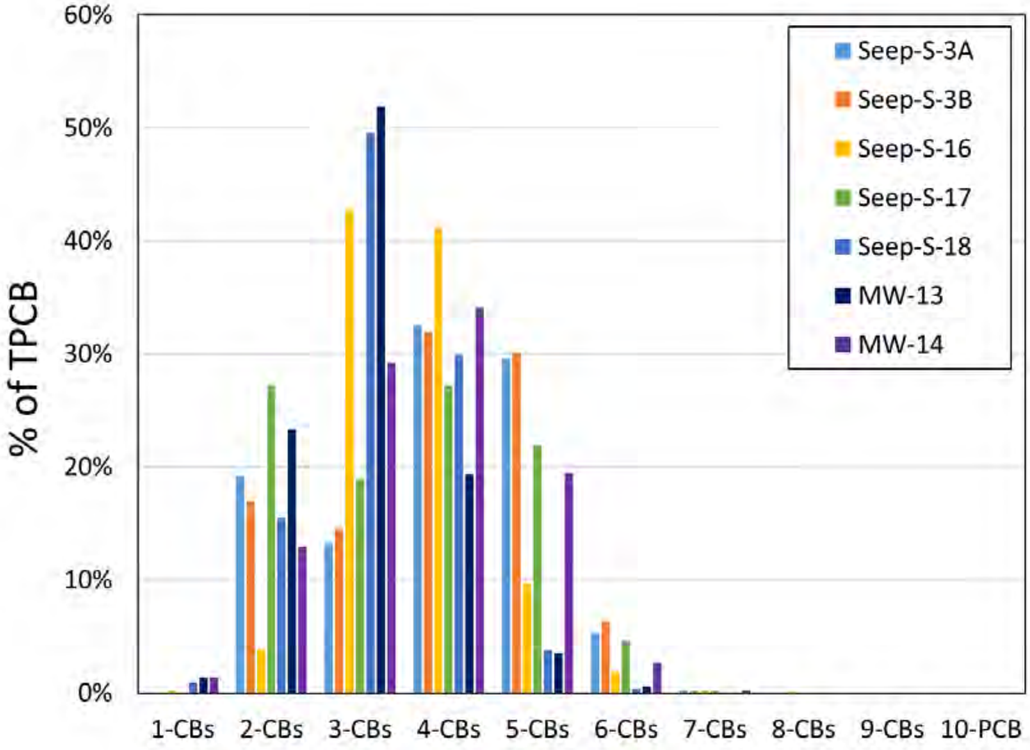


Figure 5
Estimated Freely Dissolved TPCB Concentrations in Seep Porewater and Groundwater



Note: Non-detects were handled as zero.

Figure 6
Homolog Profiles of Freely Dissolved PCBs in Seep Porewater and Groundwater



APPENDIX I

FIELD COLLECTION FORMS

Description: Provides the backup field documentation for the porewater, surface sediment, and subsurface sampling events.

9/27 Jeld Wen Site

0800 - AQ staff on site, coordinating with SLR Geo (Steven)

0900 *GPS not connecting to Satellites, attemting to Visually Identify seeps

- given coordinates of seep S-16, awaiting others

S-16; 48.0123411061
-122.212377041

1030 - GPS began functioning properly, awaiting lat/long coordinates from GIS.

1115 - Recieved GPS coordinates for remaining seeps, begin placement of SPME samplers

1230 SPME Samples deployed, packing materials. AQ off site

<u>NOTE</u>: Additional SPME sampler placed at location S-33 due to visual identification of nearby seep

10/25 [illegible]

10/25/2019

SPME retrieval

0815 AQ (Sam, Nathan) onsite, greeted ecology personnel

0845 Begin removal of SPME samplers under ecology supervision:

Time	Sample (removed)
0845	S-3B, 3A 3G
0850	~~[illegible]~~ S-3A
0855	S-16
0900	S-18
0930	S-17

1000 Sam offsite - return to AQ office to process samples

NOTE - it was determined that SPME samples placed in MW-13 and MW-14 were deployed in incorrect locations and will be redeployed at later date.

10/30 Jeld Wen SPME deploy

0840 - AQ on site (Sam, Lucas)
mob. equipment to MW-14

0850 Measure water depth in well
~18.5ft below Top of casing (TOC)

0920 Measure depth of well MW-14
~25.4 feet below TOC

0925 SPME sampler placed at ~24.3 feet
below top of casing (~1 ft above bottom)

0930 Move to MW-13

0935 water level measured at ~20.5 feet
below TOC MW-13

1004 measure bottom of well
~26.8 feet bellow TOC

SC
1005 Place SPME at ~25.8 ft
below TOC.

1015 AQ off site

NOTE - TOC measured at +2 feet above
ground surface.

Note that the depths of deployment are recorded as the depth of the bottom of the SPME sample device.

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA01-SS01

Sampling Crew: EM JP
Sample Date: 5/7/12 Sampling Method:
Sampling Vessel:
Subcontractor(s): Weather:
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other:
TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other:
(Circle Appropriate Analyses)

Grab Number: 1 Water Depth: 0 ft. Grab Recovery: 10 cm Time: 15:22
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/Loose]	[✓ none]	H2S	[✓ none]	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: Surrounded by failed creosote piling bulkheads

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by:

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA01-SS02

Sampling Crew: EM, JP
Sample Date: 5/7/12 Sampling Method:
Sampling Vessel:
Subcontractor(s): Weather:
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other:
TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other:
(Circle Appropriate Analyses)

Grab Number: 1 Water Depth: 0 ft. Grab Recovery: 10 cm Time: 15:15
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	[✓ Moist]
[✓ silt clay]	[✓ brown]	dense/stiff	strong		moderate	Wet
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: Oxidized tubeworm channels, trace woody debris

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: EM

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA01-SS03

Sampling Crew: EM

Sample Date: 5/7/12 Sampling Method:

Sampling Vessel:

Subcontractor(s): Weather:

Station Coordinates: N / Lat.

E / Long.

Datum: NAD 83 / WGS 84 zone:

Sample ID:

Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other:
TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other:
(Circle Appropriate Analyses)

Grab Number: 1 Water Depth: 0 ft. Grab Recovery: 10 cm Time: 15:10
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
[✓ gravel]	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	[✓ Moist]
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: Site on steep slope, upper portion moist silt clay, lower portion wet, soft silt clay with coarse gravel layer, >3cm. Abundant barnacles on surface of seds

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: EM

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA01-SS04

Sampling Crew: EM
Sample Date: 5/7/12 Sampling Method:
Sampling Vessel:
Subcontractor(s): Weather:
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other:
Other:

Grab Number: 1 Water Depth: 0 ft. Grab Recovery: 10 cm Time: 15:00
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/Loose]	none	[✓ H2S]	[✓ none]	Dry
gravel	[✓ gray]	soft/loose	[✓ slight]	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	[✓ Moist]
[✓ silt clay]	brown	dense/stiff	strong		moderate	Wet
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: oxidized worm tunnels, rust in color

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: EM

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA02-SS0~~8~~5

Sampling Crew: JRP
Sample Date: 5-7-12 Sampling Method: Grabs
Sampling Vessel:
Subcontractor(s): Weather: Clear 60°F
Station Coordinates: N / Lat. On target
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other:
Other:

Grab Number: 1-05 Water Depth: 0 ft. Grab Recovery: 10 cm Time: ~~30~~ 15:05
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	[✓ H2S]	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	[✓ slight]	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: 15' from creosote bulkhead

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by:

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA02-SS06

Sampling Crew: JRP
Sample Date: 5-7-12 Sampling Method: Grabs
Sampling Vessel:
Subcontractor(s): Weather: Clear 60°F
Station Coordinates: N / Lat. On target
E / Long. ✓
Datum: NAD 83 / WGS 84 zone:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other:
Other:

Grab Number: 1-06 Water Depth: 0 ft. Grab Recovery: 10 cm Time: 14:56
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/Loose]	none	[✓ H2S]	[✓ none]	Dry
gravel	[✓ gray]	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	[✓ moderate]	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: 20' from piles

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by:

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA02-SS07

Sampling Crew: TRP
Sample Date: ______
Sampling Method: Grabs
Sampling Vessel: ______
Subcontractor(s): ______
Weather: Sunny, windy, clear 60°F
Station Coordinates: N / Lat. ______
E / Long. ______
Datum: NAD 83 / WGS 84 zone:

Sample ID: EA02-SS07
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other: ______
Other: ______

Grab Number: 1 Water Depth: ______ft. Grab Recovery: 10 cm Time: 15:11
Tide Level: ______ft. Sample Interval: ______cm
Bioassay / Chemistry Depth MLLW: ______ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/Loose]	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	KH [✓ brown]	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ______ Water Depth: ______ft. Grab Recovery: ______cm Time: ______
Tide Level: ______ft. Sample Interval: ______cm
Bioassay / Chemistry Depth MLLW: ______ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ______ Water Depth: ______ft. Grab Recovery: ______cm Time: ______
Tide Level: ______ft. Sample Interval: ______cm
Bioassay / Chemistry Depth MLLW: ______ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: ______

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA02-SS08

Sampling Crew: JRP
Sample Date: 5-07-17 Sampling Method: Grabs
Sampling Vessel:
Subcontractor(s): Weather: Clear 60°F
Station Coordinates: N / Lat. On target
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other:
TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other:
(Circle Appropriate Analyses)

Grab Number: 1-08 Water Depth: 0 ft. Grab Recovery: 10 cm Time: 14:47
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	[✓ H2S]	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	[✓ slight]	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	[✓ Moist]
[✓ silt clay]	brown	dense/stiff	strong		moderate	Wet
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by:

ANCHOR QEA

Surface Sediment Field Sample Record

0

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA03-SS09

Sampling Crew: Kara Hitchko

Sample Date: Sampling Method:

Sampling Vessel:

Subcontractor(s): Weather: sunny breezy

Station Coordinates: N / Lat.

E / Long.

Datum: NAD 83 / WGS 84 zone:

Sample ID: EA3-SS9

Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other:

TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other:

(Circle Appropriate Analyses)

Grab Number: 1 Water Depth:____ft. Grab Recovery:____cm Time: 1345

Tide Level:____ft. Sample Interval: 10 cm

Bioassay / Chemistry Depth MLLW:____ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/Loose]	[✓ none]	H2S	[✓ none]	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	[✓ black] small layers	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	[✓ brown]	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth:____ft. Grab Recovery:____cm Time:

Tide Level:____ft. Sample Interval:____cm

Bioassay / Chemistry Depth MLLW:____ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth:____ft. Grab Recovery:____cm Time:

Tide Level:____ft. Sample Interval:____cm

Bioassay / Chemistry Depth MLLW:____ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: KH

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA03-SS10

Sampling Crew: Kara Hitchko
Sample Date: 5/7/12
Sampling Method:
Sampling Vessel:
Subcontractor(s):
Weather:
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID: EA3 - ~~SS09~~ SS10
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other: 1330
Other:

Grab Number: 1
Water Depth: ft.
Tide Level: ft.
Depth MLLW: ft.
Grab Recovery: 10 cm
Sample Interval: 10 cm
Time: 1330
Bioassay / Chemistry

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/Loose]	[✓ none]	H2S	[✓ none]	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
[✓ sand C-M] F	[✓ black] layer	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	[✓ brown]	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: Pronounced black layer

Grab Number:
Water Depth: ft.
Tide Level: ft.
Depth MLLW: ft.
Grab Recovery: cm
Sample Interval: cm
Time:
Bioassay / Chemistry

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number:
Water Depth: ft.
Tide Level: ft.
Depth MLLW: ft.
Grab Recovery: cm
Sample Interval: cm
Time:
Bioassay / Chemistry

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: KH

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA03-SS11

Sampling Crew: Kara Hitchko
Sample Date:
Sampling Method:
Sampling Vessel:
Subcontractor(s):
Weather: sunny breezy
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other: 1345
Other:

Grab Number: 1
Water Depth:_____ft.
Tide Level:_____ft.
Depth MLLW:_____ft.
Bioassay / Chemistry
Grab Recovery:_____cm
Sample Interval: 10 cm
Time: 1400

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	[✓ mod dense/stiff]	moderate	other:	slight	[✓ Moist]
[✓ silt clay]	[✓ brown]	dense/stiff	strong		moderate	Wet
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number:
Water Depth:_____ft.
Tide Level:_____ft.
Depth MLLW:_____ft.
Bioassay / Chemistry
Grab Recovery:_____cm
Sample Interval:_____cm
Time:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number:
Water Depth:_____ft.
Tide Level:_____ft.
Depth MLLW:_____ft.
Bioassay / Chemistry
Grab Recovery:_____cm
Sample Interval:_____cm
Time:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: KH

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA03-SS12

Sampling Crew: Kara Hitchko
Sample Date: 5/7/12
Sampling Method:
Sampling Vessel:
Subcontractor(s):
Weather: Sunny, breeze
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID: EA3-SS12
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other:
Other:

Grab Number: 1
Water Depth: ft.
Tide Level: ft.
Depth MLLW: ft.
Grab Recovery: cm
Sample Interval: 10 cm
Time: 1300
Bioassay / Chemistry

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/Loose]	none	H2S	[✓ none]	Dry
gravel	gray	soft/loose	[✓ slight] poop	Petroleum	trace	Damp
[✓ sand C] M F	black	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	[✓ brown]	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number:
Water Depth: ft.
Tide Level: ft.
Depth MLLW: ft.
Grab Recovery: cm
Sample Interval: cm
Time:
Bioassay / Chemistry

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number:
Water Depth: ft.
Tide Level: ft.
Depth MLLW: ft.
Grab Recovery: cm
Sample Interval: cm
Time:
Bioassay / Chemistry

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: KH

ANCHOR
QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA04-SS13

Sampling Crew:
Sample Date: Sampling Method:
Sampling Vessel:
Subcontractor(s): Weather:
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other:
Other:

Grab Number: 1 Water Depth:___ft. Grab Recovery:___cm Time: 1255
Tide Level:___ft. Sample Interval: 10 cm
Bioassay / Chemistry Depth MLLW:___ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
[✓ sand] C M F	[✓ black]	[✓ mod dense/stiff]	moderate	other:	slight	Moist
[✓ silt clay]	[✓ brown]	dense/stiff	strong		moderate	[✓ Wet]
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Sand on top

Grab Number: ___ Water Depth:___ft. Grab Recovery:___cm Time:
Tide Level:___ft. Sample Interval:___cm
Bioassay / Chemistry Depth MLLW:___ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ___ Water Depth:___ft. Grab Recovery:___cm Time:
Tide Level:___ft. Sample Interval:___cm
Bioassay / Chemistry Depth MLLW:___ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: AT

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA04-SS14

Sampling Crew:

Sample Date:

Sampling Method:

Sampling Vessel:

Subcontractor(s):

Weather:

Station Coordinates: N / Lat.

E / Long.

Datum: NAD 83 / WGS 84 zone:

Sample ID:

Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)

Other:

Other:

Grab Number: 1 Water Depth: ft. Grab Recovery: cm Time: 1250

Tide Level: ft. Sample Interval: 10 cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
[✓ sand] C M F	[✓ black]	[✓ mod dense/stiff]	moderate	other:	slight	[✓ Moist]
[✓ silt clay]	[✓ brown]	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: 2 inch sand with dark clay sandy beneath
4 inches down layer of woody debris

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: AT

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA04-SS15

Sampling Crew: Kara Hitchko
Sample Date: 5/7/12
Sampling Method:
Sampling Vessel:
Subcontractor(s):
Weather: Sunny, breezy
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID: EA4-SS15
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other:
Other:

Grab Number: 1 Water Depth: ft. Grab Recovery: cm Time: 1230
Tide Level: ft. Sample Interval: 10 cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/Loose]	[✓ none]	H2S	[✓ none]	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
[✓ sand C] M F	black	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	[✓ brown]	dense/stiff	strong		moderate	[✓ Wet]
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: KH

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA04-SS16

Sampling Crew: Alicia Toney
Sample Date: 5/7/12 Sampling Method:
Sampling Vessel:
Subcontractor(s): Weather: Sunny breezy
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID: EA 4 SS16
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other:
Other:

Grab Number: 1 Water Depth: ft. Grab Recovery: cm Time: 1240
Tide Level: ft. Sample Interval: 10 cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	[✓ none]	Dry
gravel	gray	soft/loose	[✓ slight]	Petroleum	trace	Damp
[✓ sand C M F]	black	[✓ mod dense/stiff]	moderate	other:	slight	[✓ Moist]
[✓ silt clay]	[✓ brown]	[✓ dense/stiff]	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: sandy with clay chunks

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: AT

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EAD5-SS17

Sampling Crew: Kelee, Kara, JRP, Eric P., Andrew
Sample Date: 5-09-12 Sampling Method: Power Grab
Sampling Vessel:
Subcontractor(s): RSS Weather: Partially Cloudy
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other:
Other:

Grab Number: 1 Water Depth: ft. Grab Recovery: ~~10~~ cm Time: 10:00
Tide Level: ft. Sample Interval: ~~10~~ cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: First grab was filled with wood. No sample material was extracted from this grab

Grab Number: 2 Water Depth: 12 ft. Grab Recovery: 10" cm Time: 10:10
Tide Level: ft. Sample Interval: 10 cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	soft/loose	slight	Petroleum	trace	Damp
[✓ sand] [✓ C M F]	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	[✓ dense/stiff]	strong		moderate	[✓ Wet]
[✓ organic matter]	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Sand with fine to coarse gravel, medium organic matter stuck within jaws of grab, shell pieces throughout, some wood debri

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: KC

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA05-SS18

Sampling Crew: KC/JP/KH/EP

Sample Date: 5/9/2012 Sampling Method: Power Grab

Sampling Vessel:

Subcontractor(s): Weather: Partly Cloudy

Station Coordinates: N / Lat.

E / Long.

Datum: NAD 83 / WGS 84 zone:

Sample ID:

Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)

Other:
Other:

Grab Number: 1 Water Depth: 15 ft. Grab Recovery: 12" cm Time: 10:55

Tide Level: ft. Sample Interval: 10 cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	soft/loose	slight	Petroleum	trace	Damp
[✓ sand] C [✓ M] F	black	[✓ mod dense/stiff]	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	[✓ Wet]
[✓ organic matter] below 10"	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Coarse Wood trapped at bottom at ≈10"
Top 10" completely sand, below coarser sand & silt with
wood frags. Some organics may have been at surface & pushed down

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: KC

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA05-SS19

Sampling Crew: KC/JP/KH/EP
Sample Date: 5/9/2012 Sampling Method: Power Grab
Sampling Vessel: ____
Subcontractor(s): ____ Weather: Partly Cloudy
Station Coordinates: N / Lat. ____
E / Long. ____
Datum: NAD 83 / WGS 84 zone: ____

Sample ID: ____
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other: ____
TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other: ____
(Circle Appropriate Analyses)

Grab Number: 1 Water Depth: 9 ft. Grab Recovery: 12" cm Time: 11:32
Tide Level: ____ ft. Sample Interval: 10 cm
Bioassay / Chemistry Depth MLLW: ____ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	[✓ H2S]	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	[✓ slight]	Petroleum	trace	Damp
[✓ sand] C M F	[✓ black] in organic area	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
[✓ organic matter] below 8-10cm	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: Grab was taken ≈ 50' off target due to low water depth at target. Exact coordinates were recorded 8-10cm of sand/silt clay below fiberous materials all eel grass, leaves, sticks (non wood waste) *47' W of target

Grab Number: ____ Water Depth: ____ ft. Grab Recovery: ____ cm Time: ____
Tide Level: ____ ft. Sample Interval: ____ cm
Bioassay / Chemistry Depth MLLW: ____ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ____ Water Depth: ____ ft. Grab Recovery: ____ cm Time: ____
Tide Level: ____ ft. Sample Interval: ____ cm
Bioassay / Chemistry Depth MLLW: ____ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: ____

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA05-SS20

Sampling Crew: KC/JP/KH/EP

Sample Date: 5/9/2012 Sampling Method: Power Grab

Sampling Vessel:

Subcontractor(s): Weather: Partly Cloudy

Station Coordinates: N / Lat.

E / Long.

Datum: NAD 83 / WGS 84 zone:

Sample ID:

Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other:

TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other:

(Circle Appropriate Analyses)

Grab Number: 1 Water Depth: 12 ft. Grab Recovery: 12" cm Time: 11:55

Tide Level: ft. Sample Interval: 10 cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	soft/loose	slight	Petroleum	trace	Damp
[✓ sand] C [✓ M] F	black	[✓ mod dense/stiff]	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: No debri in jaws, small amount of vegetation

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by:

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA06-SS21

Sampling Crew: EM, KC
Sample Date: 5/7/12 Sampling Method:
Sampling Vessel:
Subcontractor(s): Weather:
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other:
TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other:
(Circle Appropriate Analyses)

Grab Number: 1 Water Depth:____ft. Grab Recovery:____cm Time: 11:12
Tide Level:____ft. Sample Interval: 10 cm
Bioassay / Chemistry Depth MLLW:____ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/loose]	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	[✓ brown]	dense/stiff	strong		moderate	[✓ Wet]
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ____ Water Depth:____ft. Grab Recovery:____cm Time: ____
Tide Level:____ft. Sample Interval:____cm
Bioassay / Chemistry Depth MLLW:____ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ____ Water Depth:____ft. Grab Recovery:____cm Time: ____
Tide Level:____ft. Sample Interval:____cm
Bioassay / Chemistry Depth MLLW:____ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: DM

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA06-SS22

Sampling Crew: ____

Sample Date: ____ Sampling Method: ____

Sampling Vessel: ____

Subcontractor(s): ____ Weather: ____

Station Coordinates: N / Lat. ____

E / Long. ____

Datum: NAD 83 / WGS 84 zone:

Sample ID: ____

Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other: ____

TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other: ____

(Circle Appropriate Analyses)

Grab Number: 1 Water Depth: ____ ft. Grab Recovery: ____ cm Time: 11:17

Tide Level: ____ ft. Sample Interval: 10 cm

Bioassay / Chemistry Depth MLLW: ____ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
[✓ sand] C [✓ M F]	black	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: 0-1cm silt clay 2-10cm fine/medium sand

Grab Number: ____ Water Depth: ____ ft. Grab Recovery: ____ cm Time: ____

Tide Level: ____ ft. Sample Interval: ____ cm

Bioassay / Chemistry Depth MLLW: ____ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ____ Water Depth: ____ ft. Grab Recovery: ____ cm Time: ____

Tide Level: ____ ft. Sample Interval: ____ cm

Bioassay / Chemistry Depth MLLW: ____ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: KC

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA06-SS23

Sampling Crew: EM, KC
Sample Date: 5/7/12
Sampling Method:
Sampling Vessel:
Subcontractor(s):
Weather:
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other:
Other:

Grab Number: 1
Water Depth: ft.
Tide Level: ft.
Depth MLLW: ft.
Bioassay / Chemistry
Grab Recovery: cm
Sample Interval: 10 cm
Time: 11:30

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/Loose]	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
sand C M F	[✓ black]	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	~~brown~~ 5/7/12 EM	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: 0-3 cm brown surface, very soft
3-10 cm, gray/black, soft

Grab Number:
Water Depth: ft.
Tide Level: ft.
Depth MLLW: ft.
Bioassay / Chemistry
Grab Recovery: cm
Sample Interval: cm
Time:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number:
Water Depth: ft.
Tide Level: ft.
Depth MLLW: ft.
Bioassay / Chemistry
Grab Recovery: cm
Sample Interval: cm
Time:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: EM

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA06-SS24

Sampling Crew: EM KC
Sample Date: 5/7/12 Sampling Method: ____
Sampling Vessel: ____
Subcontractor(s): ____ Weather: ____
Station Coordinates: N / Lat. ____
E / Long. ____
Datum: NAD 83 / WGS 84 zone:

Sample ID: ____
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other: ____
TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other: ____
(Circle Appropriate Analyses)

Grab Number: 1 Water Depth: ____ft. Grab Recovery: ____cm Time: 11:25
Tide Level: ____ft. Sample Interval: 10 cm
Bioassay / Chemistry Depth MLLW: ____ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble 5/7/12 EM	D.O.	Very soft/Loose	none	[✓ H2S]	[✓ none]	Dry
gravel	[✓ gray]	soft/loose	[✓ slight]	Petroleum	trace	Damp
[✓ sand] ~~C~~ [✓ M F]	black	[✓ mod dense/stiff]	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: 0-3 cm brown color
3-10 cm grey color, moderate dense, medium-fine sand
with trace silt-clay

Grab Number: ____ Water Depth: ____ft. Grab Recovery: ____cm Time: ____
Tide Level: ____ft. Sample Interval: ____cm
Bioassay / Chemistry Depth MLLW: ____ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ____ Water Depth: ____ft. Grab Recovery: ____cm Time: ____
Tide Level: ____ft. Sample Interval: ____cm
Bioassay / Chemistry Depth MLLW: ____ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off: ____

Recorded by: EM

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA07-SS25

Sampling Crew: EM, KC
Sample Date: 5/8/12 Sampling Method:
Sampling Vessel:
Subcontractor(s): Weather:
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other:
TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other:
(Circle Appropriate Analyses)

Grab Number: 1 Water Depth: ft. Grab Recovery: cm Time: 11:44
Tide Level: ft. Sample Interval: 10 cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density: 0-3cm	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/loose]	[✓ none]	H2S	[✓ none]	Dry
gravel trace	[✓ gray] [illegible]	[✓ soft]/loose 3-10cm	slight	Petroleum	trace	Damp
[✓ sand] C M [✓ F] [illegible]	[✓ black] 3-10cm	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface] 0-3cm	very dense/stiff	overwhelming		heavy	

Comments: Wood waste debris wood layer begins at 7-8cm

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: KC

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA07-SS26

Sampling Crew: EM, KC

Sample Date: 5/7/12 Sampling Method:

Sampling Vessel:

Subcontractor(s): Weather:

Station Coordinates: N / Lat.

E / Long.

Datum: NAD 83 / WGS 84 zone: ~~7~~ 5/7/12 EM

Sample ID:

Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other:

TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other:

(Circle Appropriate Analyses)

Grab Number: 1 Water Depth: ft. Grab Recovery: – cm Time: 11:50

Tide Level: ft. Sample Interval: 10 cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/Loose]	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: Ample small woody debris in 0-10 cm, clamshells.
0-1cm, brown surface verysoft, 1-10cm soft.

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: EM

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA07-SS27

Sampling Crew: ____

Sample Date: ____ Sampling Method: ____

Sampling Vessel: ____

Subcontractor(s): ____ Weather: ____

Station Coordinates: N / Lat. ____

E / Long. ____

Datum: NAD 83 / WGS 84 zone:

Sample ID: ____

Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)

Other: ____
Other: ____

Grab Number: 1 Water Depth: ____ ft. Grab Recovery: ____ cm Time: 12:14
Tide Level: ____ ft. Sample Interval: 10 cm
Bioassay / Chemistry Depth MLLW: ____ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/Loose]	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: Trace wood debri, Brown surface 0-1cm, 1-10cm gray

Grab Number: ____ Water Depth: ____ ft. Grab Recovery: ____ cm Time: ____
Tide Level: ____ ft. Sample Interval: ____ cm
Bioassay / Chemistry Depth MLLW: ____ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ____ Water Depth: ____ ft. Grab Recovery: ____ cm Time: ____
Tide Level: ____ ft. Sample Interval: ____ cm
Bioassay / Chemistry Depth MLLW: ____ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: ____

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA07-SS28

Sampling Crew: EM, KC
Sample Date: ______ Sampling Method: ______
Sampling Vessel: ______
Subcontractor(s): ______ Weather: ______
Station Coordinates: N / Lat. ______
E / Long. ______
Datum: NAD 83 / WGS 84 zone:

Sample ID: ______
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other: ______
Other: ______

Grab Number: 1 Water Depth: ____ft. Grab Recovery: ____cm Time: 12:00
Tide Level: ____ft. Sample Interval: 10 cm
Bioassay / Chemistry Depth MLLW: ____ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/Loose]	none	[✓ H2S]	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	[✓ slight]	Petroleum	trace	Damp
sand C M F	[✓ black]	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: 0-1 cm brown surface, very soft silt/clay
1-10 grey/black very soft to soft silt/clay. Moderate
woody debris & clam shells

Grab Number: ____ Water Depth: ____ft. Grab Recovery: ____cm Time: ____
Tide Level: ____ft. Sample Interval: ____cm
Bioassay / Chemistry Depth MLLW: ____ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ____ Water Depth: ____ft. Grab Recovery: ____cm Time: ____
Tide Level: ____ft. Sample Interval: ____cm
Bioassay / Chemistry Depth MLLW: ____ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: EM

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA08-SS29

Sampling Crew: NJ

Sample Date: 5/7/12 Sampling Method: Grab

Sampling Vessel:

Subcontractor(s): Weather:

Station Coordinates: N / Lat.

E / Long.

Datum: NAD 83 / WGS 84 zone:

Sample ID: EA08-29

Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)

Other: SEE QAPP

Other:

Grab Number: 1 Water Depth:____ft. Grab Recovery:____cm Time: 11:00

Tide Level:____ft. Sample Interval:____cm

Bioassay / Chemistry Depth MLLW:____ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
sand C M F	[✓ black]	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt] clay	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth:____ft. Grab Recovery:____cm Time:

Tide Level:____ft. Sample Interval:____cm

Bioassay / Chemistry Depth MLLW:____ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: top layer Brown fibrous wood waste

Grab Number: Water Depth:____ft. Grab Recovery:____cm Time:

Tide Level:____ft. Sample Interval:____cm

Bioassay / Chemistry Depth MLLW:____ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by:

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA08-SS30

Sampling Crew: NS
Sample Date: 5/7/12 Sampling Method: Grab
Sampling Vessel: —
Subcontractor(s): — Weather:
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID: EA08-SS30
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other: SEE QAPP
Other:

Grab Number: 1 Water Depth:____ft. Grab Recovery:____cm Time: 11:10
Tide Level:____ft. Sample Interval:____cm
Bioassay / Chemistry Depth MLLW:____ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
sand C M F	[✓ black]	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: Top layer brown
Some fiburous wood waste

Grab Number: ____ Water Depth:____ft. Grab Recovery:____cm Time: ____
Tide Level:____ft. Sample Interval:____cm
Bioassay / Chemistry Depth MLLW:____ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ____ Water Depth:____ft. Grab Recovery:____cm Time: ____
Tide Level:____ft. Sample Interval:____cm
Bioassay / Chemistry Depth MLLW:____ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by:__________

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA08-SS31

Sampling Crew: JS

Sample Date: 5/7/12 Sampling Method: Grab

Sampling Vessel: 11:15

Subcontractor(s): Weather: Clear

Station Coordinates: N / Lat.

E / Long.

Datum: NAD 83 / WGS 84 zone:

Sample ID: EA8-SS31

Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other:

TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other:

(Circle Appropriate Analyses)

Grab Number: 8 Water Depth: ft. Grab Recovery: 10 cm Time: 11:15

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by:

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA08-SS32

Sampling Crew: JM, KC
Sample Date: 5/7/12 Sampling Method:
Sampling Vessel:
Subcontractor(s): Weather:
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other:
TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other:
(Circle Appropriate Analyses)

Grab Number: 1 Water Depth: ft. Grab Recovery: cm Time: 12:25
Tide Level: ft. Sample Interval: 10 cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/Loose]	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray] 3-10 cm	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface] 0-3cm	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: EM

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA09-SS33

Sampling Crew: EM, JP
Sample Date: 5/7/17 Sampling Method: ______
Sampling Vessel: ______
Subcontractor(s): ______ Weather: ______
Station Coordinates: N / Lat. ______
E / Long. ______
Datum: NAD 83 / WGS 84 zone:

Sample ID: ______
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other: ______
TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other: ______
(Circle Appropriate Analyses)

Grab Number: 33 Water Depth: ______ ft. Grab Recovery: ______ cm Time: 13:24
Tide Level: ______ ft. Sample Interval: 10 cm
Bioassay / Chemistry Depth MLLW: ______ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/Loose]	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ______ Water Depth: ______ ft. Grab Recovery: ______ cm Time: ______
Tide Level: ______ ft. Sample Interval: ______ cm
Bioassay / Chemistry Depth MLLW: ______ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ______ Water Depth: ______ ft. Grab Recovery: ______ cm Time: ______
Tide Level: ______ ft. Sample Interval: ______ cm
Bioassay / Chemistry Depth MLLW: ______ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: ______

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA09-SS34

Sampling Crew: EM, JP
Sample Date: 5/7/17 Sampling Method: ______
Sampling Vessel: ______
Subcontractor(s): ______ Weather: ______
Station Coordinates: N / Lat. ______
E / Long. ______
Datum: NAD 83 / WGS 84 zone:

Sample ID: ______
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other: ______
Other: ______

Grab Number: 1 Water Depth: 0 ft. Grab Recovery: ______ cm Time: 14:11
Tide Level: ______ ft. Sample Interval: ______ cm
Bioassay / Chemistry Depth MLLW: ______ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	[✓ H2S]	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	[✓ slight]	Petroleum	trace	Damp
[✓ sand] C M [✓ F] <5%	black	mod dense/stiff	moderate	other:	slight	[✓ Moist]
[✓ silt clay]	brown	dense/stiff	strong		moderate	Wet
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: trace wood waste 2-5% fine-medium

Grab Number: ______ Water Depth: ______ ft. Grab Recovery: ______ cm Time: ______
Tide Level: ______ ft. Sample Interval: ______ cm
Bioassay / Chemistry Depth MLLW: ______ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ______ Water Depth: ______ ft. Grab Recovery: ______ cm Time: ______
Tide Level: ______ ft. Sample Interval: ______ cm
Bioassay / Chemistry Depth MLLW: ______ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: EM

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA09-SS35

Sampling Crew: EM, JP
Sample Date: 5/7/17 Sampling Method: Grabs
Sampling Vessel:
Subcontractor(s): Weather:
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other:
Other:

Grab Number: 35 Water Depth: 0 ft. Grab Recovery: 10 cm Time: 1:36 pm
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	[✓ Moist]
[✓ silt clay]	brown	dense/stiff	strong		moderate	Wet
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: Surface lay thin and brown.

Grab Number: 37 Water Depth: 0 ft. Grab Recovery: 10 cm Time: 13:46
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	soft/loose	slight	Petroleum	trace	Damp
[✓ sand] C M [✓ F]	black	[✓ mod dense/stiff]	moderate	other:	slight	[✓ Moist]
[✓ silt clay]	brown	dense/stiff	strong		moderate	Wet
organic matter 5%	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: Silty Sand

Grab Number: 38 Water Depth: 0 ft. Grab Recovery: 10 cm Time: 13:50
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
[✓ sand] C M [✓ F] - trace	black	mod dense/stiff	moderate	other:	slight	[✓ Moist]
[✓ silt clay]	brown	dense/stiff	strong		moderate	Wet
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: Substantial coarse woody debris

Date/Time Lab Drop Off:

Recorded by: EM

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA09-SS36

Sampling Crew: EM, JP

Sample Date: 5/7/12 Sampling Method:

Sampling Vessel:

Subcontractor(s): Weather:

Station Coordinates: N / Lat.

E / Long.

Datum: NAD 83 / WGS 84 zone:

Sample ID:

Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other:

TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other:

5/7/12 EM (Circle Appropriate Analyses)

Grab Number: ~~30~~ 1 Water Depth: 0 ft. Grab Recovery: 10 cm Time: 14:01

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
[✓ sand] C M [✓ F] 10%	black	mod dense/stiff	moderate	other:	slight	[✓ Moist]
[✓ silt clay]	brown	dense/stiff	strong		moderate	Wet
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: Substantial Coarce woody debris

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: EM

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA09-SS37

Sampling Crew:

Sample Date: Sampling Method:

Sampling Vessel:

Subcontractor(s): Weather:

Station Coordinates: N / Lat.

E / Long.

Datum: NAD 83 / WGS 84 zone:

Sample ID:

Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)

Other:

Other:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by:

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA09-SS38

Sampling Crew: ______

Sample Date: ______ Sampling Method: ______

Sampling Vessel: ______

Subcontractor(s): ______ Weather: ______

Station Coordinates: N / Lat. ______

E / Long. ______

Datum: NAD 83 / WGS 84 zone:

Sample ID: ______

Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)

Other: ______
Other: ______

Grab Number: ______ Water Depth: ______ft. Grab Recovery: ______cm Time: ______
Tide Level: ______ft. Sample Interval: ______cm
Bioassay / Chemistry Depth MLLW: ______ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ______ Water Depth: ______ft. Grab Recovery: ______cm Time: ______
Tide Level: ______ft. Sample Interval: ______cm
Bioassay / Chemistry Depth MLLW: ______ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ______ Water Depth: ______ft. Grab Recovery: ______cm Time: ______
Tide Level: ______ft. Sample Interval: ______cm
Bioassay / Chemistry Depth MLLW: ______ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: ______

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA10-SS39

Sampling Crew: ____________________

Sample Date: ____________________ Sampling Method: ____________________

Sampling Vessel: ____________________

Subcontractor(s): ____________________ Weather: ____________________

Station Coordinates: N / Lat. ____________________

E / Long. ____________________

Datum: NAD 83 / WGS 84 zone:

Sample ID: ____________________

Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest

TS / TVS / Grain Size / TOC / Ammonia / Sulfides

(Circle Appropriate Analyses)

Other: ____________________

Other: ____________________

Grab Number: ________ Water Depth: ________ft. Grab Recovery: ________cm Time: ________

Tide Level: ________ft. Sample Interval: ________cm

Bioassay / Chemistry Depth MLLW: ________ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ________ Water Depth: ________ft. Grab Recovery: ________cm Time: ________

Tide Level: ________ft. Sample Interval: ________cm

Bioassay / Chemistry Depth MLLW: ________ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ________ Water Depth: ________ft. Grab Recovery: ________cm Time: ________

Tide Level: ________ft. Sample Interval: ________cm

Bioassay / Chemistry Depth MLLW: ________ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: ____________________

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA1D-SS4D

Sampling Crew: ______
Sample Date: ______ Sampling Method: ______
Sampling Vessel: ______
Subcontractor(s): ______ Weather: ______
Station Coordinates: N / Lat. ______
E / Long. ______
Datum: NAD 83 / WGS 84 zone:

Sample ID: ______
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other: ______
Other: ______

Grab Number: ______ Water Depth: ______ft. Grab Recovery: ______cm Time: ______
Tide Level: ______ft. Sample Interval: ______cm
Bioassay / Chemistry Depth MLLW: ______ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ______ Water Depth: ______ft. Grab Recovery: ______cm Time: ______
Tide Level: ______ft. Sample Interval: ______cm
Bioassay / Chemistry Depth MLLW: ______ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ______ Water Depth: ______ft. Grab Recovery: ______cm Time: ______
Tide Level: ______ft. Sample Interval: ______cm
Bioassay / Chemistry Depth MLLW: ______ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: ______

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA ID-SS41

Sampling Crew: ______
Sample Date: ______ Sampling Method: ______
Sampling Vessel: ______
Subcontractor(s): ______ Weather: ______
Station Coordinates: N / Lat. ______
E / Long. ______
Datum: NAD 83 / WGS 84 zone:

Sample ID: ______
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other: ______
Other: ______

Grab Number: ______ Water Depth: ______ ft. Grab Recovery: ______ cm Time: ______
Tide Level: ______ ft. Sample Interval: ______ cm
Bioassay / Chemistry Depth MLLW: ______ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ______ Water Depth: ______ ft. Grab Recovery: ______ cm Time: ______
Tide Level: ______ ft. Sample Interval: ______ cm
Bioassay / Chemistry Depth MLLW: ______ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ______ Water Depth: ______ ft. Grab Recovery: ______ cm Time: ______
Tide Level: ______ ft. Sample Interval: ______ cm
Bioassay / Chemistry Depth MLLW: ______ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: ______

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA10-SS42

Sampling Crew: JRP - NWS
Sample Date: 5-7-12 Sampling Method: Grab
Sampling Vessel:
Subcontractor(s): Weather: Clear - 55°F
Station Coordinates: N / Lat. (Hit target) #42
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other:
TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other:
(Circle Appropriate Analyses)

Grab Number: 42 Water Depth: 0 ft. Grab Recovery: 10 cm Time: 9:03 am (PDT)
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt] clay	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: None.

Grab Number: 43 Water Depth: 0 ft. Grab Recovery: 10 cm Time: 12:20 pm
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	[✓ slight]	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	[✓ Moist Wet]
[✓ silt clay]	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: 39 Water Depth: 0 ft. Grab Recovery: 10 cm Time: 10:25 pm
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	[✓ Moist]
[✓ silt clay]	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by:

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** EA10-SS43

Sampling Crew: ____
Sample Date: ____ Sampling Method: ____
Sampling Vessel: ____
Subcontractor(s): ____ Weather: ____
Station Coordinates: N / Lat. ____
E / Long. ____
Datum: NAD 83 / WGS 84 zone:

Sample ID: ____
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other: ____
TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other: ____
(Circle Appropriate Analyses)

Grab Number: 40 Water Depth: 0 ft. Grab Recovery: 10 cm Time: 12:34pm
Tide Level: ____ ft. Sample Interval: ____ cm
Bioassay / Chemistry Depth MLLW: ____ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	[✓ Moist]
[✓ silt clay]	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Large wood adjacent.

Grab Number: 41 Water Depth: 0 ft. Grab Recovery: 10 cm Time: 12:44pm
Tide Level: ____ ft. Sample Interval: ____ cm
Bioassay / Chemistry Depth MLLW: ____ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	soft/loose	slight	Petroleum	trace	Damp
[✓ sand] C M [✓ F]	black	[✓ mod dense/stiff]	moderate	other:	slight	[✓ Moist]
[✓ silt clay] 90%	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments: Bow of wood barge

Grab Number: ____ Water Depth: ____ ft. Grab Recovery: ____ cm Time: ____
Tide Level: ____ ft. Sample Interval: ____ cm
Bioassay / Chemistry Depth MLLW: ____ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: ____

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** VR-SS44

Sampling Crew: JP/KC
Sample Date: 5/8/12 Sampling Method: ______
Sampling Vessel: ______
Subcontractor(s): ______ Weather: ______
Station Coordinates: N / Lat. ______
E / Long. ______
Datum: NAD 83 / WGS 84 zone:

Sample ID: ______
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other: ______
TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other: ______
(Circle Appropriate Analyses)

Grab Number: ______ Water Depth: ______ ft. Grab Recovery: 10 cm Time: 10:57
Tide Level: ______ ft. Sample Interval: ______ cm
Bioassay / Chemistry Depth MLLW: ______ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
[✓ sand] C M F 5-10%	black	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: ~~Trace~~ ~~Sand~~, oxidized worm & siphon channels

Grab Number: ______ Water Depth: ______ ft. Grab Recovery: ______ cm Time: ______
Tide Level: ______ ft. Sample Interval: ______ cm
Bioassay / Chemistry Depth MLLW: ______ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ______ Water Depth: ______ ft. Grab Recovery: ______ cm Time: ______
Tide Level: ______ ft. Sample Interval: ______ cm
Bioassay / Chemistry Depth MLLW: ______ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: KC

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** VR-SS45

Sampling Crew: JP/KC

Sample Date: 5/8/12 Sampling Method: ______

Sampling Vessel: ______

Subcontractor(s): ______ Weather: ______

Station Coordinates: N / Lat. ______

E / Long. ______

Datum: NAD 83 / WGS 84 zone:

Sample ID: ______

Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)

Other: ______

Other: ______

Grab Number: ______ Water Depth: ______ ft. Grab Recovery: 10 cm Time: 11:11

Tide Level: ______ ft. Sample Interval: ______ cm

Bioassay / Chemistry Depth MLLW: ______ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
[✓ sand] C M F 5-10%	black	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: lots of worm holes, lots of worms

Grab Number: ______ Water Depth: ______ ft. Grab Recovery: ______ cm Time: ______

Tide Level: ______ ft. Sample Interval: ______ cm

Bioassay / Chemistry Depth MLLW: ______ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: ______ Water Depth: ______ ft. Grab Recovery: ______ cm Time: ______

Tide Level: ______ ft. Sample Interval: ______ cm

Bioassay / Chemistry Depth MLLW: ______ ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: KC

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** VR-SS46

Sampling Crew: JP/KC

Sample Date: 5/8/12 Sampling Method:

Sampling Vessel:

Subcontractor(s): Weather:

Station Coordinates: N / Lat.

E / Long.

Datum: NAD 83 / WGS 84 zone:

Sample ID:

Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other:

TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other:

(Circle Appropriate Analyses)

Grab Number: Water Depth: ft. Grab Recovery: 10 cm Time: 11:26

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
[✓ sand] C M F 10%	black	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: Some worm holes

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: KC

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** UR-SS47

Sampling Crew: JP/KC
Sample Date: 5/8/12 Sampling Method:
Sampling Vessel:
Subcontractor(s): Weather:
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other:
TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other:
(Circle Appropriate Analyses)

Grab Number: Water Depth: ft. Grab Recovery: 10 cm Time: 11:34
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	[✓ soft/loose]	slight	Petroleum	trace	Damp
[✓ sand] C M F 5-10%	black	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: Some worm holes

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: KC

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** DR-SS48

Sampling Crew: KH and AT
Sample Date: 5/8/12 Sampling Method: surface grab
Sampling Vessel:
Subcontractor(s): Weather: overcast, 60°F
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID: DR-SS48
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other:
Other:

Grab Number: 1 Water Depth: ft. Grab Recovery: cm Time: 13:10
Tide Level: ft. Sample Interval: 10 cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/Loose]	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray] sand	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	[✓ brown]	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: minimal woody debris

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: KH

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** DR-SS49

Sampling Crew: KH
Sample Date: 5/18/12 Sampling Method:
Sampling Vessel:
Subcontractor(s): Weather: Overcast, 60°F
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID: DR-SS49
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other:
Other:

Grab Number: 1 Water Depth: ft. Grab Recovery: cm Time: 1120
Tide Level: ft. Sample Interval: 10 cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/Loose]	none	[✓ H2S]	[✓ none]	Dry
gravel	[✓ gray]	soft/loose	[✓ slight]	Petroleum	trace	Damp
sand C M F	[✓ black]	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: KH

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** DR-SS50

Sampling Crew: KH and AT

Sample Date:

Sampling Method: surface grab

Sampling Vessel:

Subcontractor(s):

Weather: overcast, 60°F

Station Coordinates: N / Lat.

E / Long.

Datum: NAD 83 / WGS 84 zone:

Sample ID: DR-SS50

Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest

TS / TVS / Grain Size / TOC / Ammonia / Sulfides

(Circle Appropriate Analyses)

Other:

Other:

Grab Number: 1 Water Depth: ft. Grab Recovery: cm Time: 1140

Tide Level: ft. Sample Interval: 10 cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/Loose]	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	soft/loose	slight	Petroleum	trace	Damp
sand C M F	[✓ black]	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:

Tide Level: ft. Sample Interval: cm

Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: KH + AT

ANCHOR
QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** OR-SS51

Sampling Crew: KH + AT
Sample Date:
Sampling Method: Surface grab
Sampling Vessel:
Subcontractor(s):
Weather:
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID: OR-SS51
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other:
Other:

Grab Number:
Water Depth: ft.
Tide Level: ft.
Bioassay / Chemistry
Depth MLLW: ft.
Grab Recovery: cm
Sample Interval: 10 cm
Time: 1150

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	[✓ Very soft/Loose]	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	soft/loose	slight	Petroleum	trace	Damp
sand C M F	[✓ black] X KH	mod dense/stiff	moderate	other:	slight	Moist
[✓ silt clay]	brown	dense/stiff	strong		moderate	[✓ Wet]
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments: Little bit of red clay

Grab Number:
Water Depth: ft.
Tide Level: ft.
Bioassay / Chemistry
Depth MLLW: ft.
Grab Recovery: cm
Sample Interval: cm
Time:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number:
Water Depth: ft.
Tide Level: ft.
Bioassay / Chemistry
Depth MLLW: ft.
Grab Recovery: cm
Sample Interval: cm
Time:

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: KH and AT

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** RB-SS52

Sampling Crew: EM, CD
Sample Date: 5/8/17 Sampling Method:
Sampling Vessel:
Subcontractor(s): Weather:
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest Other:
TS / TVS / Grain Size / TOC / Ammonia / Sulfides Other:
(Circle Appropriate Analyses)

Grab Number: 1 Water Depth: 0 ft. Grab Recovery: 10 cm Time: 12:06
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	soft/loose	slight	Petroleum	trace	Damp
[✓ sand] C M [✓ F] 50/50	black	[✓ mod dense/stiff]	moderate	other:	slight	[✓ Moist]
[✓ silt] clay	brown	dense/stiff	strong		moderate	Wet
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: BM

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** RB-SS53

Sampling Crew: EM, CD
Sample Date: 5/8/12
Sampling Vessel:
Subcontractor(s):
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:
Sampling Method:
Weather:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other:
Other:

Grab Number: 1 Water Depth: 0 ft. Grab Recovery: 10 cm Time: 12:10
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray] 2-5	soft/loose	slight	Petroleum	trace	Damp
[✓ sand] C M F	[✓ black] 5-10 organics	[✓ mod dense/stiff]	moderate	other:	slight	[✓ Moist]
[✓ silt] clay	brown	dense/stiff	strong		moderate	Wet
[✓ organic matter]	[✓ brown surface] 0-2	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: EM

ANCHOR QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** RB-SS54

Sampling Crew: EM CD.
Sample Date: 5/8/12
Sampling Vessel:
Subcontractor(s):
Station Coordinates: N / Lat.
E / Long. ,
Datum: NAD 83 / WGS 84 zone:

Sampling Method:
Weather:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)

Other:
Other:

Grab Number: 1
Water Depth: 0 ft.
Tide Level: ft.
Bioassay / Chemistry
Depth MLLW: ft.
Grab Recovery: 10 cm
Time: 12:21
Sample Interval: cm

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	soft/loose	slight	Petroleum	trace	Damp
[✓ sand] C M [✓ F]	black	[✓ mod dense/stiff]	moderate	other:	slight	[✓ Moist]
[✓ silt] clay	brown	dense/stiff	strong		moderate	Wet
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number:
Water Depth: ft.
Tide Level: ft.
Bioassay / Chemistry
Depth MLLW: ft.
Grab Recovery: cm
Time:
Sample Interval: cm

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number:
Water Depth: ft.
Tide Level: ft.
Bioassay / Chemistry
Depth MLLW: ft.
Grab Recovery: cm
Time:
Sample Interval: cm

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: EM

ANCHOR
QEA

Surface Sediment Field Sample Record

Project Name: Jeld Wen **Project No:** 120909-01.01 **Station ID:** RB-SS55

Sampling Crew: PM, CD
Sample Date: 5/8/12
Sampling Method:
Sampling Vessel:
Subcontractor(s):
Weather:
Station Coordinates: N / Lat.
E / Long.
Datum: NAD 83 / WGS 84 zone:

Sample ID:
Analysis: Metals / TBT / SVOCs / VOCs / PCBs / Pest
TS / TVS / Grain Size / TOC / Ammonia / Sulfides
(Circle Appropriate Analyses)
Other:
Other:

Grab Number: 1 Water Depth: 0 ft. Grab Recovery: 10 cm Time: 12:21
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	[✓ none]	H2S	[✓ none]	Dry
gravel	[✓ gray]	soft/loose	slight	Petroleum	trace	Damp
[✓ sand] C M [✓ F]	black	[✓ mod dense/stiff]	moderate	other:	slight	[✓ Moist]
[✓ silt] clay	brown	dense/stiff	strong		moderate	Wet
organic matter	[✓ brown surface]	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Grab Number: Water Depth: ft. Grab Recovery: cm Time:
Tide Level: ft. Sample Interval: cm
Bioassay / Chemistry Depth MLLW: ft.

Sediment Type:	Sediment Color:	Density:	Sediment Odor:		Sheen:	Moisture:
cobble	D.O.	Very soft/Loose	none	H2S	none	Dry
gravel	gray	soft/loose	slight	Petroleum	trace	Damp
sand C M F	black	mod dense/stiff	moderate	other:	slight	Moist
silt clay	brown	dense/stiff	strong		moderate	Wet
organic matter	brown surface	very dense/stiff	overwhelming		heavy	

Comments:

Date/Time Lab Drop Off:

Recorded by: PM

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld Wen
Station: JW-101
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: hand
Contractor: —
Target Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N
Long.
Water Depth
DTM Depth Sounder:
Time: 1325
DTM Lead Line:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (cm)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Lattidue/ Northing			
1	1325	1302148	373756	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Soft Brown over dark gray Sandy Silt
90% silt 10% sand

trace wood

Sample Containers: 3

Analyses: D/F, TS/TOC, Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld wen
Station: JW-102
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: hand
Contractor: —
Target Coordinates: Lat.
Horizontal Datum: NAD 83 SP. wash N
Long.

Water Depth
DTM Depth Sounder:
Time: 1303
DTM Lead Line:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (cm)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/ Northing			
1	1303	1302138	373622	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Stiff to firm Brown to dark gray sandy
SILT 90% fines
-trace wood

Sample Containers: 3

Analyses: D/F, TS/TOC, Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld Wen
Station: JW-103
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: hand
Contractor: —
Target Coordinates: Lat.
Horizontal Datum:
Long.

Water Depth
DTM Depth Sounder:
Time: 1145
DTM Lead Line:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (cm)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Lattidue/ Northing			
1	1145	1302322	373183	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

firm, Brown sandy SILT trace wood

Sample Containers: 3

Analyses: D/F, TS/TOC, Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld Wen
Station: JW-104
Job No: 120909-01.01
Date: 5/29/13
Field Staff:
Sample Method: hand
Contractor: —
Target Coordinates: Lat.
Horizontal Datum: NAD 83 SP wash N
Long.

Water Depth
DTM Depth Sounder:
Time: 1140
DTM Lead Line:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (cm)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Lattidue/ Northing			
1	1140	1302384	373077	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Soft Brown to gray Silty SAND
Slight H_2S

up to 75% wood fragments

Sample Containers: 3

Analyses: D/F, TOC/TS, Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld Wen
Station: JW, 105
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: hand
Contractor: —
Target Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N
Long.

Water Depth
DTM Depth Sounder:
Time: 1205
DTM Lead Line:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (cm)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Lattidue/ Northing			
1	1205	1302452	372981	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Soft Silty SAND, olive gray to dark gray
slight H2S odor
10% wood with shell

Sample Containers: 3

Analyses: D/F, TS/TOC, Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld Wen
Station: JW 106
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: hand
Contractor: —
Target Coordinates: Lat.
Horizontal Datum: N.AD 83 SP wash N
Long.
Water Depth
DTM Depth Sounder:
Time: 1240
DTM Lead Line:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (cm)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Lattidue/ Northing			
1	1240	1302358	372592	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Soft olive gray to dark olive silty SAND
60% SAND
Substantial woody debris slight H2S odor

Sample Containers: 3

Analyses: PCB / TS/TOC, Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld Wen
Station: JW-107
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: hand
Contractor: —
Target Coordinates: Lat.
Horizontal Datum: NAD 83 SP wash N
Long.

Water Depth
DTM Depth Sounder:
Time: 1311
DTM Lead Line:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (cm)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Lattidue/ Northing			
1	1311	130239	372312	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Surficial Seaweed Soft silty SAND
75% f-sand
Slight H2S odor
10% wood fragments

Sample Containers: 3

Analyses: PCB, TS/TOC, Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld wen
Station: Jw-108
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: hand
Contractor: —
Target Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N
Long.

Water Depth
DTM Depth Sounder:
Time: 1200
DTM Lead Line:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (cm)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Lattidue/ Northing			
1	1200	1302612	372134	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

med. stiff Brown to gray f-sandy SILT

20% wood.

Sample Containers: 3

Analyses: PCB, D/F, TS/TOC, Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld Wen
Station: JW-109
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: hand
Contractor: —
Target Coordinates: Lat.
Horizontal Datum: NAD 83 SP wash N
Long.
Water Depth
DTM Depth Sounder:
Time: 1147
DTM Lead Line:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (cm)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Lattidue/ Northing			
1	1147	1302793	372034	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

med Stiff to hard brown to gray Sandy SILT

20% wood

hard layer from 8-10 cm

Sample Containers: 3

Analyses: PCB, D/F, TS/TOC, Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld wen
Station: JW-110
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: hand
Contractor: —
Target Coordinates: Lat.
Horizontal Datum: NAD 83 SP wash N
Long.
Water Depth
DTM Depth Sounder:
Time: 1138
DTM Lead Line:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (cm)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Lattidue/ Northing			
1	1138	1302729	371899	Y	10	—
	field	Duplicate collected	JW-SS-3°0-130429 this station			

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Brown-gray medium Stiff to hard Sandy SILT
30% wood

Sample Containers: 3

Analyses: PCB, D/F, TS/TOC Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld Wen
Station: JW-201
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: hand
Contractor:
Target Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N
Long.
Water Depth
DTM Depth Sounder:
Time: 1335
DTM Lead Line:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling
Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (cm)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Lattidue/ Northing			
1	1335	1302097	373870	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Brown over dark gray Soft to firm
Sandy SILT 90% silt.
Trace wood

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld Wen	Station: JW-202
Job No: 120909-01.01	Date: 4/29/13
Field Staff:	Sample Method: hand
Contractor: —	Target Coordinates: Lat.
Horizontal Datum: NAD 83 SP wash N	Long.

Water Height

DTM Depth Sounder:

DTM Lead Line:

Tide Measurements

Time: 1315

Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates Longitude/Easting	 Lattidue/ Northing	Sample Accept (Y/N)	Recovery Depth (cm)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
1	1315	1302068	373722	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Dark Brown, soft to med sandy SILT
90% silt

trace wood

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld Wen	Station: JW-203
Job No: 120908-01.01	Date: 4/29/13
Field Staff:	Sample Method: hand
Contractor: —	Target Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N	Long.

<u>Water Height</u>

DTM Depth Sounder: ______

DTM Lead Line: ______

<u>Tide Measurements</u>

Time: 1249

Height: ______

<u>Sample Acceptability Criteria:</u>

1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (cm)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Lattidue/ Northing			
1	1249	1302059	373595	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Soft Brown over dark olive gray sand SILT 80% Silt.

5% wood

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld-Wen | Station: JW-204
Job No: 120909-01.01 | Date: 4/29/13
Field Staff: | Sample Method: Hand
Contractor: — | Proposed Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N | Long.

Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time: 1239
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Notes: Mudline Elevation (lower low water-large tides): calculated after sampling

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/Northing			
1	1239	1301995	373472	Y	10	

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Soft Brown to gray Sandy SILT
90% SILT
10% wood fragments

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld-Wen
Station: Jw-205
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: Hand
Contractor: —
Proposed Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N
Long.

Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time: 1155
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/Northing			
1	1155	1302187	373209	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Soft Brown sandy SILT

Trace wood

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld-Wen
Station: JW-206
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: Hand
Contractor: —
Proposed Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N
Long.
Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time: 1150
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/Northing			
1	1150	1302255	373085	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Soft Brown to Black Sandy SILT
wood fragments
10% wood

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld-Wen	Station: JW-207
Job No: 120909-01.01	Date: 4/29/13
Field Staff:	Sample Method: Hand
Contractor: —	Proposed Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N	Long.

Water Height

DTM Depth Sounder:

DTM Lead Line:

Tide Measurements

Time: 1157

Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/Northing			
1	1157	1302340	372984	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Soft Brown to Black SILT

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld-Wen	Station: JW-208
Job No: 120909-01.01	Date: 4/29/13
Field Staff:	Sample Method: Hand
Contractor: —	Proposed Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N	Long.

Water Height

DTM Depth Sounder:

DTM Lead Line:

Tide Measurements

Time: 1250

Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/Northing			
1	1250	1302135	372597	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Soft Brown to gray Slightly sandy SILT

red alga on surface

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld-Wen	Station: JW-209
Job No: 120909-01.01	Date: 4/29/13
Field Staff:	Sample Method: Hand
Contractor: —	Proposed Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N	Long.

Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time: 1300
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/Northing			
1	1300	1302188	372278	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Soft Brown to olive gray sandy SILT
60% silt.
10% wood fragments

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld-Wen
Station: JW-210
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: Hand
Contractor:
Proposed Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N
Long.
Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time: 1208
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/Northing			
1	1208	1302425	372092	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

olive gray to gray, medium stiff sandy SILT
10% wood

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld-Wen
Station: JW - 211
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: Hand
Contractor: –
Proposed Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N
Long.
Water Height
Tide Measurements
DTM Depth Sounder:
Time: 1216
DTM Lead Line:
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/Northing			
1	1216	1302289	371905	Yes	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Soft, gray with brown mottling to black
Slightly Sandy SILT
15% wood - decomposed

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld-Wen
Station: JW-212
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: Hand
Contractor:
Proposed Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N
Long.
Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time: 1248
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/Northing			
1	1248	1302503	371826	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Soft gray and brown slightly sandy SILT

10% wood

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld-Wen
Station: JW-213
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: Hand
Contractor:
Proposed Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N
Long.
Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time: 1232
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/Northing			
1	1232	1302419	371621	y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Soft 0-5 cm hard 5-10 cm.
Brown to gray sandy SILT
H_2S odor 10% wood

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld-Wen
Station: JW-214
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: Hand
Contractor:
Proposed Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N
Long.
Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time: 1128
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/Northing			
1	1128	1302727	371784	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

medium stiff brown to gray with black and brown motting
Slightly Sandy SILT - SAND at 8cm
5% wood

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld-Wen
Station: JW-215
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: Hand
Contractor:
Proposed Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N
Long.

Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time: 1118
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/Northing			
1	1118	1302612	371629	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

medium stiff, brown surface to gray
slightly sandy SILT, cobbles with
barnacles on surface

no wood.

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld-Wen — Station: Jw-216
Job No: 120909-01.01 — Date: 4/29/13
Field Staff: — Sample Method: Hand
Contractor: — Proposed Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N — Long.
Water Height — Tide Measurements
DTM Depth Sounder: — Time: 1220
DTM Lead Line: — Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/Northing			
1	1220	1302184	371643	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

medium stiff to hard, brown to gray Sandy SILT
30% wood

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld-Wen
Station: JW-217
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: Hand
Contractor:
Proposed Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N
Long.
Water Height
DTM Depth Sounder:
DTM Lead Line:
Tide Measurements
Time: 1230
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/Northing			
1	1230	1302198	372797	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Stringy red alga on surface
Soft to firm sand SILT
80% fines
5-10% wood

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld-Wen
Station: JW-218
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: Hand
Contractor:
Proposed Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N
Long.
Water Height
DTM Depth Sounder:
DTM Lead Line:
Tide Measurements
Time: 1217
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation (lower low water-large tides): calculated after sampling

Notes:

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/Northing			
1	1217	1302155	373016	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Soft Brown SILT on surface
Soft Sand SILT gray 1-10 cm
no word

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld-Wen
Station: JW-219
Job No: 120909-01.01
Date: 4/29/13
Field Staff:
Sample Method: Hand
Contractor:
Proposed Coordinates: Lat.
Horizontal Datum: NAD 83 SP Wash N
Long.
Water Height
DTM Depth Sounder:
DTM Lead Line:

Tide Measurements
Time: 1227
Height:

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Notes: Mudline Elevation (lower low water-large tides): calculated after sampling

Grab #	Time	Actual Coordinates		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/Northing			
1	1227	1301862	373325	Y	10	—

Sample Description: surface cover, (density), moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Firm Brown to black mottled Sandy SILT

5% wood

Sample Containers: 1

Analyses: Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld Wen Former Noor Door Site
Station: JW301
Job No: 120909-01.01
Date: 9/19/13
Field Staff: EM, JW
Sample Method: grab
Contractor: —
Proposed Coordinates: Lat. 48.00857
Horizontal Datum: NAD 83 N
Long. -122.214686

Water Height
DTM Depth Sounder: / EM
DTM Lead Line:

Tide Measurements
Time: /
Height: / EM

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Notes: Mudline Elevation calculated after sampling

Grab #	Time	Confirmed Coordinates (datum)		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/Northing			
1	09:45	-122.21464 ~~48.00969~~	48.00969	Y	4.75	

Sample Description: surface cover, density, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

wet, soft dark gray, SILT with SAND Contains organics (woody fragments)
85% ND fines, 15% f-sand

Sample Containers: 1-4oz - PCB 1-4oz TOC 1-16oz Archive

Analyses: PCB, TOC, Archive

ANCHOR QEA

Surface Sediment Field Log

Job: Jeld Wen Former Noor Door Site
Station: JW302
Job No: 120909-01.01
Date: 9/19/13
Field Staff: EM, JW
Sample Method: grab
Contractor: —
Proposed Coordinates: Lat. 48.00857
Horizontal Datum: NAD 83 N
Long. -122.21543

Water Height
DTM Depth Sounder: EM
DTM Lead Line:

Tide Measurements
Time:
Height: EM

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Notes: Mudline Elevation calculated after sampling

Grab #	Time	Confirmed Coordinates (datum)		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
		Longitude/Easting	Latitude/Northing			
1	9:54	-122.21514	48.00857	Y	4.75	

Sample Description: surface cover, density, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Wet, soft, dark gray, SILT ~~with SAND~~. Contains organics (wood fragments)
Trace H_2S-like odor
95% NP fines, 5% f-sand

Sample Containers: 2 - 4oz, 1 - 16oz

Analyses: PCB, TOC, Archive

ANCHOR QEA

Sediment Core Collection Log

Page 1 of 1

Project: Jeld wen
Project No: 100546-01.01
Field Staff (in): DG; EM
Contractor: MSS
Vertical Datum: MLLW

Station ID: SC-28
Attempt No: 1 of 1
Date (mm/dd/yy): 04/25/2013
Logged By: DG/EM
Horizontal Datum: DDM
Time (hhmm): 1623
Type of Core: Piston Shelby [✓ Vibro] Other
Diameter of Core (inches):
Core Quality: [✓ Good] Fair Poor Disturbed

Field Collection Coordinates:
Lat/Northing: 48° 00.8815 N
Long/Easting: 122° 12.8496W

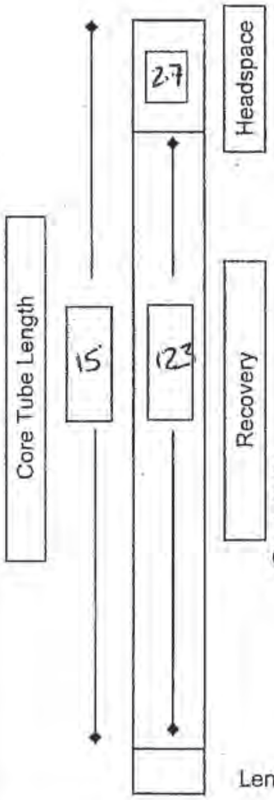
A. Water Depth (ft)
DTM Depth Sounder:
DTM Lead Line: 3.8

B. Tide Measurements
Time (hhmm): 1623
Height (ft): 9.4'

C. Mudline Elevation
5.6' (-A+B=C)

14' SSE from target

Core Collection Recovery Details:
Core Accepted: [✓ Yes] / No
Core Tube Length: 15 Units: (in [✓ ft] m cm)
Drive Penetration (A): 14'
Headspace Measurement: 2.7'
Recovery Measurement (B): 12.3
Recovery Percentage (B/A): 88 %
Total Length of Core To Process: 11.3'
Refusal Encountered? Yes [✓ No]



sections
A 0-4
B 4-8
C 8-12

Drive Notes: freefall, easy penetration, moderate penetration, hard penetration, refusal

0 - 3	hard
3 - 14	easy moderately easy
	Hard @ bottom

Core Field Observations and Description: Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Top A: wet, gray, SILt. Contains woody debris
Top B: SILTY SAND (SM) 60% f-sand 40% fines olive gray, moist
TOP C: POORLY GRADED SAND (SP) 90% f-sand, 10% fines
Core Catcher: Same as C

Rinsate Blank Samples Collected Yes No

ANCHOR QEA

Sediment Core Collection Log

Page 1 of 1

Project: Jeld wen
Project No: 100546-01.01
Field Staff (in): GM, DG
Contractor: MSS
Vertical Datum: MLLW

Station ID: SC-36
Attempt No: 1 of 1
Date (mm/dd/yy): 04/25/2013
Logged By: GM/DG
Horizontal Datum: DDM
Time (hhmm): 1745
Type of Core: Piston Shelby [✓ Vibro] Other
Diameter of Core (inches):
Core Quality: [✓ Good] Fair Poor Disturbed

Field Collection Coordinates:
Lat/Northing: 48° 00.7668 N
Long/Easting: 122° 12.7672 W

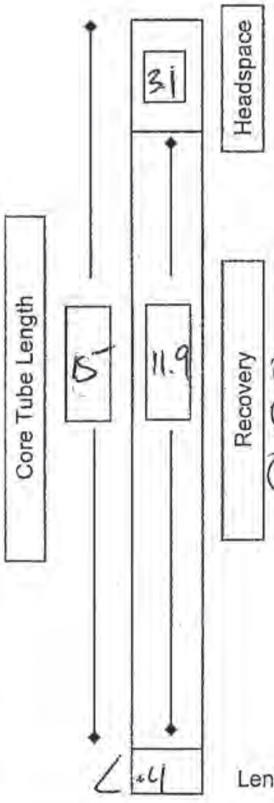
E.
30 ft from target

A. Water Depth (ft)
DTM Depth Sounder:
DTM Lead Line: 3.8

B. Tide Measurements
Time (hhmm): 17:45
Height (ft): 10.8

C. Mudline Elevation
7 (-A+B=C)

Core Collection Recovery Details:
Core Accepted: [✓ Yes] / No
Core Tube Length: 15 Units: (in [✓ ft] m cm)
Drive Penetration (A): 13.5
Headspace Measurement: 3.1
Recovery Measurement (B): 11.9
Recovery Percentage (B/A): 88 %
Total Length of Core To Process: 11.4
Refusal Encountered? Yes No



sections
Ⓐ 0-4
Ⓑ 4-8
Ⓒ 8-11.8

Drive Notes: freefall, easy penetration, moderate penetration, hard penetration, refusal
0-3 hard
3-13.5 - easy

Core Field Observations and Description: Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota
TOP A = Firm, Brown, SANDY SILT (SM-ML) 25% f-Sand 75% ~~non~~ low-plastic fines
TOP B = Olive gray, SAND (SP) 90% fine sand 10% fines
TOP C = Olive gray, SILTY SAND (SM) 75% f-Sand 25% fines
Core catcher = Poorly graded SAND (SP) 100% f-sand, gray

Rinsate Blank Samples Collected Yes No

ANCHOR QEA

Sediment Core Collection Log

Page 1 of 1

Project:	Jeld Wen	**Station ID:**	SC-28
Project No:	100546-01.01	**Attempt No:**	1 of 1
Field Staff (in):	DG, EM	**Date (mm/dd/yy):**	4/25/2013
Contractor:	MSS	**Logged By:**	DG/EM
Vertical Datum:	MLLW	**Horizontal Datum:**	NDM
		Time (hhmm):	17:20
		Type of Core:	Piston Shelby [✓ Vibro] Other
		Diameter of Core (inches):	
		Core Quality:	[✓ Good] Fair Poor Disturbed

Field Collection Coordinates:

Lat/Northing: 48° 00.7290 N

Long/Easting: 122 12.7751 W

50' NNE of target

A. Water Depth (ft)

DTM Depth Sounder:

DTM Lead Line: 3.3

B. Tide Measurements

Time (hhmm): 17:20

Height (ft): 10.5'

C. Mudline Elevation

7.2 (-A+B=C)

Core Collection Recovery Details:

Core Accepted: [✓ Yes] No

Core Tube Length: 15 Units: (in [✓ ft] m cm)

Drive Penetration (A): 13.0'

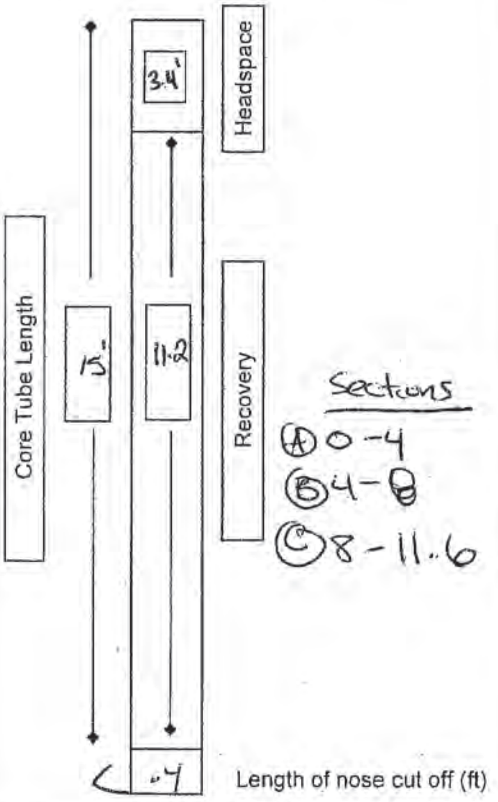
Headspace Measurement: 3.4'

Recovery Measurement (B): 11.6

Recovery Percentage (B/A): 89 %

Total Length of Core To Process: 11.2

Refusal Encountered? Yes [✓ No]



Sections

Ⓐ 0-4

Ⓑ 4-8

Ⓒ 8-11.6

Drive Notes: freefall, easy penetration, moderate penetration, hard penetration, refusal

0 - 13 easy

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

TOP A = Very Soft, Dark brown, sandy SILT (SM) 70% non plastic fines 30% fine sand

TOP B = Soft, grayish brown SAND ~~SILT~~ (SP) 90% fine sand 10% ~~si~~ fines

TOP C = same as B

Corecatcher = Same as B

Rinsate Blank Samples Collected Yes No

ANCHOR QEA

Sediment Core Collection Log

Page 2 of 2

Project: 100546-01.01 Jeld wen	**Station ID:** SC05
Project No:	**Attempt No:** 2 of 2
Field Staff (in): FM, DG	**Date (mm/dd/yy):** 4/22/13
Contractor: MSS	**Logged By:** DG
Vertical Datum: MLLW	**Horizontal Datum:** DDM
	Time (hhmm): 1440
	Type of Core: Piston Shelby [✓ Vibro] Other
	Diameter of Core (inches):
	Core Quality: Good Fair Poor Disturbed

Field Collection Coordinates:

Lat/Northing: 48°00.9839

Long/Easting: 122° 12.6755W

10' N of target

A. Water Depth (ft)	**B. Tide Measurements**	**C. Mudline Elevation**
DTM Depth Sounder:	Time (hhmm): 1440	2.5 (-A+B=C)
DTM Lead Line: 6.0	Height (ft): 8.5	

Core Collection Recovery Details:

Core Accepted: [✓ Yes] / No

Core Tube Length: 15 Units: (in [✓ ft] m cm)

Drive Penetration (A): 8.0

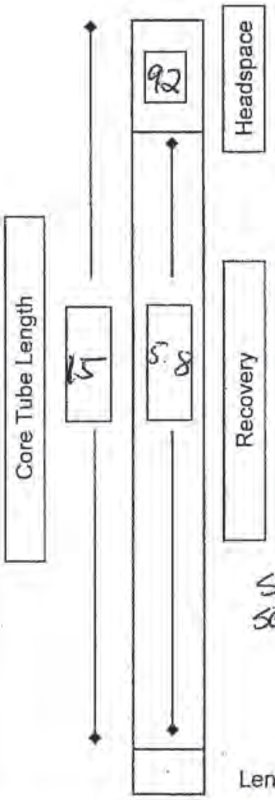
Headspace Measurement: 9.2

Recovery Measurement (B): 5.8

Recovery Percentage (B/A): 73 %

Total Length of Core To Process: 5.3'

Refusal Encountered? Yes [✓ No]



Section A = 0-4

Section B = 4-5.3

Drive Notes: freefall, easy penetration, moderate penetration, hard penetration, refusal

0 - 1.5 - Medium

1.5 - 7.5 - easy

7.5 - 8.0 - very hard to refusal

Core Field Observations and Description: Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

TOPA: Black, very soft, SILT (ML) 95% non-plastic fines, 5% f-Sand

TOPB: SILT (ML) 100% low plasticity fines, firm, brown, moist

Core Catcher: SILT ~~100%~~ 95% low plasticity fines, 5% fine sand, black, moist HC-like odor, contains wood fibers.

Rinsate Blank Samples Collected Yes No

ANCHOR QEA

Sedimentent Core Collection Log

Page 1 of 1

Project:	100546-01.01 Jeld Wen	**Station ID:**	SC13
Project No:		**Attempt No:**	1 of 1
Field Staff (in):	EM, DG	**Date (mm/dd/yy):**	4/22/13
Contractor:	MSS	**Logged By:**	EM
Vertical Datum:	MLLW	**Horizontal Datum:**	Degree Decimal Minute
		Time (hhmm):	13:55
		Type of Core:	Piston Shelby [✓ Vibro] Other
		Diameter of Core (inches):	
		Core Quality:	Good Fair Poor Disturbed

Field Collection Coordinates:

Lat/Northing: 48° 01.0573 N

Long/Easting: 122° 12.7822 W

24 ft SE target

A. Water Depth (ft)

DTM Depth Sounder:

DTM Lead Line: 4.2'

B. Tide Measurements

Time (hhmm): 13:55

Height (ft): 7.9'

C. Mudline Elevation

3.7 (-A+B=C)

Core Collection Recovery Details:

Core Accepted: [✓ Yes] No

Core Tube Length: 15 Units: (in [✓ ft] m cm)

Drive Penetration (A): 12.3

Headspace Measurement: 4.8

Recovery Measurement (B): 10.2

Recovery Percentage (B/A): 83 %

Total Length of Core To Process: 9.8

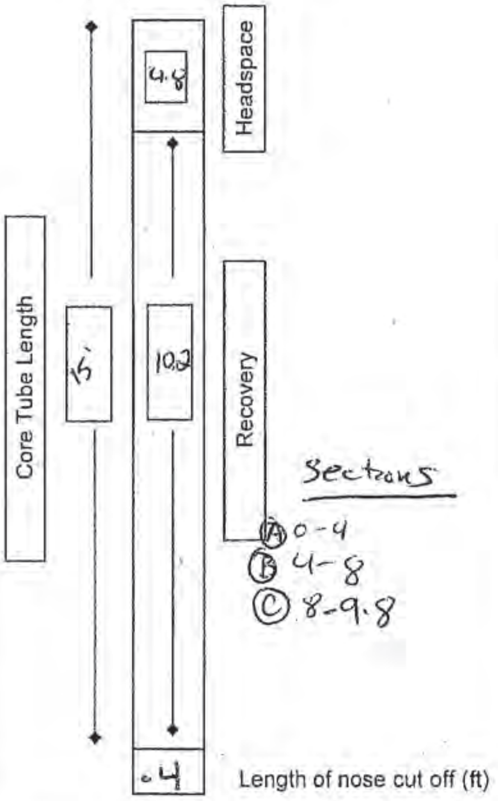
Refusal Encountered? Yes No

Drive Notes: freefall, easy penetration, moderate penetration, hard penetration, refusal

0 - 4 hard

4 - 11 easy

11 - 12.3 hard



Sections

Ⓐ 0-4

Ⓑ 4-8

Ⓒ 8-9.8

Core Field Observations and Description: Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

TOP A = Black, very soft SILT (ML) 95% non plastic fines 5% fine sand.

TOP B = Dark gray, firm, SILT w/ SAND (ML) 20% fine sand, 80% ~~silt~~ low plasticity fines.

TOP C = Moist, 95% fine-med sand, 5% fines. POORLY GRADED SAND (SP)

H_2S-like odor

Core Catcher = same as C

Rinsate Blank Samples Collected Yes No

ANCHOR QEA

Sediment Core Collection Log

Page 1 of 1

Project: 100546-01.01 Jeld Wen	Station ID: SC21
Project No:	Attempt No: 1 of 1
Field Staff (in): EM DG	Date (mm/dd/yy): 4/22/13
Contractor: MSS	Logged By: EM
Vertical Datum: MLLW	Horizontal Datum: DDm
	Time (hhmm): 15:45
	Type of Core: Piston Shelby [✓ Vibro] Other
	Diameter of Core (inches):
	Core Quality: Good Fair Poor Disturbed

Field Collection Coordinates:

Lat/Northing: 48° 00.9598

Long/Easting: 122° 12.8956

A. Water Depth (ft)

DTM Depth Sounder:

DTM Lead Line: 6.2

B. Tide Measurements

Time (hhmm): 1545

Height (ft): 8.9

C. Mudline Elevation

2.7 (-A+B=C)

7' NE of proposed

Core Collection Recovery Details:

Core Accepted: [✓ Yes] / No

Core Tube Length: 15 Units: (in [✓ ft] m cm)

Drive Penetration (A): 14'

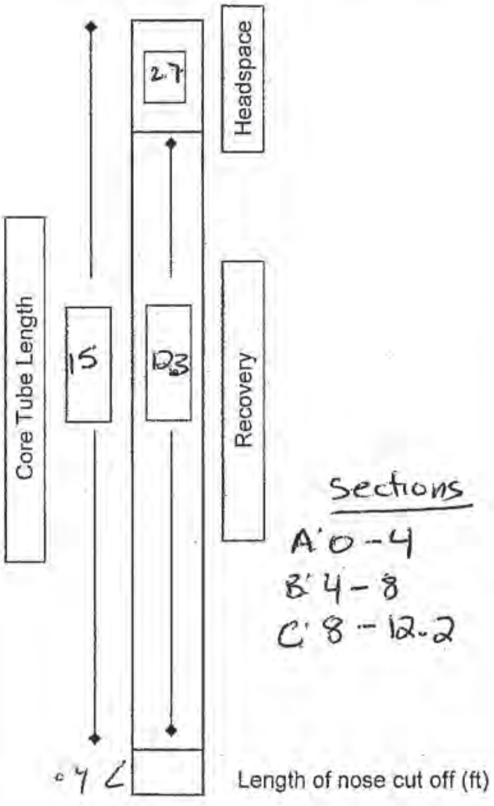
Headspace Measurement: 2.7

Recovery Measurement (B): 12.3

Recovery Percentage (B/A): 87 %

Total Length of Core To Process: 11.8

Refusal Encountered? Yes [✓ No]



Sections

A: 0-4

B: 4-8

C: 8-12.2

Drive Notes: freefall, easy penetration, moderate penetration, hard penetration, refusal

0-4 moderate easy

4-12 intermittent moderate

12-15 moderate to hard

Core Field Observations and Description: Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Top A very soft, wet, black, 95% non-plastic fines, 5% fine sand. SILT

TOP B: Firm, black, Sandy SILT (ML) 30% fine sand, 70% low plasticity fines

TOP C: Olive gray, SAND (SP) 95% fine-medium sand, 5% fines. Wood fragment

Core Catcher: gray, moist, SAND (SP) 90% fine-medium Sand 10% fines

Rinsate Blank Samples Collected Yes No

ANCHOR QEA

Sediment Core Collection Log

Page 1 of 1

Project: 100546-01.01 Jeld Wen
Station ID: SC23
Project No:
Attempt No: 1 of 1
Field Staff (in): EM, DG
Date (mm/dd/yy): 4/22/13
Contractor: MSS
Logged By: EM
Vertical Datum: MLLW
Horizontal Datum: DDM
Time (hhmm): 15:06
Type of Core: Piston Shelby [✓ Vibro] Other
Diameter of Core (inches):
Core Quality: Good Fair Poor Disturbed

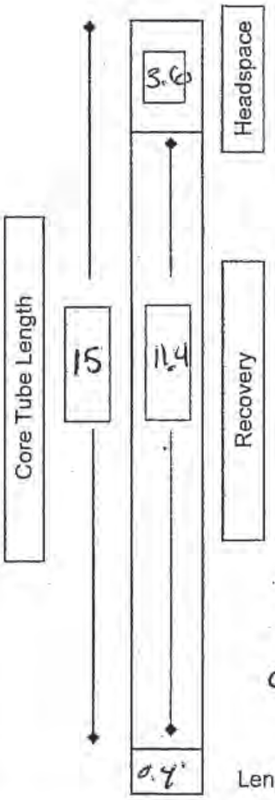
Field Collection Coordinates:
Lat/Northing: 48° 00.9422 N
Long/Easting: 122° 12.8740 W
14' NW of target L

A. Water Depth (ft)
DTM Depth Sounder:
DTM Lead Line: 5.1'

B. Tide Measurements
Time (hhmm): 15:06
Height (ft): 8.7'

C. Mudline Elevation
3.6' (-A+B=C)

Core Collection Recovery Details:
Core Accepted: [✓ Yes] No
Core Tube Length: 15 Units: (in [✓ ft] m cm)
Drive Penetration (A): 12.5'
Headspace Measurement: 3.6
Recovery Measurement (B): 11.4'
Recovery Percentage (B/A): 91.2 %
Total Length of Core To Process: 10.95'
Refusal Encountered? Yes No



Section

Sections
A: 0-4
B: 4-8
C: 8-11.45

Drive Notes: freefall, easy penetration, moderate penetration, hard penetration, refusal

0 – 12 hard
intermittent easy/med
possible debris

Core Field Observations and Description: Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

TOP A: Black, SILT (ML) 95% non-Plastic fines, 5% fine sand.
TOP B SILTY SAND (SM) 60% f-m sand, 40% fines Moist, black, Contains wood fragments.
Top C Olive gray SAND (SP) 95% f-m sand 5% fines.

Core Catcher: same as top of C

Rinsate Blank Samples Collected Yes No

ANCHOR QEA

Sediment Core Collection Log

Page 1 of 1

Project: Jeld wen

Project No: 100546-01.01

Field Staff (in): GM, DG

Contractor: MSS

Vertical Datum: MLLW

Station ID: SC-42

Attempt No: 1 of 1

Date (mm/dd/yy): 04/25/2013

Logged By: DG/GM

Horizontal Datum: DDM

Time (hhmm): 18:03

Type of Core: Piston Shelby [✓ Vibro] Other

Diameter of Core (inches):

Core Quality: [✓ Good] Fair Poor Disturbed

Field Collection Coordinates:

Lat/Northing: 4800.7837 N

Long/Easting: ~~122x12.7362 W~~ EM 4/25/13 12212.7362 W

22' NW of target

A. Water Depth (ft)

DTM Depth Sounder:

DTM Lead Line: 2.8'

B. Tide Measurements

Time (hhmm): 1803

Height (ft): 10.9'

C. Mudline Elevation

8.1' (-A+B=C)

Core Collection Recovery Details:

Core Accepted: Yes / No

Core Tube Length: 15 Units: (in [✓ ft] m cm)

Drive Penetration (A): 13.3

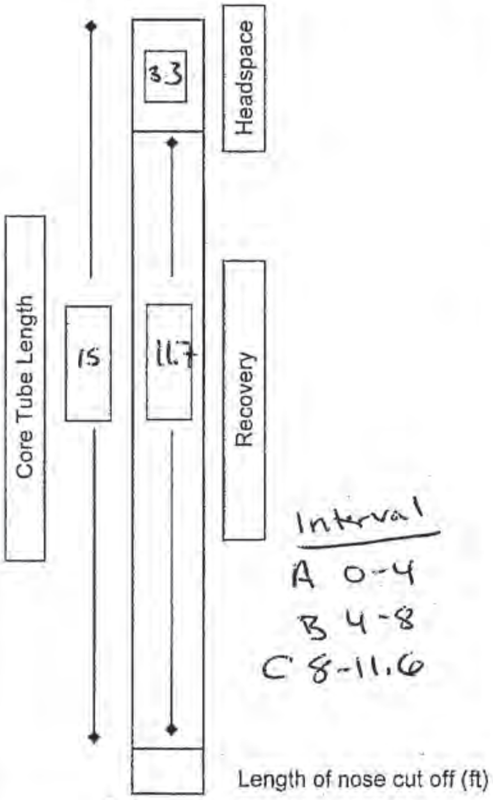
Headspace Measurement: 3.3

Recovery Measurement (B): 11.7

Recovery Percentage (B/A): 88 %

Total Length of Core To Process: 11.2

Refusal Encountered? Yes [✓ No]



Interval
A 0-4
B 4-8
C 8-11.6

Drive Notes: freefall, easy penetration, moderate penetration, hard penetration, refusal

0-13 easy to moderate

Core Field Observations and Description: Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

TOP A = wet, soft, dark brown, SILT with SAND. 80% fines 20% f-sand

TOP B = moist, gray, 95% f-m sand, 5% fines

TOP C = gray, 80% f-m sand, 20% f-c gravel

Core Catcher = POORLY GRADED SAND, 100% f-sand

Rinsate Blank Samples Collected Yes No

ANCHOR QEA

Sediment Core Collection Log

Page 1 of 1

Project: Jeld Wen
Project No: 100546-01.01
Field Staff (in): DG, EM
Contractor: MSS
Vertical Datum: MLLW

Station ID: SC - ~~38~~ DG 212 1245
Attempt No: 1 of 1
Date (mm/dd/yy): 04/25/2013
Logged By: DG/EM
Horizontal Datum: DDM
Time (hhmm): 1657
Type of Core: Piston Shelby [✓ Vibro] Other
Diameter of Core (inches):
Core Quality: [✓ Good] Fair Poor Disturbed

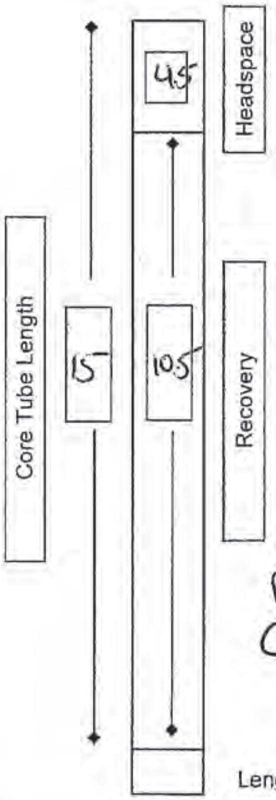
Field Collection Coordinates:
Lat/Northing: 48°00.6646 N
Long/Easting: 122°12.8394 W

A. Water Depth (ft)
DTM Depth Sounder:
DTM Lead Line: 6.0

B. Tide Measurements
Time (hhmm): 1657
Height (ft): 10.3

C. Mudline Elevation
4.3 (-A+B=C)

Core Collection Recovery Details:
Core Accepted: [✓ Yes] / No
Core Tube Length: 15 Units: (in [✓ ft] m cm)
Drive Penetration (A): 14
Headspace Measurement: 4.5
Recovery Measurement (B): 10.5
Recovery Percentage (B/A): 75 %
Total Length of Core To Process: 10.1'
Refusal Encountered? Yes [✓ No]



Sections
A 0-4
B 4-8
C 8-10.5

Drive Notes: freefall, easy penetration, moderate penetration, hard penetration, refusal
0-14 = moderate to easy

Core Field Observations and Description: Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

TOP A: Very soft, Brown SILTY SAND (SM) 50% fines 50% f-sand
TOP B: ~~SANDY SILT~~ SILTY SAND (SM) 75% f-sand, 25% fines
TOP C: SILTY SAND (SM) 75% f-sand 25% fines Slight H_2S odor
Shoe: SILTY SAND (SM) 60% f-sand 40% fines. Contains wood fragments, Contains pockets of CLAYEY SILT (ML/CL) firm, moist, gray, 80% low plasticity fines 20% f-sand Slight H_2S-like odor.

Rinsate Blank Samples Collected Yes No

ANCHOR QEA

Sediment Core Collection Log

Page 1 of 1

Project: Jeld Wen
Project No: 120909-01.01
Field Staff (in): DG, DG
Contractor: —
Vertical Datum:

Station ID: JW-EA07-SC27
Attempt No: 1
Date (mm/dd/yy): 04/29/13
Logged By: DG
Horizontal Datum: NAD 83 SP Wash N
Time (hhmm):
Type of Core: [✓ Piston] Shelby Vibro Other
Diameter of Core (inches): 3
Core Quality: [✓ Good] Fair Poor Disturbed

Field Collection Coordinates:
Lat/Northing: 373316
Long/Easting: 1302623

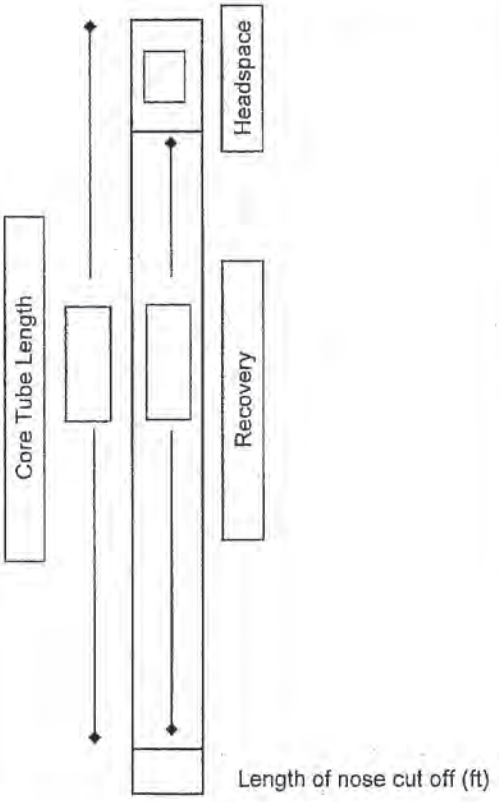
A. Water Depth (ft)
DTM Depth Sounder: /
DTM Lead Line: /

B. Tide Measurements
Time (hhmm): 1400
Height (ft):

C. Mudline Elevation
(-A+B=C)
collected at low tide

Core Collection Recovery Details:
Core Accepted: [✓ Yes] / No
Core Tube Length: Units: (in [✓ ft] m cm)
Drive Penetration (A): 2.6
Headspace Measurement:
Recovery Measurement (B): 2.2
Recovery Percentage (B/A): 85 %
Total Length of Core To Process: 2.2
Refusal Encountered? [✓ Yes] No

Drive Notes: freefall, easy penetration, moderate penetration, hard penetration, refusal
0-1 ft difficult
1-2.6ft very difficult
refusal at 2.6



Core Field Observations and Description: Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Rinsate Blank Samples Collected Yes [✓ No]

ANCHOR QEA

Sediment Core Collection Log

Page 1 of 2

Project: 100546-01.01 Jeldwen

Station ID: SC 05

Project No:

Attempt No: 1 of 2

Field Staff (in): EM, DG

Date (mm/dd/yy): 4/22/13

Contractor: MSS

Logged By: DG

Vertical Datum: MLLW

Horizontal Datum: Degree Decimal Minutes

Time (hhmm): 1427

Type of Core: Piston Shelby [✓ Vibro] Other

Diameter of Core (inches):

Core Quality: Good Fair Poor Disturbed

Field Collection Coordinates:

Lat/Northing: 4800.9823

Long/Easting: 12212.6759

A. Water Depth (ft)

DTM Depth Sounder:

DTM Lead Line: 5.5

B. Tide Measurements

Time (hhmm): 1427

Height (ft): 8.4

C. Mudline Elevation

2.9 (-A+B=C)

Core Collection Recovery Details:

Core Accepted: Yes / [✓ No]

Core Tube Length: 15 Units: (in [✓ ft] m cm)

Drive Penetration (A): 5.8

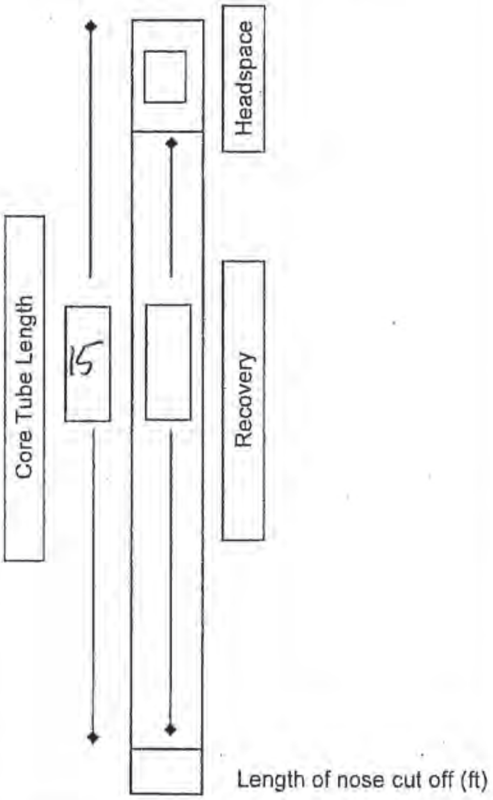
Headspace Measurement: 9.6

Recovery Measurement (B): 5.4

Recovery Percentage (B/A): 93 %

Total Length of Core To Process:

Refusal Encountered? [✓ Yes] No



Drive Notes: freefall, easy penetration, moderate penetration, hard penetration, refusal

0-1 ft some debris

1-5.8 soft

5.8 = hard refusal

Core Field Observations and Description: Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Core rejected due to insufficient penetration

Rinsate Blank Samples Collected Yes No

ANCHOR QEA

Sediment Core Collection Log

Page 1 of 1

Project: ~~12099~~ 120909-01.01

Project No: JELD WEN

Field Staff (in): EM DG

Contractor: MSS

Vertical Datum: MLLW

Station ID: JW-401

Attempt No: 1

Date (mm/dd/yy): 09/27/13

Logged By: EM

Horizontal Datum: WGS 84

Time (hhmm): 1148

Type of Core: Piston Shelby [✓ Vibro] Other

Diameter of Core (inches): 4"

Core Quality: Good Fair Poor Disturbed

Field Collection Coordinates:

Lat/Northing: 48 00.9242

Long/Easting: 122 12.9140 @ 1148

A. Water Depth (ft)

DTM Depth Sounder:

DTM Lead Line: -2.8

B. Tide Measurements

Time (hhmm): 1150

Height (ft): +9.1

C. Mudline Elevation

+6.3 (-A+B=C)

Core Collection Recovery Details:

Core Accepted: [✓ Yes] / No

Core Tube Length: 15 Units: (in [✓ ft] m cm)

Drive Penetration (A): 13'

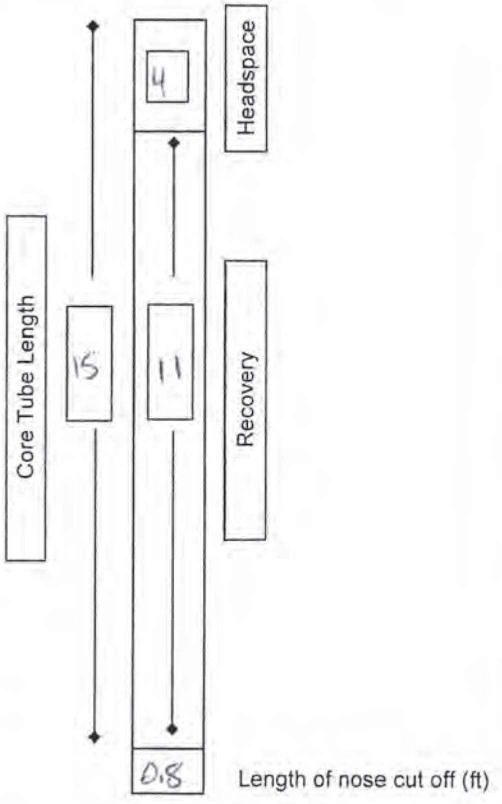
Headspace Measurement: 4.05

Recovery Measurement (B): 11

Recovery Percentage (B/A): 85 %

Total Length of Core To Process: 10.2'

Refusal Encountered? [✓ Yes] No



Drive Notes: freefall, easy penetration, moderate penetration, hard penetration, refusal

0-4 difficult

4 - bottom - easier penetration

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

45' from target

nose - medium sand with trace silt

A TOP A sand with silt, gray

B TOP B sand with silt, slight H_2S-like odor M-sand

C TOP C M-sand, trace silt. gray

top of nose sand, contains wood. (cedar bark)

slight H_2S-like odor

Rinsate Blank Samples Collected Yes No

ANCHOR QEA

Sediment Core Collection Log

Page 1 of 1

Project:	120909-01.01	**Station ID:**	JW-402
Project No:	JELD WEN	**Attempt No:**	1 of 1
Field Staff (in):	EM, DG	**Date (mm/dd/yy):**	09/27/13
Contractor:	MSS	**Logged By:**	EM
Vertical Datum:	MLLW	**Horizontal Datum:**	~~8 N~~ WGS84
		Time (hhmm):	1045
		Type of Core:	Piston Shelby [✓ Vibro] Other
		Diameter of Core (inches):	~~3.~~ 4"
		Core Quality:	[✓ Good] Fair Poor Disturbed

Field Collection Coordinates:

Lat/Northing: ~~48.01~~ 48°01.0824

Long/Easting: 122°12.7584

A. Water Depth (ft) too shallow

DTM Depth Sounder:

DTM Lead Line: 6.8'

B. Tide Measurements

Time (hhmm): 1045

Height (ft): 8.4'

C. Mudline Elevation

+1.6 (-A+B=C)

Core Collection Recovery Details:

Core Accepted: [✓ Yes] / No

Core Tube Length: 15' Units: (in [✓ ft] m cm)

Drive Penetration (A): 14

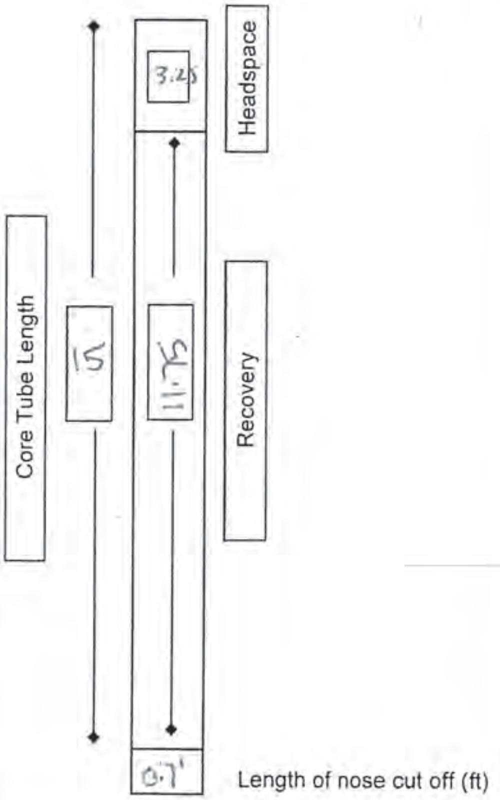
Headspace Measurement: 3.25

Recovery Measurement (B): 11.75

Recovery Percentage (B/A): 84 %

Total Length of Core To Process: 11.5'

Refusal Encountered? [✓ Yes] No



Drive Notes: freefall, easy penetration, moderate penetration, hard penetration, refusal

0-10 easy

10-11.5 ~~hard~~ moderate

11.5-12.5 hard

12.5 – 14 ~~har~~ moderate

Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

In Nose: f-m sand, contains wood. - kept material in ziplock

A	0-4.4	TOP of A:	wet SANDY SILT, gray
B	4.4-8.4	TOP of B:	Poorly graded sand, multicolored 100% m-sand
C	8.4-11.5	TOP of C:	SAA to B

Rinsate Blank Samples Collected Yes No

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Sediment Core Collection Log

Page 1 of 1

Project: 120909-01

Project No: Jeldwen

Field Staff (in): CD/JP

Contractor: —

Vertical Datum:

Station ID: GC-01

Attempt No: 1 of 1

Date (mm/dd/yy): 09/19/13

Logged By: NB

Horizontal Datum:

Time (hhmm): 0915

Type of Core: [✓ Piston] Shelby Vibro Other

Diameter of Core (inches): 3"

Core Quality: [✓ Good] Fair Poor Disturbed

Field Collection Coordinates:

Lat/Northing: 48.01278

Long/Easting: -122.21291

A. Water Depth (ft)

DTM Depth Sounder: / em

DTM Lead Line: /

B. Tide Measurements

Time (hhmm): / em

Height (ft): /

C. Mudline Elevation

(-A+B=C) / em

Core Collection Recovery Details:

Core Accepted: [✓ Yes] / No

Core Tube Length: 48.5 Units: ([✓ in] ft m cm)

Drive Penetration (A): ~~40.5~~ 40"

Headspace Measurement: 8

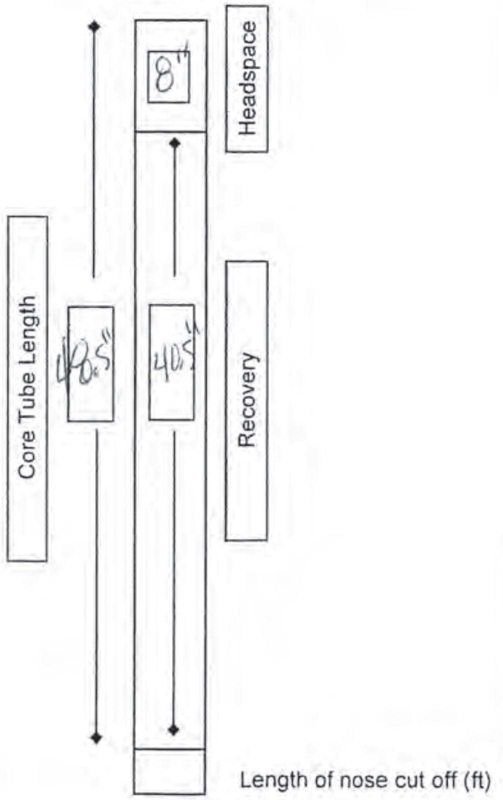
Recovery Measurement (B): 36

Recovery Percentage (B/A): 90 %

Total Length of Core To Process:

Refusal Encountered? Yes [✓ No]

Drive Notes: freefall, easy penetration, moderate penetration, hard penetration, refusal



Core Field Observations and Description:

Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Rinsate Blank Samples Collected Yes No

ANCHOR QEA

Sediment Core Collection Log

Page 1 of 1

Project: JELD WEN
Station ID: GC-01B
Project No: 120909-01.01
Attempt No: 1 of 1
Field Staff (in): CD / JP
Date (mm/dd/yy): ~~09/13/13~~ em 09/19/13
Contractor: —
Logged By: NB
Vertical Datum:
Horizontal Datum: –
Time (hhmm): 9:30
Type of Core: [✓ Piston] Shelby Vibro Other
Diameter of Core (inches): 3-inch
Core Quality: [✓ Good] Fair Poor Disturbed

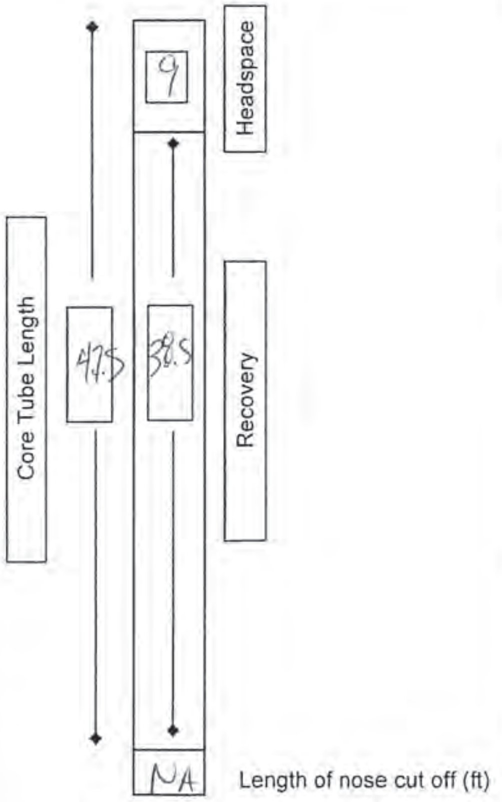
Field Collection Coordinates:
Lat/Northing: 48.01270
Long/Easting: -122.21301

A. Water Depth (ft)
DTM Depth Sounder: em
DTM Lead Line:

B. Tide Measurements
Time (hhmm): em
Height (ft):

C. Mudline Elevation
~~(-A+B=C)~~ em

Core Collection Recovery Details:
Core Accepted: Yes / No
Core Tube Length: 47.5 Units: (in ft m cm)
Drive Penetration (A): 38.5
Headspace Measurement: 9
Recovery Measurement (B): 87 cm
Recovery Percentage (B/A): % 89
Total Length of Core To Process: 87
Refusal Encountered? Yes [✓ No]



Drive Notes: freefall, easy penetration, moderate penetration, hard penetration, refusal

Core Field Observations and Description: Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Rinsate Blank Samples Collected Yes No

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Sediment Core Collection Log

Page 1 of 1

Project: JELD WEN

Project No: 120909-01.01

Field Staff (in): CD / JP

Contractor: / om

Vertical Datum: /

Station ID: GC-2

Attempt No: 1 of 1

Date (mm/dd/yy): 09/19/13

Logged By:

Horizontal Datum:

Time (hhmm): 1030

Type of Core: [✓ Piston] Shelby Vibro Other

Diameter of Core (inches): 3

Core Quality: [✓ Good] Fair Poor Disturbed

Field Collection Coordinates:

Lat/Northing: 48.01184

Long/Easting: -122.21355

A. Water Depth (ft)

DTM Depth Sounder: / om

DTM Lead Line: /

B. Tide Measurements

Time (hhmm): / om

Height (ft): /

C. Mudline Elevation om

(-A+B=C) /

Core Collection Recovery Details:

Core Accepted: [✓ Yes] / No

Core Tube Length: 48 Units: ([✓ in] ft m cm)

Drive Penetration (A): ~~39~~ 39"

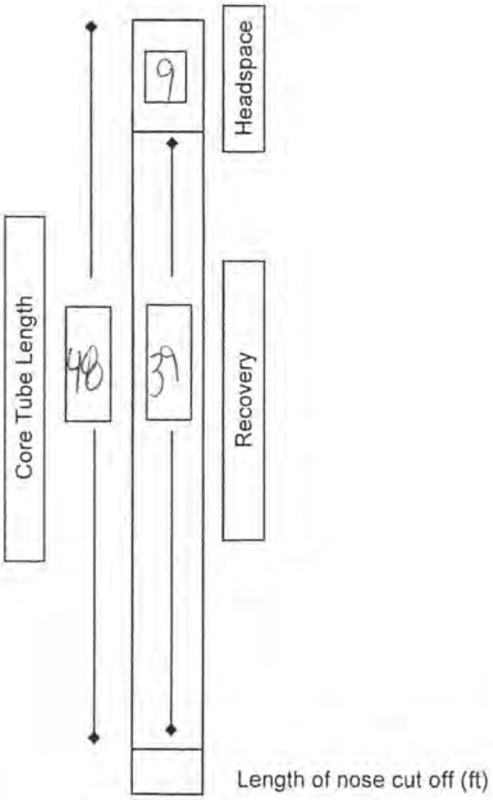
Headspace Measurement: 9"

Recovery Measurement (B): 33"

Recovery Percentage (B/A): 84.6 %

Total Length of Core To Process: 84 cm

Refusal Encountered? Yes [✓ No]



Drive Notes: freefall, easy penetration, moderate penetration, hard penetration, refusal

Core Field Observations and Description: Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Rinsate Blank Samples Collected Yes No

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Sediment Core Collection Log

Page 1 of 1

Project:	JELD WEN	**Station ID:**	GC-2 B
Project No:	120909-01.01	**Attempt No:**	1 of 1
Field Staff (in):	CD/JP	**Date (mm/dd/yy):**	09/19/13
Contractor:	/	**Logged By:**	
Vertical Datum:	/	**Horizontal Datum:**	
		Time (hhmm):	11:00
		Type of Core:	[✓ Piston] Shelby Vibro Other
		Diameter of Core (inches):	3
		Core Quality:	[✓ Good] Fair Poor Disturbed

Field Collection Coordinates:

Lat/Northing: 48.01175

Long/Easting: -122.21353

A. Water Depth (ft)

DTM Depth Sounder: / em

DTM Lead Line: /

B. Tide Measurements

Time (hhmm): /

Height (ft): / em

C. Mudline Elevation

(-A+B=C) / em

Core Collection Recovery Details:

Core Accepted: Yes / No

Core Tube Length: 48" Units: (in ft m cm)

Drive Penetration (A): ~~37"~~ 41"

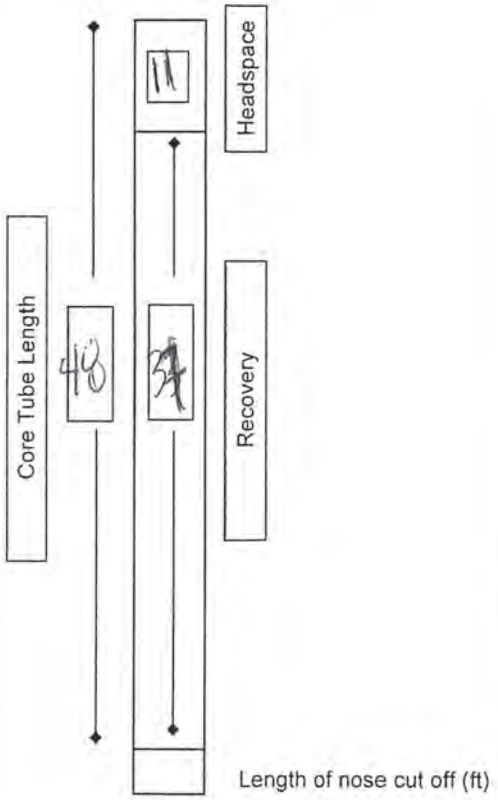
Headspace Measurement: 11"

Recovery Measurement (B): ~~[illegible]~~ 37"

Recovery Percentage (B/A): 90 %

Total Length of Core To Process:

Refusal Encountered? Yes [✓ No]



Drive Notes: freefall, easy penetration, moderate penetration, hard penetration, refusal

Core Field Observations and Description: Sediment type, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Rinsate Blank Samples Collected Yes No

Sediment Core Log

Sheet 1 of 1

JW-EA02-SC05

Project: Jeld-Wen	Location: **Everett, WA**	Tube Length (ft): **15.0**
Project #: **100546-01.01**	Surface Water Elevation (MLLW): **8.5**	Penetration Depth (ft): **8.0**
Client: **Jeld-Wen**	Water Depth (ft): **6**	Field Recovery Length (ft): **5.8**
Collection Date: **04/22/2013**	Mudline Elevation (ft): **2.5**	Process Date: **04/23/2013**
Contractor: **MSS**	N/LAT: **373770.516973** E/LONG:**1303198.45046**	Process Method: **Cut tube**
Vessel: **R/V Nancy Anne**	Horiz. Datum: **NAD 83 N** Vert. Datum: **MLLW**	Sample Quality: **Good**
Operator: **Bill Jaworski**	Method/Tube ID: **Vibracore/3.75"**	Logged By: **DP**

In-Situ Depth (ft)	In-Situ Interval	Sample	**Sediment Description** Samples and Descriptions are in In-Situ Depths. Classification Scheme: USCS
0–2	▥	JW-EA02-SC05-A-130423	SILT (ML). Wet, soft, gray with brown mottling, 80% non-plastic fines, 10% fine sand, 10% wood fragments. Moderate H2S-like odor. Grades to moist, gray. Grades to brown. Wood content decreases downcore.
2–4	▥	JW-EA02-SC05-B-130423	Grades to 65% fines, 10% fine sand, 25% wood fragments and fibers.
4–6	▥	JW-EA02-SC05-C-130423	Grades to gray. Trace HC-like odor. Grades to black. Slight HC-like odor.
6–7	▥	JW-EA02-SC05-D-130423	Contains wood fragments up to 0.2'.
7–7.3	▥	JW-EA02-SC05-E-130423	
7.3–15			End of Core @7.3ft.

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Notes:
1. Attempt 2 of 2.
2. Grainsize percentages are estimated based upon field observations.
3. Corrected for compaction.

Calculated Recovery
Recovery Length/Penetration Depth:
73%

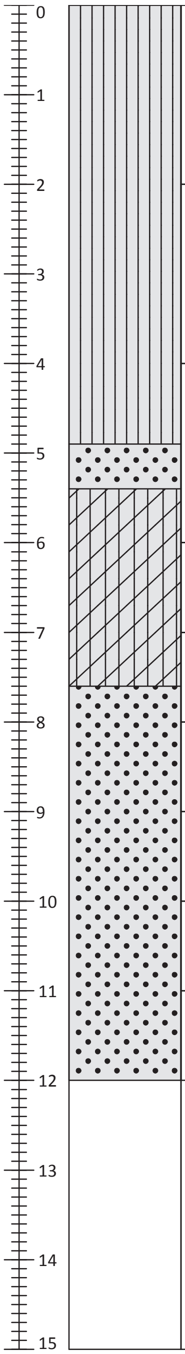
Sediment Core Log

JW-EA04-SC13

Sheet 1 of 1

Project: Jeld-Wen	Location: **Everett, WA**	Tube Length (ft): **15.0**
Project #: **100546-01.01**	Surface Water Elevation (MLLW): **7.9**	Penetration Depth (ft): **12.3**
Client: **Jeld-Wen**	Water Depth (ft): **4.2**	Field Recovery Length (ft): **10.2**
Collection Date: **04/22/2013**	Mudline Elevation (ft): **3.7**	Process Date: **04/23/2013**
Contractor: **MSS**	N/LAT: **374224.242676** E/LONG:**1302771.36466**	Process Method: **Cut tube**
Vessel: **R/V Nancy Anne**	Horiz. Datum: **NAD 83 N** Vert. Datum: **MLLW**	Sample Quality: **Good**
Operator: **Bill Jaworski**	Method/Tube ID: **Vibracore/3.75"**	Logged By: **DP**

In-Situ Depth (ft)	In-Situ Interval	Sample	Sediment Description Samples and Descriptions are in In-Situ Depths. Classification Scheme: USCS



JW-EA04-SC13-A-130423
JW-EA04-SC13-B-130423
JW-EA04-SC13-C-130423
JW-EA04-SC13-D-130423
JW-EA04-SC13-E-130423
JW-EA04-SC13-F-130423
JW-EA04-SC13-G-130423
JW-EA04-SC13-H-130423
JW-EA04-SC13-I-130423

SILT (ML). Wet, very soft, dark gray, 90% non-plastic fines, 5% fine sand, 5% wood fragments (up to 0.1').

Grades to soft, gray. Wood fragments and fibers increase downcore. Moderate H2S-like odor.

POORLY GRADED SAND (SP). Moist, gray, 95% medium sand, 5% shell fragments.

CLAYEY SILT (ML/CL). Moist, firm, gray, 95% low-plasticity fines, 5% wood fragments.

Wood fragments increase downcore. Stratified layers of SILT WITH SAND (ML) 35% fine sand, 25% wood fragments, 40% fines.

POORLY GRADED SAND (SP). Moist, gray, 95% medium sand, 5% wood fragments.

0.4ft x 0.2ft wood fragment.

End of Core @12.0ft.

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Notes:
1. Attempt 1 of 1.
2. Grainsize percentages are estimated based upon field observations.
3. Corrected for compaction.

Calculated Recovery
Recovery Length/Penetration Depth:
83%

Sediment Core Log

JW-EA06-SC21

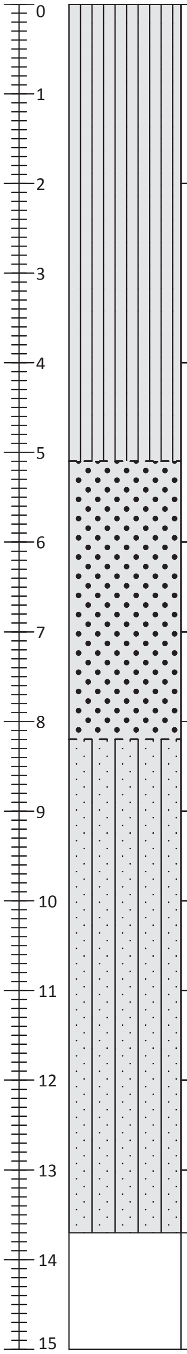
Sheet 1 of 1

Project: Jeld-Wen	Location: **Everett, WA**	Tube Length (ft): **15.0**
Project #: **100546-01.01**	Surface Water Elevation (MLLW): **8.9**	Penetration Depth (ft): **14.0**
Client: **Jeld-Wen**	Water Depth (ft): **6.2**	Field Recovery Length (ft): **12.3**
Collection Date: **04/22/2013**	Mudline Elevation (ft): **2.1**	Process Date: **04/23/2013**
Contractor: **MSS**	N/LAT: **373639.92991** E/LONG:**1302298.45145**	Process Method: **Cut tube**
Vessel: **R/V Nancy Anne**	Horiz. Datum: **NAD 83 N** Vert. Datum: **MLLW**	Sample Quality: **Good**
Operator: **Bill Jaworski**	Method/Tube ID: **Vibracore/3.75"**	Logged By: **DP**

In-Situ Depth (ft) | In-Situ Interval | Sample

Sediment Description

Samples and Descriptions are in In-Situ Depths. Classification Scheme: USCS



Sample:
JW-EA06-SC21-A-130423
JW-EA06-SC21-B-130423
JW-EA06-SC21-C-130423
JW-EA06-SC21-D-130423
JW-EA06-SC21-E-130423
JW-EA06-SC21-F-130423
JW-EA06-SC21-G-130423
JW-EA06-SC21-H-130423
JW-EA06-SC21-I-130423
JW-EA06-SC21-J-130423
No Sample

SILT (ML). Wet, soft, dark gray, 80% non-plastic fines, 20% wood fragments and fibers.

Grades to moist, firm, 80% non-plastic fines, 5% fine sand, 15% wood fragments and fibers.
Grades to dry, hard.

0.3' wood fragment.

Contains stratified layers of POORLY GRADED SAND (SP). moist, dark gray, 95% fine to medium sand, 5% fines.

Grades to moist and firm, no stratified layers.

POORLY GRADED SAND (SP). Moist, gray, 100% fine to medium sand.

0.1ft layer of SILT (ML). Moist, firm, gray, 90% fines, 10% fine sand.

0.2ft Pocket of SILT (ML).

Grades to 65% fines, 10% fine sand, 25% wood fragments and fibers. Wood content decreases downcore.

End of Core @13.7ft.

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Notes:
1. Attempt 1 of 1.
2. Grainsize percentages are estimated based upon field observations.
3. Corrected for compaction.

Calculated Recovery
Recovery Length/Penetration Depth:
87%

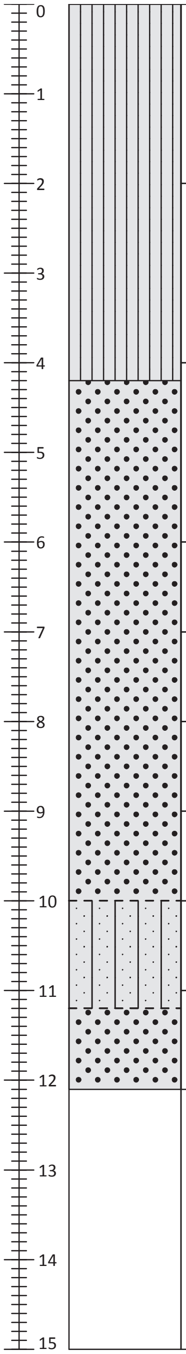
Sediment Core Log

JW-EA06-SC23

Sheet 1 of 1

Project: Jeld-Wen	Location: **Everett, WA**	Tube Length (ft): **15.0**
Project #: **100546-01.01**	Surface Water Elevation (MLLW): **8.7**	Penetration Depth (ft): **12.5**
Client: **Jeld-Wen**	Water Depth (ft): **5.1**	Field Recovery Length (ft): **11.4**
Collection Date: **04/22/2013**	Mudline Elevation (ft): **3.6**	Process Date: **04/23/2013**
Contractor: **MSS**	N/LAT: **373531.546624** E/LONG:**1302384.62796**	Process Method: **Cut tube**
Vessel: **R/V Nancy Anne**	Horiz. Datum: **NAD 83 N** Vert. Datum: **MLLW**	Sample Quality: **Good**
Operator: **Bill Jaworski**	Method/Tube ID: **Vibracore/3.75"**	Logged By: **DP**

In-Situ Depth (ft)	In-Situ Interval	Sample	Sediment Description Samples and Descriptions are in In-Situ Depths. Classification Scheme: USCS



Sample
JW-EA06-SC23-A-130423
JW-EA06-SC23-B-130423
JW-EA06-SC23-C-130423
JW-EA06-SC23-D-130423
JW-EA06-SC23-E-130423
JW-EA06-SC23-F-130423
JW-EA06-SC23-G-130423
JW-EA06-SC23-H-130423
JW-EA06-SC23-I-130423

SILT (ML). Wet, very soft, brown and gray, 100% non-plastic fines.
Grades to black.

Grades to moist, firm, gray, 70% fines, 15% fine sand, 15% decomposing wood fragments (includes sticks).

Grades to dry, hard, gray, 50% wood, 50% fines.

Contains stratified layers of POORLY GRADED SAND (SP), 75% medium sand, 25% wood fragments.

Wood content increases downcore.

POORLY GRADED SAND (SP). Moist, gray, 90% fine to medium sand, 5% fines, 5% wood fragments.

0.1ft Pocket of SILT (ML). Moist, firm, gray, 100% fines.

SILTY SAND (SM). Moist, gray, 65% fine to medium sand, 15% fines, 20% wood fragments.

Wood content increases downcore.

POORLY GRADED SAND (SP). Moist, gray, 90% fine to medium sand, 5% fines, 5% wood fragments.

End of Core @12.2ft.

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Notes:
1. Attempt 1 of 1.
2. Grainsize percentages are estimated based upon field observations.
3. Corrected for compaction.

Calculated Recovery
Recovery Length/Penetration Depth:
91%

Sediment Core Log

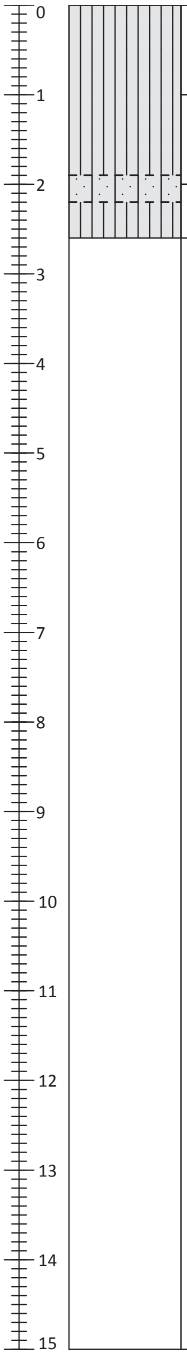
JW-EA07-SC27

Sheet 1 of 1

Project: Jeld-Wen	Location: **Everett, WA**	Tube Length (ft): **15.0**
Project #: **100546-01.01**	Surface Water Elevation (MLLW): **None**	Penetration Depth (ft): **2.6**
Client: **Jeld-Wen**	Water Depth (ft): **NA**	Field Recovery Length (ft): **2.2**
Collection Date: **04/29/2013**	Mudline Elevation (ft): **0**	Process Date: **04/29/2013**
Contractor: **None**	N/LAT: **373317.741178** E/LONG:**1302622.47692**	Process Method: **Cut tube**
Vessel: **None**	Horiz. Datum: **NAD 83 N** Vert. Datum: **MLLW**	Sample Quality: **Good**
Operator: **None**	Method/Tube ID: **Vibracore/3.75"**	Logged By: **DG**

Sediment Description

Samples and Descriptions are in In-Situ Depths. Classification Scheme: USCS



Sample	Sediment Description
JW-EA07-SC27-A-130429	SILT (ML). Moist, firm, dark brown, 100% non-plastic fines. Grades to black.
JW-EA07-SC27-B-130429	SANDY SILT (ML). Moist, hard, dark gray, 60% non-plastic fines, 30% fine sand, 10% wood fragments and fibers.
JW-EA07-SC27-C-130429	SILTY SAND (SM). Moist, dark gray, 70% fine sand, 25% non-plastic fines, 5% wood fibers.
	SILT (ML). Moist, firm, black with brown mottling, 90% low plasticity fines, 10% fine sand.
	End of Core @2.6ft.

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Notes:
1. Attempt 1 of 1.
2. Grainsize percentages are estimated based upon field observations.
3. Corrected for compaction. Piston Core.

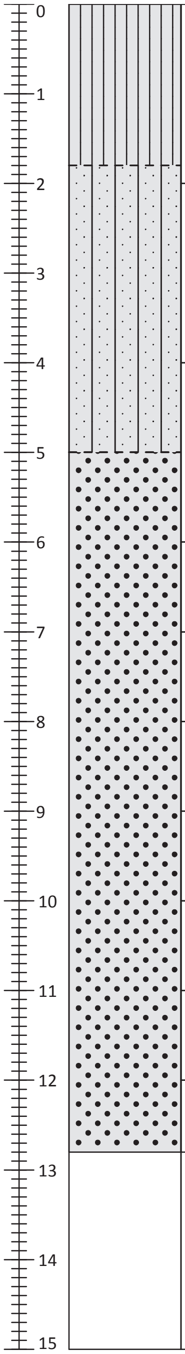
Calculated Recovery
Recovery Length/Penetration Depth:
85%

Sediment Core Log

Sheet 1 of 1

JW-EA07-SC28

Project: Jeld-Wen	Location: **Everett, WA**	Tube Length (ft): **15.0**
Project #: **100546-01.01**	Surface Water Elevation (MLLW): **9.4**	Penetration Depth (ft): **14.0**
Client: **Jeld-Wen**	Water Depth (ft): **3.8**	Field Recovery Length (ft): **12.3**
Collection Date: **04/25/2013**	Mudline Elevation (ft): **5.6**	Process Date: **04/26/2013**
Contractor: **MSS**	N/LAT: **373160.66822** E/LONG: **1302477.35519**	Process Method: **Cut tube**
Vessel: **R/V Nancy Anne**	Horiz. Datum: **NAD 83 N** Vert. Datum: **MLLW**	Sample Quality: **Good**
Operator: **Bill Jaworski**	Method/Tube ID: **Vibracore/3.75"**	Logged By: **DG**



Sample	**Sediment Description** Samples and Descriptions are in In-Situ Depths. Classification Scheme: USCS
JW-EA07-SC28-A-130426	SILT (ML). Wet, very soft, brown with black mottling, 80% non-plastic fines, 10% fine sand, 10% wood fragments. SANDY SILT (ML). Moist, firm, dark brown, 25% wood fragments (up to 0.4 x 0.2ft), 50% fines, 25% fine sand. Slight H2S-like odor. Grades to wet.
JW-EA07-SC28-B-130426	SILTY SAND (SM). Moist, dark gray, 60% fine sand, 35% fines, 5% wood and shell fragments. No odor. Grades to dark gray with black mottling, no wood.
JW-EA07-SC28-C-130426	POORLY GRADED SAND (SP). Moist, dark gray, 95% fine sand, 5% fines.
JW-EA07-SC28-D-130426	Grades to fine to medium sand.
JW-EA07-SC28-E-130426	
JW-EA07-SC28-F-130426	Grades to black.
JW-EA07-SC28-G-130426	Grades to dark gray. Contains wood fragments (up to 0.4 ft) and shell fragments.
JW-EA07-SC28-H-130426	
JW-EA07-SC28-I-130426	Grades to 80% fine to medium sand, 5% fines, 15% wood fragments (up to 0.3ft). Contains pockets of SILT(ML). Moist, firm, gray, 100% low plasticity fines. Grades to 95% fine to medium sand, 5% fines.
JW-EA07-SC28-J-130426	
	End of Core @12.8ft.

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Notes:
1. Attempt 1 of 1.
2. Grainsize percentages are estimated based upon field observations.
3. Corrected for compaction.

Calculated Recovery
Recovery Length/Penetration Depth:
88%

Sediment Core Log

JW-EA09-SC36

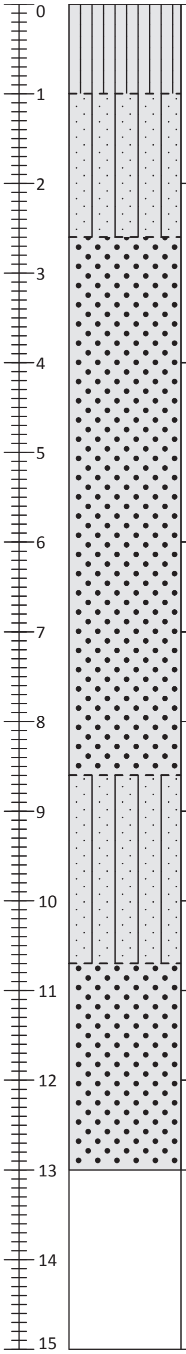
Sheet 1 of 1

Project: Jeld-Wen	Location: **Everett, WA**	Tube Length (ft): **15.0**
Project #: **100546-01.01**	Surface Water Elevation (MLLW): **10.8**	Penetration Depth (ft): **13.5**
Client: **Jeld-Wen**	Water Depth (ft): **3.8**	Field Recovery Length (ft): **11.9**
Collection Date: **04/25/2013**	Mudline Elevation (ft): **7**	Process Date: **04/26/2013**
Contractor: **MSS**	N/LAT: **372457.301226** E/LONG:**1302800.76019**	Process Method: **Cut tube**
Vessel: **R/V Nancy Anne**	Horiz. Datum: **NAD 83 N** Vert. Datum: **MLLW**	Sample Quality: **Good**
Operator: **Bill Jaworski**	Method/Tube ID: **Vibracore/3.75"**	Logged By: **DG**

In-Situ Depth (ft) | In-Situ Interval | Sample

Sediment Description

Samples and Descriptions are in In-Situ Depths. Classification Scheme: USCS



JW-EA09-SC36-A-130426
JW-EA09-SC36-B-130426
JW-EA09-SC36-C-130426
JW-EA09-SC36-D-130426
JW-EA09-SC36-E-130426
JW-EA09-SC36-F-130426
JW-EA09-SC36-G-130426
JW-EA09-SC36-H-130426
JW-EA09-SC36-I-130426
JW-EA09-SC36-J-130426

SILT (ML). Moist, firm, dark brown, 75% low plasticity fines, 15% fine sand, 10% decomposing wood fragments. Moderate H2S-like odor.

0.1ft bed of decomposing wood fragments.

SILTY SAND (SM). Moist, dark gray with black mottling, 85% fine sand, 15% fines. No odor.

POORLY GRADED SAND (SP). Moist, dark gray, 95% fine sand, 5% fines. No odor.

SILTY SAND (SM). Moist, soft, dark gray, 40% low plasticity fines, 60% fine sand. Contains pockets and laminated beds of SILT (ML).

POORLY GRADED SAND WITH GRAVEL (SP). Moist, dark gray, 80% fine to medium sand, 20% fine to coarse gravel. Gravel is subrounded.

Grades to 95% fine to medium sand, 5% coarse gravel.

End of Core @13.0ft.

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206-287-9130

Notes:
1. Attempt 1 of 1.
2. Grainsize percentages are estimated based upon field observations.
3. Corrected for compaction.

Calculated Recovery
Recovery Length/Penetration Depth:
88%

Sediment Core Log

JW-EA09-SC38

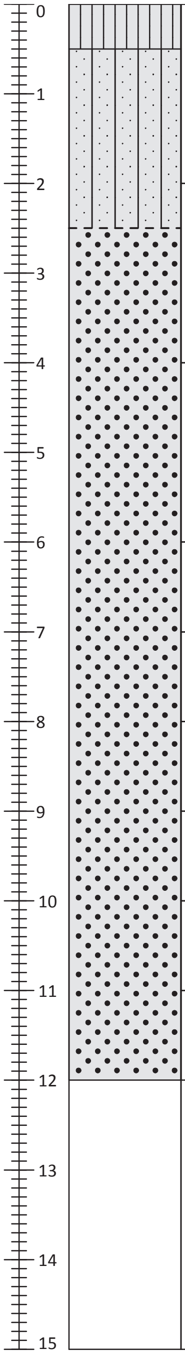
Sheet 1 of 1

Project: Jeld-Wen	Location: **Everett, WA**	Tube Length (ft): **15.0**
Project #: **100546-01.01**	Surface Water Elevation (MLLW): **10.5**	Penetration Depth (ft): **13.0**
Client: **Jeld-Wen**	Water Depth (ft): **3.8**	Field Recovery Length (ft): **11.6**
Collection Date: **04/25/2013**	Mudline Elevation (ft): **7.2**	Process Date: **04/26/2013**
Contractor: **MSS**	N/LAT: **372227.923047** E/LONG: **1302764.45674**	Process Method: **Cut tube**
Vessel: **R/V Nancy Anne**	Horiz. Datum: **NAD 83 N** Vert. Datum: **MLLW**	Sample Quality: **Good**
Operator: **Bill Jaworski**	Method/Tube ID: **Vibracore/3.75"**	Logged By: **DG**

In-Situ Depth (ft) | In-Situ Interval | Sample

Sediment Description

Samples and Descriptions are in In-Situ Depths. Classification Scheme: USCS



Sample	Sediment Description
JW-EA09-SC38-A-130426	SILT (ML). Moist, firm, grayish brown, 85% low plasticity fines, 10% wood fibers and fragments, 5% fine sand. SILTY SAND (SM). Moist, dark gray with black mottling, 80% fine sand, 15% fines, 5% wood fragments.
JW-EA09-SC38-B-130426	0.4 x 0.3 ft piece of decomposing wood fragment. POORLY GRADED SAND (SP). Moist, olive gray with black mottling, 90% fine sand, 5% fines, 5% wood fragments.
JW-EA09-SC38-C-130426	
JW-EA09-SC38-D-130426	
JW-EA09-SC38-E-130426	
JW-EA09-SC38-F-130426	
JW-EA09-SC38-G-130426	
JW-EA09-SC38-H-130426	
JW-EA09-SC38-I-130426	Grades to 85% fine sand, 5% fines, 5% fine gravel, 5% wood fragments. Gravel is subrounded.
	End of Core @12.0ft.

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Notes:
1. Attempt 1 of 1.
2. Grainsize percentages are estimated based upon field observations.
3. Corrected for compaction.

Calculated Recovery
Recovery Length/Penetration Depth:
89%

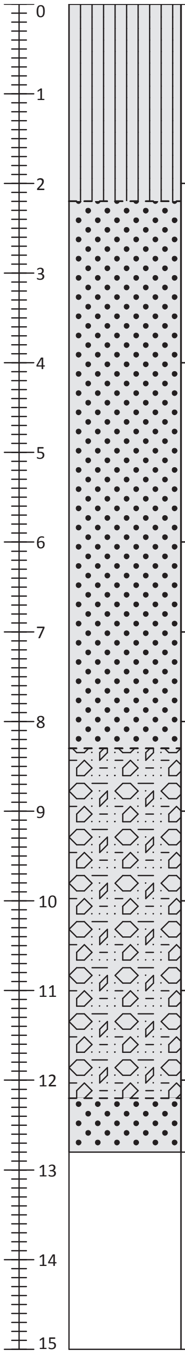
Sediment Core Log

JW-EA10-SC42

Sheet 1 of 1

Project: Jeld-Wen	Location: **Everett, WA**	Tube Length (ft): **15.0**
Project #: **100546-01.01**	Surface Water Elevation (MLLW): **10.9**	Penetration Depth (ft): **13.3**
Client: **Jeld-Wen**	Water Depth (ft): **2.8**	Field Recovery Length (ft): **11.7**
Collection Date: **04/25/2013**	Mudline Elevation (ft): **8.1**	Process Date: **04/26/2013**
Contractor: **MSS**	N/LAT: **372558.002123** E/LONG:**1302929.32957**	Process Method: **Cut tube**
Vessel: **R/V Nancy Anne**	Horiz. Datum: **NAD 83 N** Vert. Datum: **MLLW**	Sample Quality: **Good**
Operator: **Bill Jaworski**	Method/Tube ID: **Vibracore/3.75"**	Logged By: **DG**

In-Situ Depth (ft) | In-Situ Interval



Sample	Sediment Description Samples and Descriptions are in In-Situ Depths. Classification Scheme: USCS
JW-EA10-SC42-A-130426	SILT (ML). Moist, soft, grayish brown, 90% non-plastic fines, 10% fine sand. Grades to firm, 75% fines, 10% fine sand, 15% wood fragments up to 0.3 ft. 0.4ft bed of POORLY GRADED SAND (SP), 95% fine sand, 5% fines. Sand content increases downcore.
JW-EA10-SC42-B-130426	POORLY GRADED SAND (SP). Moist, olive gray with black mottling, 90% fine sand, 10% fines.
JW-EA10-SC42-C-130426	0.4 x 0.1ft wood fragment.
JW-EA10-SC42-D-130426	Grades to 95% fine sand, 5% fines.
JW-EA10-SC42-E-130426	Sand grades to fine to medium.
JW-EA10-SC42-F-130426	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM), Moist, dark gray, 10% fines, 30% fine to medium sand, 60% fine to coarse gravel. Gravel is subrounded.
JW-EA10-SC42-G-130426	
JW-EA10-SC42-H-130426	
JW-EA10-SC42-I-130426	Grades to 10% fines, 45% fine to medium sand, 45% fine to coarse gravel.
JW-EA10-SC42-J-130426	POORLY GRADED SAND (SP). Moist, olive gray, 95% fine sand, 5% fines.
	End of Core @12.8ft.

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Notes:
1. Attempt 1 of 1.
2. Grainsize percentages are estimated based upon field observations.
3. Corrected for compaction.

Calculated Recovery
Recovery Length/Penetration Depth:
88%

Sediment Core Log

JW-SC-212

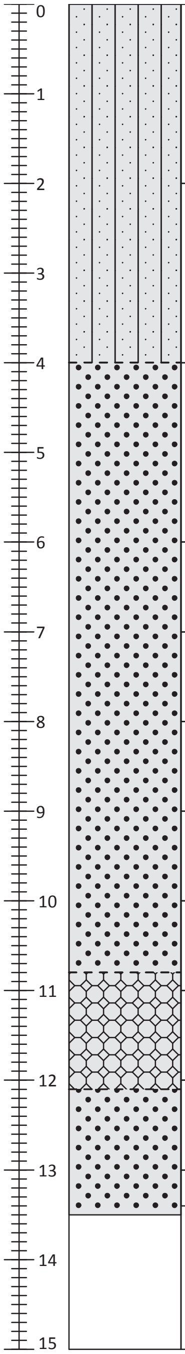
Sheet 1 of 1

Project: Jeld-Wen	Location: **Everett, WA**	Tube Length (ft): **15.0**
Project #: **100546-01.01**	Surface Water Elevation (MLLW): **10.3**	Penetration Depth (ft): **14.0**
Client: **Jeld-Wen**	Water Depth (ft): **6**	Field Recovery Length (ft): **10.5**
Collection Date: **04/25/2013**	Mudline Elevation (ft): **4.3**	Process Date: **04/26/2013**
Contractor: **MSS**	N/LAT: **371841.400365** E/LONG:**1302495.46146**	Process Method: **Cut tube**
Vessel: **R/V Nancy Anne**	Horiz. Datum: **NAD 83 N** Vert. Datum: **MLLW**	Sample Quality: **Good**
Operator: **Bill Jaworski**	Method/Tube ID: **Vibracore/3.75"**	Logged By: **DG**

In-Situ Depth (ft) | In-Situ Interval | Sample

Sediment Description

Samples and Descriptions are in In-Situ Depths. Classification Scheme: USCS



JW-SC-212-A-130426

JW-SC-212-B-130426

JW-SC-212-C-130426

JW-SC-212-D-130426

JW-SC-212-E-130426

JW-SC-212-F-130426

JW-SC-212-G-130426

JW-SC-212-H-130426

JW-SC-212-I-130426

JW-SC-212-J-130426

No Sample

SILTY SAND (SM). Wet, soft, olive gray with reddish brown mottling, 75% fine sand, 20% non-plastic fines, 5% shell and wood fragments.

Grades to moist, firm, olive gray with black mottling.

0.3ft bed of 75% wood fragments, 10% fine sand, 15% fines.

POORLY GRADED SAND (SP). Moist, olive gray, 95% fine sand, 5% fines, contains wood fragments.

Grades to 85% fine sand, 5% fines, 10% fine gravel.

POORLY GRADED GRAVEL WITH SAND (GP). Moist, olive gray, 75% fine to coarse gravel, 15% fine sand, 5% cobble, 5% fines.

POORLY GRADED SAND (SP). Moist, olive gray, 90% fine to medium sand, 5% fines, 5% fine to coarse gravel.

End of Core @13.5ft.

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Notes:
1. Attempt 1 of 1.
2. Grainsize percentages are estimated based upon field observations.
3. Corrected for compaction.

Calculated Recovery
Recovery Length/Penetration Depth:

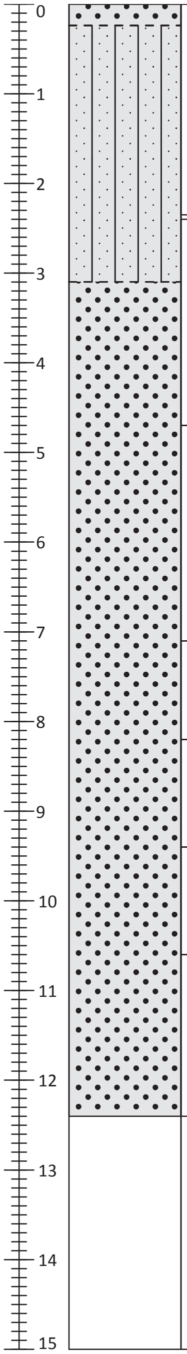
75%

Sediment Core Log

JW-401

Sheet 1 of 1

Project: Jeld-Wen	Location: **Everett, WA**	Tube Length (ft): **15.0**
Project #: **100546-01.01**	Surface Water Elevation (MLLW): **9.1**	Penetration Depth (ft): **13.0**
Client: **Jeld-Wen**	Water Depth (ft): **2.8**	Field Recovery Length (ft): **11.0**
Collection Date: **09/27/2013**	Mudline Elevation (ft): **6.3**	Process Date: **09/28/2013**
Contractor: **MSS**	N/LAT: **373394.229058** E/LONG: **1302250.952501**	Process Method: **Cut tube**
Vessel: **R/V Nancy Anne**	Horiz. Datum: **NAD 83 N** Vert. Datum: **MLLW**	Sample Quality: **Good**
Operator: **Bill Jaworski**	Method/Tube ID: **Vibracore/3.75"**	Logged By: **DP/DG**



In-Situ Depth (ft)	In-Situ Interval	Sample	Sediment Description Samples and Descriptions are in In-Situ Depths. Classification Scheme: USCS
		JW-SC401-A-130928	POORLY GRADED SAND (SP). Dark gray to black, 95% fine sand, 5% fines. Contains biota (clam, 3"). SILTY SAND (SM). Contains wood fibers and fragments. Moderate H2S-like odor. 0.4' pocket of large wood fragments (decomposed).
		JW-SC401-B-130928	POORLY GRADED SAND (SP). 95% fine sand, 5% fines. Contains wood fibers and fragments (decreases downcore).
		JW-SC401-C-130928	
		JW-SC401-D-130928	0.2' pocket of wood fragments (decomposed)
		JW-SC401-E-130928	
		JW-SC401-F-130928	
		JW-SC401-G-130928	
			End of Core @12.4'.

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Notes:
1. Attempt 1 of 1.
2. Grainsize percentages are estimated based upon field observations.
3. Corrected for compaction.

Calculated Recovery
Recovery Length/Penetration Depth:
85%

Sediment Core Log

JW-402

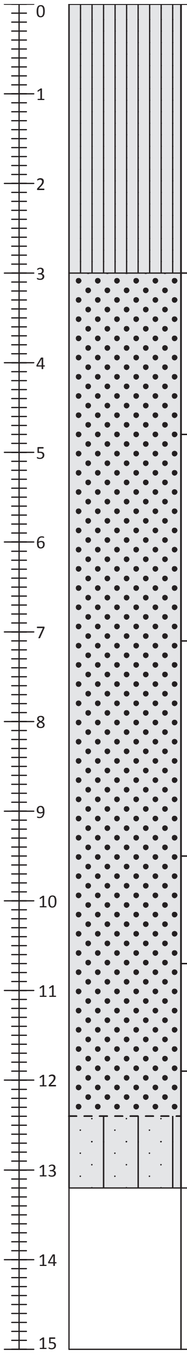
Sheet 1 of 1

Project: Jeld-Wen	Location: **Everett, WA**	Tube Length (ft): **15.0**
Project #: **100546-01.01**	Surface Water Elevation (MLLW): **8.4**	Penetration Depth (ft): **14.0**
Client: **Jeld-Wen**	Water Depth (ft): **6.8**	Field Recovery Length (ft): **11.8**
Collection Date: **09/27/2013**	Mudline Elevation (ft): **-1.6**	Process Date: **09/28/2013**
Contractor: **MSS**	N/LAT: **374380.36849** E/LONG: **1302871.692073**	Process Method: **Cut tube**
Vessel: **R/V Nancy Anne**	Horiz. Datum: **NAD 83 N** Vert. Datum: **MLLW**	Sample Quality: **Good**
Operator: **Bill Jaworski**	Method/Tube ID: **Vibracore/3.75"**	Logged By: **DP/DG**

In-Situ Depth (ft) | In-Situ Interval | Sample

Sediment Description

Samples and Descriptions are in In-Situ Depths. Classification Scheme: USCS



Sample	Sediment Description
JW-SC402-A-130928	SILT (ML). Wet, soft, dark gray, 95% non-plastic fines, 5% wood fibers. Contains biota (clam). Grades to moist, medium stiff, 80% non-plastic fines, 15% wood fragments and fibers, 5% fine sand.
JW-SC402-B-130928	POORLY GRADED SAND (SP). Moist, firm, gray, 100% fine to medium sand.
JW-SC402-C-130928	
JW-SC402-D-130928	One 1" piece of decomposed wood.
JW-SC402-E-130928	Contains laminated beds of silt and fine sand up to 0.5" thick. No laminated beds.
JW-SC402-F-130928	
JW-SC402-G-130928	2" pocket of decomposed wood fragments POORLY GRADED SAND WITH SILT (SP-SM). 90% fine sand, 10% fines.
	1" layer of decomposed wood fragments. End of Core @13.2'.

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Notes:
1. Attempt 1 of 1.
2. Grainsize percentages are estimated based upon field observations.
3. Corrected for compaction.

Calculated Recovery
Recovery Length/Penetration Depth:
84%

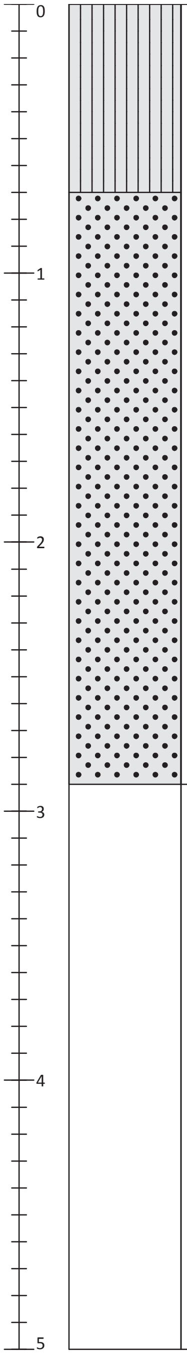
Geochronology Core Log

JW-GC1b

Sheet 1 of 1

Project: Jeld-Wen	Location: **Everett, WA**	Tube Length (ft): **15.0**
Project #: **100546-01.01**	Surface Water Elevation (MLLW): --	Penetration Depth (ft): **38.5 in.**
Client: **Jeld-Wen**	Water Depth (ft): --	Field Recovery Length (ft): **34.3 in.**
Collection Date: **09/19/2013**	Mudline Elevation (ft): 5.8	Process Date: **09/19/2013**
Contractor: --	N/LAT: **372434.8399** E/LONG:**1302749.66**	Process Method: **Cut tube**
Vessel: --	Horiz. Datum: **NAD 83 N** Vert. Datum: **MLLW**	Sample Quality: **Good**
Operator: **Anchor QEA**	Method/Tube ID: **Vibracore/3.75"**	Logged By: **NB**

Recovered Depth (ft)	Recovered Interval	Sample	Sediment Description
			Sediment Description Samples and Descriptions are in Recovered Depths. Classification Scheme: USCS



Samples collected every 2cm. Every other interval analyzed for Cesium-137 and every third interval for Lead-210 starting with 2-4cm. All other intervals archived

SILT (ML). Moist, olive gray, firm, 90% non-plastic fines, 5% fine sand, 5% wood.

0.8 inch Pocket of 70% wood, 30% fines.

POORLY GRADED SAND (SP). Gray, firm, 95% fine sand, 5% non-plastic fines.

From 1.1-2.1 ft contains pockets of black, fine sand.

One 1.5 inch by 0.5 inch black wood fragment.

Contains wood fibers and strands up to 1 inch to end of core.

End of Core at 2.9ft (87cm).

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Notes:
1. Attempt 1 of 1.
2. Grainsize percentages are estimated based upon field observations.

Calculated Recovery
Recovery Length/Penetration Depth:
89%

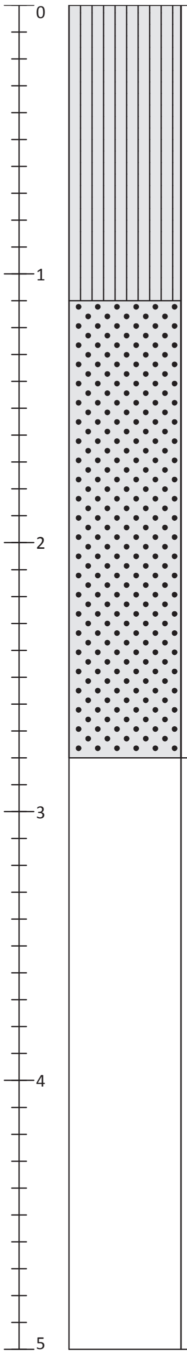
Geochronology Core Log

JW-GC2

Sheet 1 of 1

Project: Jeld-Wen	Location: **Everett, WA**	Tube Length (ft): **15.0**
Project #: **100546-01.01**	Surface Water Elevation (MLLW): --	Penetration Depth (ft): **39 in.**
Client: **Jeld-Wen**	Water Depth (ft): --	Field Recovery Length (ft): **33 in.**
Collection Date: **09/19/2013**	Mudline Elevation (ft): **1.6**	Process Date: **09/19/2013**
Contractor: --	N/LAT: **372117.764091** E/LONG:**1302604.72279**	Process Method: **Cut tube**
Vessel: **NA**	Horiz. Datum: **NAD 83 N** Vert. Datum: **MLLW**	Sample Quality: **Good**
Operator: **Anchor QEA**	Method/Tube ID: **Vibracore/3.75"**	Logged By: **NB**

Recovered Depth (ft)	Recovered Interval	Sample	**Sediment Description** Samples and Descriptions are in Recovered Depths. Classification Scheme: USCS



Samples collected every 2cm. Every other interval analyzed for Cesium-137 and every third interval for Lead-210 starting with 2-4cm. All other intervals archived

SILT (ML). Moist, firm, olive gray, 90% non-plastic fines, 5% fine sand, 5% reddish orange wood fibers.

SILT with SAND (ML). Moist, firm, olive gray, 75% non-plastic fines, 15% fine sand, 10% reddish orange wood fibers.

POORLY GRADED SAND (SP). Gray, firm, 90% fine sand, 10% non-plastic fines. Contains pockets of black mottling.

0.1 ft layer of decomposed wood, black.

End of Core @2.8 ft.

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Notes:
1. Attempt 1 of 1.
2. Grainsize percentages are estimated based upon field observations.

Calculated Recovery
Recovery Length/Penetration Depth:
85%

ANCHOR QEA

Soil Sample Field Log

Job: Jeld Wen Former Noor Door Site
Station: JW-BL-303
Job No: 120909-01.01
Date: 9/19/13
Field Staff: EM JW
Sample Method: Shovel
Contractor: —
Proposed Coordinates: Lat. 48.012659
Horizontal Datum: NAD 83 N
Long. -122.121183

Water Height
DTM Depth Sounder: /
DTM Lead Line: / EM

Tide Measurements
Time: /
Height: / EM

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Notes: Mudline Elevation calculated after sampling

Dist (ft) along tape	Grab #	Time	Confirmed Coordinates (datum) Longitude/Easting	Confirmed Coordinates (datum) Latitude/Northing	Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
0			↑	↑			
20	1	13:30	-122.21220	48.01252	Y		gray, f-sand, 100% contains shell, biota (worm)
40	2						gray, f-sand 80% 20% organics (stick, root)
60	3						gray, F-SAND 100% contains organics (stick root)
80	4						SAA@ 40'
100	5	1340	-122.21181	48.01265			gray, f-sand, 90% 10% fines Contains c-gravel subangular & subrounded

Sample Description: surface cover, density, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sample Containers: 1-4oz 1-16oz

Analyses: PCB/TS/Archive

ANCHOR QEA

Soil Sample Field Log

Job: Jeld Wen Former Noor Door Site
Station: JW-BL-304
Job No: 120909-01.01
Date: 9/19/13
Field Staff: EM JW
Sample Method: Shovel
Contractor: —
Proposed Coordinates: Lat. 48.012473
Horizontal Datum: NAD 83 N
Long. -122.212174

Water Height
DTM Depth Sounder:
DTM Lead Line: EM

Tide Measurements
Time:
Height: EM

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation calculated after sampling
Notes:

Dist ft along tape	Grab #	Time	Confirmed Coordinates (datum)		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
			Longitude/Easting	Latitude/Northing			
0			-122.21244	48 21244			
20	1	13:00			Y	0-1'	brown gray f-sand 85%. 5% shell Contains organics (woody fibers)
40	2						SAA @20'
60	3						brown gray f-sand 90%. 10% organics (sticks, roots)
80	4						SAA @60'
100	5	1324	-122.21220	48.01252			SAND/GRAVEL 50/50 % brown-grey Sand is f- gravel is f-c, subangular to angular 1.0 to 2"

Sample Description: surface cover, density, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sample Containers: 1-4oz 1-16oz

Analyses: PCB, TS, Archive

ANCHOR QEA

Soil Sample Field Log

Job: Jeld Wen Former Noor Door Site
Station: JW-BL-305
Job No: 120909-01.01
Date: 9/19/13
Field Staff: EM JW
Sample Method: Shovel
Contractor:
Proposed Coordinates: Lat. 48.012251
Horizontal Datum: NAD 83 N
Long. -122.212455

Water Height
DTM Depth Sounder: EM
DTM Lead Line:

Tide Measurements
Time:
Height: EM

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation calculated after sampling

Notes:

Dist (ft) Along tape	Grab #	Time	Confirmed Coordinates (datum) Longitude/Easting	Confirmed Coordinates (datum) Latitude/Northing	Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
0			-122.21252	48.01195			
20	1	12:45			Y	0-1'	brown-gray, f-SAND 100%. (contains organics (small roots))
40	2						SAA @ 20'
60	3						gray, f-sand. ~~ro~~ 90% sand contains shell 10% & hard silty sand pieces & organics (roots)
80	4						gray f-sand 90% sand shell 10% contains f-gravel & organics (roots)
100	5	12:55	~~48.0122~~ -122.21244	48.01223			SAA @ 20'

Sample Description: surface cover, density, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sample Containers: 1 - 4oz 1 - 16oz

Analyses: PCB, TS, Archive

ANCHOR QEA

Soil Sample Field Log

Job: Jeld Wen Former Noor Door Site
Station: JW-BL-306
Job No: 120909-01.01
Date: 9/19/13
Field Staff: EM JW
Sample Method: Shovel
Contractor: ——
Proposed Coordinates: Lat. 48.011955
Horizontal Datum: NAD 83 N
Long. -122.212551

Water Height
DTM Depth Sounder: EM
DTM Lead Line:

Tide Measurements
Time:
Height: EM

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation calculated after sampling

Notes:

Dist. ft	Grab #	Time	Confirmed Coordinates (datum) Longitude/Easting	Confirmed Coordinates (datum) Latitude/Northing	Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc
0			-122.21242	48.01173			~~Be~~
20	1	11:35			Y	0-1'	Red-brown, organic SILT Contains f-gravel & C-gravel organics (woody fibers) 80% fines 20% gravel
40	2	11:40					Gray f-SAND. Contains organics (sticks) 100% sand
60	3	11:45					gray f-sand Contains organics (sticks, roots) 100% sand
80	4	11:50					Red-brown organic SILT w/SAND contains f-c gravel & organics (sticks) 60% fines 40% gravel
100	5	11:55	-122.21252	48.01195			gray f-SAND contains pockets of SAA@80' contains organics (roots sticks) 100% sand

Sample Description: surface cover, density, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sample Containers: 1-4oz 1-16oz

Analyses: PCB, TS, Archive

ANCHOR QEA

Soil Sample Field Log

Job: Jeld Wen Former Noor Door Site
Station: JW-BL-307
Job No: 120909-01.01
Date: 9/9/13
Field Staff: EM, JW
Sample Method: shovel
Contractor: —
Proposed Coordinates: Lat. 48.011653
Horizontal Datum: NAD 83 N
Long. -122.212531

Water Height
DTM Depth Sounder: EM
DTM Lead Line:

Tide Measurements
Time:
Height: EM

Sample Acceptability Criteria:
1) Overlying water is present
2) Water has low turbidity
3) Sampler is not overfilled
4) Surface is flat
5) Desired penetration depth

Mudline Elevation calculated after sampling

Notes:

	Grab #	Time	Confirmed Coordinates (datum)		Sample Accept (Y/N)	Recovery Depth (in)	Comments: jaws close, good seal, winnowing, overlying water, surface intact, etc Sed Desc.
			Longitude/Easting	Latitude/Northing			
20'	1	11:15	@0' -122.21223	@0': ~~48.0149~~ 48.0149	Y	0-1'	Brownish red, organic SILT, contains wood & f-gravel
40'	2	11:20					gray f-SAND contains wood.
60'	3	11:25					gray f-sand contains organics sticks, ~~roots~~
80'	4	11:30					gray f-sand contains organics sticks
100'	5	11:35	-122.21242	48.0173			gray f-sand contains organics sticks roots

Sample Description: surface cover, density, moisture, color, minor modifier, MAJOR modifier, other constituents, odor, sheen, layering, anoxic layer, debris, plant matter, shells, biota

Sample Containers: 1-4oz 1-16oz

Analyses: PCB, TS, Archive

APPENDIX K

HUMAN HEALTH AND ECOLOGICAL RECEPTOR SEDIMENT CLEANUP OBJECTIVE AND CLEANUP SCREENING LEVEL DEVELOPMENT

Description: Presents the development of human health risk-based concentrations of bioaccumulative COCs used to inform the selection of the SCOs and CSLs. This Appendix also describes the selection of bioaccumulative COCs, the assessment of potential ecological risk, the development of natural background and regional background COC concentrations, and the application of PQLs.

JELD-WEN, INC.

HUMAN HEALTH AND ECOLOGICAL RECEPTOR SEDIMENT CLEANUP OBJECTIVE AND CLEANUP SCREENING LEVEL DEVELOPMENT

Prepared for

JELD-WEN, inc.
Former E.A. Nord Inc., Door Site
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Everett, Washington 98201

Prepared by

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Seattle, Washington 98101

March 2021

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LIST OF ACRONYMS AND ABBREVIATIONS

BSAF	Biota Sediment Accumulation Factor
cm^2	square centimeter
COC	chemical of concern
cPAH	carcinogenic polycyclic aromatic hydrocarbon
CPF	cancer potency factor
CSL	cleanup screening level
Ecology	Washington State Department of Ecology
ELCR	excess lifetime cancer risk
FS	Feasibility Study
g/day	gram per day
HQ	hazard quotient
kg	kilogram
mg/cm^2-day	milligrams per square centimeter per day
mg/kg	milligrams per kilogram
mg/kg-day	milligrams per kilogram per day
OSV	Ocean Survey Vessel
PCB	polychlorinated biphenyl
PQL	practical quantitation limit
RBC	risk-based concentration
RfD	reference dose
RI	Remedial Investigation
RME	reasonable maximum exposure
SCO	sediment cleanup objective
SCUM	Sediment Cleanup Users Manual
Site	JELD-WEN, inc., former E.A. Nord, Inc., door facility
SMS	Sediment Management Standards
TCDD	tetrachlorodibenzo-*p*-dioxin

TEF	Toxicity Equivalency Factor
TEQ	Toxic Equivalents Quotient
TTL	target tissue level
WAC	Washington Administrative Code

1 INTRODUCTION

This Appendix presents the development of human health risk-based concentrations (RBCs) of bioaccumulative chemicals of concern (COCs) for the former E.A. Nord, Inc., door facility (through its successor, JELD-WEN, inc.; Site). These human health RBCs contribute to the selection of the sediment cleanup objectives (SCOs) and cleanup screening level (CSLs) described in Section 6.1.1.3 of the Remedial Investigation (RI)/Feasibility Study (FS). This Appendix also describes the selection of bioaccumulative COCs, the assessment of potential ecological risk, the development of natural background and regional background COC concentrations, and the application of practical quantitation limits (PQLs).

Sediment sites are regulated by the Sediment Management Standards (SMS; Washington Administrative Code [WAC] 173-204). The revised SMS rule took effect on September 1, 2013 (Ecology 2013) and includes specific requirements for the protection of human health and the environment. The SMS rule includes specific procedures to determine human health risk-based SCOs and CSLs to address the bioaccumulative (seafood consumption) and direct contact exposure pathways (WAC 173-204-561). Under the SMS rule, the derivation of human health sediment RBCs is a component of the overall sediment cleanup level development. The SMS permits site risk-based cleanup standards within a range of 1 in 100,000 (1×10^{-5}) to 1 in 1 million (1×10^{-6}) excess lifetime cancer risk (ELCR) levels for all individual carcinogens and a total ELCR risk of 1×10^{-5} for all carcinogens (total risk from multiple contaminants). For non-carcinogenic chemicals, a hazard quotient (HQ) of 1 is used to develop cleanup standards. If a site has multiple non-carcinogens with similar types of toxicity, the cleanup standards may be adjusted downward in accordance with WAC 173-340-708 or other approved methods to ensure protectiveness at a hazard index of 1.

The human health risk-based SCO is the lowest sediment RBC developed from the 1×10^{-6} ELCR[1] threshold and/or an HQ of 1[2]. The human health risk-based CSL is the lowest sediment RBC corresponding to a 1×10^{-5} ELCR threshold and/or an HQ of 1[2]. The final SCO and CSL are determined based on the highest of the following: 1) lowest appropriate RBCs

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[1] Or $1x10^{-5}$ for multiple carcinogens

[2] Or a hazard index of 1 for multiple non-carcinogens

for protection of human health, benthic organisms (WAC 173-204-320 and WAC 173-204-562 for SCO and CSL, respectively), or higher trophic level ecological receptors; 2) natural background; and 3) PQLs. The SMS contains SCO and CSL criteria for benthic organisms, as presented in Section 4.2.2 of the RI/FS. As discussed in Section 3.2 of this Appendix, an SCO and CSL were not developed for higher trophic level ecological receptors because the human health SCO and CSL, which are based on the Tulalip Tribes subsistence exposure parameters (EPA 2013), are adequately protective of higher trophic level species.

The final cleanup level may be adjusted upward from the SCO, if the SCO is not technically possible to achieve, considering net environmental effects on the aquatic environment, natural resources, and habitat. However, the cleanup level may not be adjusted upward above the CSL (WAC 173-204-560).

As described in the SMS rule and the Sediment Cleanup Users Manual (SCUM; Ecology 2019) guidance document, the steps for developing human health risk-based CSLs and SCOs based on Biota Sediment Accumulation Factors (BSAFs) for the Site are as follows:

- Identify Site bioaccumulative chemicals requiring RBC development (Ecology 2019).
- Identify potential exposure pathways and the reasonable maximum exposure (RME) scenario (WAC 173-204-561(2)).
- Calculate carcinogenic sediment RBCs at $1x10^{-6}$ (SCO) and $1x10^{-5}$ (CSL) levels and apply early life exposure calculations for carcinogenic polycyclic aromatic hydrocarbons (cPAHs).
- Calculate non-carcinogenic RBCs using an HQ of 1.
- Determine the lowest risk-based tissue concentrations, considering all exposure pathways present to calculate the subtidal risk-based sediment concentration based on fish/shellfish consumption.
- Determine the lowest intertidal risk-based sediment concentration based on direct contact.
- Determine natural background.
- Determine the PQL.

This document is generally organized according to these steps and includes the following sections:

- Section 2 identifies Site bioaccumulative COCs requiring development of a bioaccumulative exposure pathway (seafood consumption) RBC.
- Section 3 identifies complete Site exposure pathways and discusses RME scenarios including the Tulalip Tribes shellfish consumption and direct contact during beach play and shellfishing scenarios.
- Section 4 includes components of SCO development. This section provides equations for calculating RBCs for the exposure scenarios and discusses natural background and PQLs.
- Section 5 includes components of CSL development. This section provides the development of estimated preliminary regional background values.

2 IDENTIFICATION OF SITE BIOACCUMULATIVE CHEMICALS OF CONCERN

Site bioaccumulative COCs requiring the development of sediment RBC were identified in RI/FS Sections 4.2.2 and 4.6.3. Bioaccumulative chemicals associated with the Site include dioxin/furans evaluated as 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (2,3,7,8-TCDD) Toxic Equivalents Quotient (TEQ)[3], total polychlorinated biphenyl (PCB) congeners, and PCB TEQ[4]. Total cPAHs evaluated as benzo(a)pyrene TEQ[4] were also evaluated for completeness. Of these bioaccumulative COCs, total dioxin/furan TEQ and total PCB congeners are considered the Site indicator hazardous substances. Site areas with elevated PCB TEQ and cPAH TEQ are within the footprint of prospective remedial actions defined by dioxin/furan TEQ and total PCB congener concentrations, as discussed in Section 4.5.3 of the RI/FS. For completeness, SCO and CSL have been developed for all the bioaccumulative chemicals in the following sections. Only the RBC developed for total PCB congeners and dioxin/furan TEQ will be used to develop remediation levels for the Site.

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[3] Using the mammalian Toxicity Equivalency Factor (TEF) from Van den Berg et al. (2006)

[4] Using the California Environmental Protection Agency (CalEPA 2005) mammalian TEFs

3 EXPOSURE PATHWAYS AND REASONABLE MAXIMUM EXPOSURE SCENARIOS

RBCs have been calculated for Site exposure pathways for both carcinogenic and non-carcinogenic risk, as applicable. This section describes the exposure pathways used to calculate the RBCs.

The following potential existing and/or future human health exposure pathways were identified at the Site:

- Ingestion of shellfish that have bioaccumulated chemicals from the Site, using tribal consumption rates that are protective of other subsistence and recreational consumers. The following scenarios for consumption of fish and shellfish were evaluated:
    - Tribal adult consumer of fish (excluding anadromous) and shellfish
    - Tribal child consumer of fish and shellfish including incorporation of early life exposure to cPAHs using Age-Dependent Adjust Factors since they are identified as having a mutagenic mode of action
    - A scenario that combines risks from both childhood and adulthood exposure (i.e., lifetime exposure risks calculated from 6 years as a child and 64 years as an adult)

- The following direct sediment contact (incidental sediment ingestion and dermal contact) during beach play and shellfish collection scenarios were evaluated:
    - Tribal adult clam diggers
    - Tribal adult net fishers
    - Child beach play scenario

The adult tribal clamming RME scenario refers to the highest exposure for human health risk that is reasonably expected to occur at a site under current and potential future land use (WAC 173-204-561(2)(b)). This RME scenario was developed for the Site based on the Washington State Department of Ecology (Ecology) guidance (Ecology 2019). The adult tribal consumption rates are protective of other subsistence and recreational fishermen.

3.1 Ingestion of Shellfish

Sediment RBCs were developed that are protective of tribal RME shellfish consumption from the Site. The sediment RBCs were developed as part of the process in establishing human health SCOs and CSLs for Site bioaccumulative COCs. The RBCs were calculated using Ecology's default equations (Ecology 2019) and a combination of Ecology's recommended input parameters (e.g., exposure frequency and exposure duration) and site-specific input parameters (e.g., Tulalip Tribes shellfish ingestion rate and body weight). For a given chemical, carcinogenic and non-carcinogenic, if applicable, RBCs were developed based on the chemical's toxicological mechanisms of action. The RBCs developed are the concentrations in sediment at and below which chemicals would not be expected to accumulate in shellfish tissue to levels presenting potential unacceptable risk to human consumers under RME conditions. The equations and site-specific parameters used for calculating the shellfish consumption RBC are presented in Section 4.1.1. The RBC input parameters are included in Tables K-1 and K-2.

3.2 Sediment Direct Contact and Incidental Ingestion Scenario

The direct contact and incidental ingestion exposure pathways were evaluated through the adult tribal clamming scenario. The clamming scenario was used to derive RBCs for adult subsistence activities in the intertidal portion of the Site (0 to +14 feet mean lower low water). The RBCs protective of the direct contact and incidental ingestion scenario were calculated using Ecology's default equations (Ecology 2019) and a combination of Ecology's recommended input parameters (e.g., exposure duration and exposure frequency) and site-specific input parameters (e.g., adult body weight). Direct contact and incidental ingestion RBCs were developed for the Site bioaccumulative COCs. For a given chemical, carcinogenic and non-carcinogenic, if applicable, RBCs were developed based on the chemical's toxicological mechanisms of action. The direct contact and incidental ingestion equations and site-specific parameters used for calculating the RBCs are presented in Section 4.1.2. The input parameters are included in Tables K-2 and K-3.

3.3 Ecological Receptors

Ecological risk from exposure to bioaccumulative chemicals is also considered in the development of SCO and CSL for a site (Ecology 2019). Ecology (2019) provides a screening process to determine whether RBC for higher trophic levels needs to be calculated or whether RBC developed for human health will also be protective of higher trophic level species. The screening process evaluates: 1) whether the chemicals may pose a greater risk to higher trophic level species than to humans; 2) if the human health RBC is a background or PQL value; and 3) whether resources of special concern exist at the Site. If Site bioaccumulative chemicals do not present a greater risk to ecological receptors than to humans, and/or human health-based RBC are background concentrations or PQL, and if resources of special concern are not present at the Site, the risk to higher trophic level ecological receptors does not need to be separately evaluated.

Following the screening process, the RBCs developed for human health are anticipated to be adequately protective of higher-trophic level aquatic-dependent wildlife (e.g., otters) that may be exposed to bioaccumulative chemicals (through foraging) at the Site. None of the Site bioaccumulative COCs evaluated are included in Ecology's list of chemicals that present a greater risk to higher trophic species than to humans (Ecology 2019). The dioxin/furan TEQ and the cPAH TEQ SCO[5] are the PQL and background concentration, respectively, indicating that these chemicals do not need to be further evaluated for risk to higher trophic level species (Ecology 2019). Only the total PCB congener and PCB TEQ SCO are human health risk-based values. Given the high tribal shellfish consumption rate used to develop the SCO, these values are also anticipated to be protective of higher trophic level species (Ecology 2019). In addition, PCB TEQ and cPAH TEQ are not considered Site indicator hazardous substances, and areas of elevated concentrations of these chemicals are within the prospective remedial footprint for elevated dioxin/furan TEQ and PCB congener concentrations. Lastly, no federally listed endangered species are present at the Site. Federally listed threatened species may migrate through the Site (see RI/FS Section 3.5) but are not expected to forage consistently at the Site.

As further indication that Site total PCB congener, PCB TEQ, and dioxin/furan TEQ concentrations do not pose unacceptable risk to higher trophic level species, the Site maximum detected clam tissue concentrations were compared to target tissue levels (TTLs). Human and aquatic-dependent wildlife bioaccumulative chemical TTLs have been developed

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[5] See Section 4

and are presented in the *Sediment Evaluation Framework for the Pacific Northwest* (RSET 2009) and the *Guidance for Assessing Bioaccumulative Chemicals of Concern in Sediment* (ODEQ 2007). The TTLs represent the prey tissue concentrations considered protective of human health and aquatic-dependent wildlife. The compilation of available TTLs is included in Table K-4. Comparison of the human- and aquatic-dependent wildlife TTLs demonstrates that RBCs developed for human health would also be protective of aquatic dependent wildlife. The available human TTLs for PCBs and dioxin/furan TEQ are generally several orders of magnitude less than the aquatic-dependent wildlife TTLs, indicating that the sediment concentrations corresponding to the human TTL would be inclusively protective of aquatic-dependent wildlife. The Site maximum clam total PCB congener, dioxin/furan TEQ, and PCB TEQ concentrations are below the lowest ecological TTL, further indicating that risk to higher trophic level species from these bioaccumulative COCs does not need to be further evaluated at the Site.

4 SEDIMENT CLEANUP OBJECTIVE DEVELOPMENT

For a given chemical, the SCO is determined based on the highest of the following:

- The lowest appropriate RBCs for protection of human health for the 1×10^{-6} ELCR threshold and/or an HQ of 1
- Natural background
- PQLs

4.1 Risk-based Levels

Carcinogenic ELCR and non-carcinogenic health effects were evaluated separately because of differences in assumptions about the mechanism of these toxic effects. The toxicity values used to evaluate exposure to chemicals with non-carcinogenic and carcinogenic effects are reference doses (RfDs) and the cancer potency factors (CPFs), respectively. All toxicity values were taken from the CLARC database (Ecology 2020). The RfDs and CPFs are included in Table K-2.

Carcinogenic chemicals are assumed to have no threshold for carcinogenicity. Carcinogenic risks are presented as the chance of contracting cancer over a 70-year lifetime due to site-related exposure. These risks are considered by the U.S. Environmental Protection Agency to be excess cancer risks that are in addition to the national rates of cancer for the general population. Carcinogenic-based sediment screening values were calculated using $1\text{x}10^{-6}$ cancer risk, consistent with SMS guidance for developing human health-based SCO.

Chemicals exhibiting non-carcinogenic health effects are considered threshold chemicals, indicating that a critical chemical dose must be exceeded before adverse health effects occur. The potential for non-carcinogenic health effects to occur from exposure to a chemical is represented by the ratio of the estimated chemical intake to the RfD and is expressed as an HQ. Exposures resulting in an HQ less than or equal to 1 are unlikely to result in non-carcinogenic adverse health effects.

4.1.1 Shellfish Consumption Risk Levels

The seafood consumption pathway sediment RBCs were calculated using the Ecology default equations (Ecology 2019) as shown in Equations 4.1.a through 4.3. Equations 4.1.a, 4.1.b, and 4.2 were used to calculate the tissue RBCs for carcinogens, mutagenic carcinogens, and non-carcinogens, respectively. From Equations 4.1.a, 4.1.b, and 4.2, the corresponding sediment RBCs were calculated using Equation 4.3 (for non-polar organics; Ecology 2019).

Equation 4.1.a: Tissue RBC for carcinogens

$$RBC_{k,Tissue} = \left(\frac{ACR \times BW \times AT_{cr} \times UCF}{CPFo \times FCR_k \times FDF_k \times EF \times ED}\right)$$

Equation 4.1.b: Tissue RBC for mutagenic carcinogens. See Table K-1 for age-dependent values

$$FCR_{child-adj}\left(\frac{mg}{kg}\right) = \frac{FCR_{0-2} \times ED_{0-2} \times EF_{0-2} \times ADAF_{0-2}}{BW_{0-2}} + (2\text{-}6yr, 6\text{-}16yr, 16\text{-}70yr)$$

$$RBC_{mutagen}\left(\frac{mg}{kg}\right) = (ACR \times AT_{cr} \times UCF)/(CPF_o \times FCR_{child-adj} \times FDF)$$

Equation 4.2: Tissue RBC for non-carcinogens

$$RBC_{k,Tissue} = \left(\frac{HQ \times BW \times AT_{nc} \times UCF \times RfDo}{FCR_k \times FDF_k \times EF \times ED}\right)$$

Equation 4.3: Sediment RBC for non-polar organics

$$RBC_{k,Sed} = \left(RBC_{k,Tissue} \times \frac{S_{foc}}{SUF_k \times SL_k \times BSAF_k}\right)$$

where:

ACR = acceptable cancer risk (unitless)

$ADAF$ = age-dependent adjustment factor (unitless)

AT_{cr} = cancer averaging time (days)

AT_{nc} = non-cancer averaging time (days)

$BSAF_k$ = biota sediment accumulation factor for k^{th} seafood type (grams of organic carbon/gram of lipid)

BW = body weight (kilograms [kg])

$CPFo$ = oral cancer potency factor (milligrams per kilogram per day [mg/kg-day])$^{-1}$

EF = exposure frequency (days/year)

ED = exposure duration (years)

FCR_k = consumption rate of k^{th} seafood type (grams/day)

FDF_k = diet fraction of k^{th} seafood type (unitless)

HQ = hazard quotient (unitless)

$RBC_{k,Tissue}$= tissue risk-based concentration for k^{th} seafood type (milligrams per kilogram [mg/kg])

$RBC_{k,Sed}$ = sediment risk-based concentration corresponding to the $RBC_{k,Tissue}$ (mg/kg)

$RfDo$ = oral reference dose (mg/kg-day)

S_{foc} = fraction sediment organic carbon (gram/gram)

SL_k = lipid fraction of k^{th}seafood type (gram/gram)

SUF_k = site use factor of k^{th} seafood type (proportion)

UCF = unit conversion factor (1,000 grams/kg)

Values for each of the listed parameters are presented in Tables K-1, K-2, and K-3 a. The SCO RBCs are presented in Table K-5.

4.1.1.1 Site-specific Parameters

The site-specific parameters used in the shellfish consumption risk equation are described below. The Ecology-recommended values for all other parameters were used. All parameters used are included in Tables K-1 and K-2.

4.1.1.1.1 Shellfish Consumption Rate

The Site is within the Tulalip Tribes Usual and Accustomed Fishing Area and includes an intertidal area that could be used for clamming. The adult fish consumption rate of 186 grams per day (g/day) is based on the 95th percentile consumption rate for the Tulalip Tribes for pelagic fish, bottom fish, and shellfish (see Table 5 of EPA 2013). The child fish consumption rate of 81 g/day is 44 percent of the adult consumption rate. The child consumption rate is 44 percent less than the adult when comparing mean consumptions rates for total fish (see Tables D-2 and D-19 of EPA 2013)..

4.1.1.1.2 Body Weight

An adult body weight of 81 kg was used for Tulalip Tribes members (EPA 2013). The body weights for other age groups are provided in Table K-1.

4.1.1.1.3 Cancer Potency Factors and Reference Doses

Shellfish consumption RBCs were developed for the Site bioaccumulative COCs using CPF and RfD from the CLARC database (Ecology 2020). The benzo(a)pyrene CPF was used for cPAH TEQ, the 2,3,7,8-TCDD CPF and RfD were used for dioxin/furan TEQ and PCB TEQ, and the aroclor 1254 CPF and RfD were used for total PCB Congeners. Age-dependent adjustment factors for calculating risk from early life exposures to the mutagenic carcinogen cPAH are provided in Table K-1. The CPF and RfD are included in Table K-2.

4.1.1.1.4 Biota Sediment Accumulation Factors

The extent of aquatic biota bioaccumulation of non-polar chemicals from sediment is typically expressed using BSAF. The BSAF is the ratio between the concentration of a non-polar organic chemical in the total extractable lipids of an organism (normalized to the lipid fraction), to the concentration in sediment normalized to the organic carbon content of sediment. Site-specific BSAFs were developed for the bioaccumulative COCs as described in Section 4.4.1 of the RI/FS. These BSAFs were used to develop sediment RBC from the tissue RBC. The BSAF is based on site-specific clam tissue data and assumed to be representative of bioaccumulation in pelagic and bottom fish that are included in the shellfish consumption rate. The BSAFs are included in Table K-2.

4.1.1.1.5 Shellfish Lipid Content

A shellfish lipid fraction of 0.0051 gram/gram was used. This is the average lipid fraction of Site clam samples EA01 and EA10.

4.1.1.1.6 Sediment Fraction Organic Carbon

The Site surface sediment samples mean fraction of organic carbon of 0.0223 gram/gram was used for RBC development.

4.1.2 Direct Contact

For the incidental ingestion and dermal contact pathways, Equations 4.4, 4.5, and 4.6 (Ecology 2019) were used to calculate the carcinogenic, carcinogenic-mutagenic,and non-carcinogenic sediment RBCs, respectively.

Equation 4.4: Direct contact RBC for carcinogens

$$RBC_{cancer} = \left(\frac{ACR \times BW \times AT_{cr}}{EF \times ED \times \left[\left(\frac{IR \times AB \times CPFo}{UCF} \right) + \left(\frac{SA \times AF \times ABS \times CPFd}{UCF} \right) \right]} \right)$$

where:

ACR = acceptable cancer risk (unitless)

AB = gastrointestinal absorption factor (unitless)

ABS = dermal absorption factor (unitless)

AF = sediment to skin adherence factor (milligrams/square centimeter per day [mg/cm^2-day])

AT_{cr} = cancer averaging time (days)

BW = body weight (kg)

$CPFd$ = dermal cancer potency factor (mg/kg-day)$^{-1}$ (see Equation 4.7)

$CPFo$ = oral cancer potency factor (mg/kg-day)$^{-1}$

EF = exposure frequency (days/year)

ED = exposure duration (years)
IR = ingestion rate (mg/day)
RBC_{cancer} = sediment risk-based concentration for carcinogenic mechanism of toxicity (mg/kg)
SA = dermal surface area (square centimeters [cm$^{2]}$)
UCF = conversion factor (1,000,000 mg/kg)

Equation 4.5: Direct contact RBC for mutagenic carcinogens

$$IRF_{child-adj}\left(\frac{mg}{kg}\right) = \frac{IRF_{0-2} \times ED_{0-2} \times EF_{0-2} \times ADAF_{0-2}}{BW_{0-2}} + (2\text{-}6yr, 6\text{-}16yr, 16\text{-}70yr)$$

$$DF_{child-adj}\left(\frac{mg}{kg}\right) = \frac{SA_{0-2} \times ED_{0-2} \times EF_{0-2} \times AF_{0-2} \times ADAF_{0-2}}{BW_{0-2}} + (2\text{-}6yr, 6\text{-}16yr, 16\text{-}70yr)$$

$$SCL_{mutagen}(\frac{mg}{kg}) = \frac{ACR \times AT_{cr} \times UCF}{[(IRF_{child-adj} \times AB \times CPF_o) + (DF_{child-adj} \times ABS \times CPF_d)]}$$

where:
AB = gastrointestinal absorption factor (unitless)
ABS = dermal absorption factor (unitless)
ACR = acceptable cancer risk (unitless; 1 in 1,000,000)
$ADAF$ = age-dependent adjustment factor (unitless)
AF = sediment-to-skin adherence factor (mg/cm^2/day)
AT = averaging time (70 x 365 days/year)
BW = body weight (kg)
$CPFo$ = oral cancer potency factor (mg/kg·day)$^{-1}$
$CPFd$ = cancer potency factor adjusted for dermal exposure (mg/kg/day)$^{-1}$
$DF_{child\text{-}adj}$ = child mutagenic dermal factor – age adjusted (mg/kg)

ED = exposure duration (year)
EF = exposure frequency (day/year)
$IRF_{child\text{-}adj}$ = age adjusted child ingestion factor (mg/kg)
IR = ingestion rate (mg/day)
SA = dermal surface area (cm^2)
SCL = risk-based sediment cleanup level concentration (mg/kg dry weight)
UCF = unit conversion factor (1,000,000 mg/kg)

Equation 4.6: Direct contact RBC for non-carcinogens

$$RBC_{Noncancer} = \left(\frac{HQ \times BW \times AT_{nc}}{EF \times ED \times \left[\left(\left(\frac{1}{RfDo} \right) \times \left(\frac{IR \times AB}{UCF} \right) \right) + \left(\left(\frac{1}{RfDd} \right) \times \left(\frac{SA \times AF \times ABS}{UCF} \right) \right) \right]} \right)$$

where:
AB = gastrointestinal absorption fraction (unitless)
ABS = dermal absorption fraction (unitless)
AF = sediment to skin adherence factor (mg/cm^2-day)
AT_{nc} = non-cancer averaging time (days)
BW = body weight (kg)
EF = exposure frequency (days/year)
ED = exposure duration (years)
HQ = hazard quotient (unitless)
IR = ingestion rate (mg/day)
$RBC_{Noncancer}$ = risk-based concentration for non-carcinogenic mechanism of toxicity (mg/kg)
$RfDd$ = dermal reference dose (mg/kg-day) (See Equation 4.8)
$RfDo$ = oral reference dose (mg/kg-day)
SA = dermal surface area (cm^2)
UCF = conversion factor (1,000,000 mg/kg)

The calculation of dermal CPF and RfD used the shellfish consumption and direct contact RBCs that are included in Equations 4.7 and 4.8, respectively.

Equation 4.7: Dermal cancer potency factor calculation

$$CPFd = \frac{CPFo}{GI}$$

where:

$CPFo$ = oral cancer potency factor $(mg/kg\text{-}day)^{-1}$

$CPFd$ = dermal cancer potency factor $(mg/kg\text{-}day)^{-1}$

GI = gastrointestinal conversion factor (unitless)

Equation 4.8: Dermal reference dose calculation

$$RfDd = RfDo \times GI$$

where:

$RfDd$ = dermal reference dose (mg/kg-day)

$RfDo$ = oral reference dose (mg/kg-day)

GI = gastrointestinal conversion factor (unitless)

Values for each of the listed parameters are presented in Tables K-1, K-2, and K-3b. The SCO RBCs are presented in Table K-5.

4.1.2.1 Site-specific Parameters

The site-specific parameters for exposure duration, exposure frequency, body weight, and the cancer and non-cancer toxicity values for the tribal shellfish harvesting and beach play scenarios described in Section 4.1.1 are also used in the incidental ingestion and dermal contact risk equations. The Ecology-recommended values were used for skin surface area. All parameters used are included in Tables K-1, K-2, and K-3b.

4.2 Practical Quantitation Limit

SMS allows consideration of the PQL in establishing the cleanup levels when a COC concentration determined to be protective cannot be reliably detected using state-of-the-art, currently available analytical instruments and methods (WAC 173-204-505(15)). In simpler terms, the PQL is the minimum concentration for an analyte that can be reported with a high degree of certainty. If a natural background or the risk-based SCO is below the concentration at which a contaminant can be reliably quantified, then the SCO for that contaminant may default to the analytical PQL. The Model Toxics Control Act defines the PQL as the following:

> *"…the lowest concentration that can be reliably measured within specified limits of precision, accuracy, representativeness, completeness, and comparability during routine laboratory operating conditions, using department approved methods."* (WAC 173-340-200)

Table K-5 includes the PQLs. These PQLs are based on the programmatic PQL values presented in SCUM Table 11-1 (Ecology 2019) for cPAH TEQ, dioxin/furan TEQ, and PCB TEQ.

4.3 Natural Background

Natural background values were adopted from the SCUM Table 10-1 (Ecology 2019) for cPAH TEQ, dioxin/furan TEQ, and PCB TEQ and the Port Gardner Regional Background Phase II Supplemental Sampling Presentation (Ecology 2014b) for PCB congeners. These natural background concentrations were derived as the 90/90 upper tolerance limit of the Ocean Survey Vessel (OSV) Bold Survey data (DMMP 2009) and additional datasets selected by Ecology (collectively referred to as the "BOLD Plus" dataset; Ecology 2019). Natural background concentrations are included in Table K-5.

5 CLEANUP SCREENING LEVEL DEVELOPMENT

For a given chemical, the CSL is based on the highest of the following:

- The lowest appropriate RBC for protection of human health corresponding to a 1×10^{-5} ELCR threshold and/or an HQ of 1, benthic organisms (WAC 173-204-562 for CSL), or ecological receptors
- Regional background
- PQLs

5.1 Risk-based Levels

The methods for developing human health CSL RBCs were similar to methods used to calculate SCO RBCs, as described in Section 4, with the exception that a target cancer risk of $1\text{x}10^{-5}$ is used for carcinogenic chemicals instead of $1\text{x}10^{-6}$. An HQ of 1 is used for development of both the SCO and CSL RBCs, and the RBCs for non-carcinogens will therefore be the same for the SCO and CSL. The CSL RBCs are included in Table K-5.

5.2 PQL

The PQLs are described in Section 4.2. The PQLs are the same for the development of both the SCO and CSL.

5.3 Preliminary Regional Background

The SMS define regional background as follows:

> *"WAC 173-204-505(16)*
> *Regional background means the concentration of a contaminant within a department-defined geographic area that is primarily attributable to diffuse nonpoint sources, such as atmospheric deposition or storm water, not attributable to a specific source or release. See WAC 173-204-560(5) for the procedures and requirements for establishing regional background."*

Diffuse non-point sources for key bioaccumulative chemicals (dioxin/furan and cPAH) include urban inputs from ongoing combustion (e.g., trucks and automobiles) and ongoing inputs from historical combustion (e.g., erosion and atmospheric deposition from historical sources). The regional background has been developed for Port Gardner as presented in the *Port Gardner Bay Regional Background Sediment Characterization* (Ecology 2014c) for cPAH TEQ, dioxin/furan TEQ, and PCB TEQ and in the *Port Gardner Regional Background Phase II Supplemental Sampling* presentation (Ecology 2014b) for PCB congeners. Regional background concentrations are included in Table K-5.

6 SUMMARY

The human health RBCs and background concentrations derived following methods described in this Appendix to the RI/FS have been included in the development of the SCOs and CSLs for the Site. The human health RBCs, natural and regional background values, and PQLs are included in Table K-5. These values are referenced in Section 6.1.1.3 of the RI/FS.

7 REFERENCES

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TABLES

Table K-1
Risk Parameters and Exposure Pathways Used for Calculating Risk-Based Sediment Concentrations for Early Life Exposure to cPAHs

	Life Stages (Age Groups, years)			
Risk Parameters	**0-2**	**2-6**	**6-16**	**16-70**
Age Dependent Adjustment Factor for cPAHs (unitless)	10	3	3	1
Body Weight (kg)	10	17	44	81
Dermal Exposure Areasa (cm^2)	1952	2591	2161	3407
Fish Consumption Rate Factor (g/day)	81	81	186	186

Notes:

cm^2 = square centimeters

cPAH = carcinogenic polycyclic aromatic hydrocarbon

g/day = gram per day

kg = kilogram

Table K-2

Bioaccumulative Chemical Toxicity Values and Site-specific Shellfish Biota Sediment Accumulation Factors

Chemical	CPF ($mg/kg\text{-}day^{-1}$)	RfD (mg/kg-day)	Clam BSAF (g-OC/g lipid)
cPAH TEQ	1.0E+00	3.0E-04	0.67
Dioxin/furan TEQ	1.3E+05	7E-10	0.06
PCB TEQ	1.3E+05	7E-10	0.01
Total PCB congener	2.E+00	2.E-05	0.032

Notes:

BSAF = Biota Sediment Accumulation Factor

cPAH = carcinogenic polycyclic aromatic hydrocarbon

CPF = oral cancer potency factor

g-OC/g-lipid = grams of organic carbon per gram of lipid

mg/kg = milligrams per kilogram

mg/kg-day = milligrams per kilograms per day

PCB = polychlorinated biphenyl

RfD = oral reference dose

TEQ = Toxic Equivalents Quotient

Table K-3a
Shellfish Consumption RBC Equation Parameters

Parameter Abbreviation	Parameter Name	Value	Units	Source
ACR	Acceptable Cancer Risk for Individual Carcinogens	1.00E-06	unitless	Ecology-recommended value (2019)
AT_C	Averaging Time Carcinogen	25,550	days	Ecology-recommended value (2019)
AT_{NC}	Averaging Time Non-carcinogen	25,550	days	Ecology-recommended value (2019)
BSAF	Biota Sediment Accumulation Factor	See Table 9-2	g-OC/g-lipid	Site-specific
BW	Body Weight Adult	See Table 9-1	kg	Tulalip Tribe (Ecology 2019)
CPFo	Cancer Potency Factor (oral)	See Table 9-2	mg/kg-day^{-1}	CLARC (Ecology 2020)
ED	Exposure Duration	70	years	Ecology-recommended value (2019)
EF	Exposure Frequency	365	days/year	Ecology-recommended value (2019)
FCR	Shellfish Consumption Rate (clam)	See Table 9-1	grams/day	Adult Tulalip tribal 95% shellfish consumption from Puget Sound (Ecology 2013)
FDF	Shellfish Diet Fraction	1	proportion	Ecology (2019)
HQ	Hazard Quotient	1	unitless	Ecology (2019)
RfDo	Reference Dose (oral)	See Table 9-2	mg/kg-day	CLARC (Ecology 2020)
Sfoc	Fraction of Organic Carbon in Sediment	0.0223	gram/gram	Site average fraction organic carbon
SL	Shellfish Lipid Fraction (clam)	0.0051	gram/gram	Average of site clam samples EA01 and EA10
SUF	Site Use Factor (clam)	1	proportion	Ecology-recommended value (2019)
UCF	Unit Conversion Factor	1,000	g/kg	Ecology (2019)

Notes:

CLARC = Cleanup Levels and Risk Calculations (Ecology 2015b)

g = gram

g/kg = grams per kilogram

g-OC/g-lipid = grams of organic carbon per gram of lipid

kg = kilogram

mg/kg = milligrams per kilogram

mg/kg-day = milligrams per kilogram per day

mg/kg-day^{-1}= milligrams per kilograms per day

RBC = risk-based concentration

Table K-3b
Sediment Direct Contact RBC Equation Parameters

Parameter Abbreviation	Parameter Name	Value	Units	Source
ACR	Acceptable Cancer Risk for Individual Carcinogens	1.00E-06	unitless	Ecology-recommended value (2019)
AB	Gastrointestinal Absorption Fraction (soil)	1 0.6 for mixtures of dioxins/furans	unitless	Ecology-recommended values (2019; WAC 173-340-735 [Equation 745-5])
ABS	Dermal Absorption Fraction	0.03 for dioxins/furans 0.1 for other organic hazardous substances	unitless	Ecology (2019; WAC 173-340-745 [Equation 745-5])
AF	Sediment to Skin Adherence Factor Adult (clam digging)	0.6	mg/cm^2-day	Ecology-recommended value (2019)
AT_C	Averaging Time Cancer	25,550	days	Ecology-recommended value (2019)
AT_{NC}	Averaging Time Non-cancer	25,550	days	Ecology-recommended value (2019)
BW	Body Weight Adult (clam digging)	See Table 9-1	kg	Tulalip Tribe (Ecology 2019)
CPFd	Cancer Potency Factor (dermal)	chemical-specific	$mg/kg\text{-}day^{-1}$	Calculated (CPFo/GI)
CPFo	Cancer Potency Factor (oral)	chemical-specific	$mg/kg\text{-}day^{-1}$	CLARC (Ecology 2020)
ED	Exposure Duration (incidental ingestion and dermal contact) Adult (clam digging)	70	years	Ecology-recommended value (2019)
EF	Exposure Frequency	120	days/year	Ecology-recommended value (2019)
GI	Gastrointestinal Absorption Fraction	0.8 for dioxins/furans 0.5 for other organic hazardous substances	unitless	Ecology-recommended values (2019; WAC 173-340-740 [Equation 740-5])
HQ	Hazard Quotient	1	unitless	Ecology-recommended value (2019)
IR	Ingestion Rate (sediment)	100	mg/day	Ecology-recommended value (2019)
RfDd	Reference Dose (dermal)	chemical-specific	mg/kg-day	Calculated (RfDo*GI)
RfDo	Reference Dose (oral)	chemical-specific	mg/kg-day	CLARC (Ecology 2020)
SA	Dermal Surface Area Adult	See Table 9-1	cm^2	Ecology-recommended value (2019)
UCF	Unit Conversion Factor (incidental ingestion and dermal contact)	1,000,000	mg/kg	Ecology (2019)

Table K-3b
Sediment Direct Contact RBC Equation Parameters

Notes:

CLARC = Cleanup Levels and Risk Calculations (Ecology 2015b)
cm^2 = square centimeter
mg/day = milligrams per day
mg/cm^2-day = milligrams per square centimeter per day
mg/kg-day = milligrams per kilogram per day
mg/kg-day^{-1} = milligrams per kilograms per day
RBC = risk-based concentration
WAC = Washington Administrative Code

Table K-4
Human and Wildlife Target Tissue Levels (mg/kg wet weight)

	Sediment Evaluation Framework for the Pacific Northwest[a]			Guidance for Assessing Bioaccumulative Chemicals of Concern in Sediment[b]						
Bioaccumulative Chemical	**Nearshore ESA Aquatic-dependent Wildlife**	**Nearshore Population Aquatic-dependent Wildlife**	**Human Health[c]**	**Bird Individuals**	**Bird Populations**	**Mammals Individuals**	**Mammal Population**	**Human Health[d]**	**Maximum Detected Site Clam Tissue Concentration**	**Sample ID**
Total PCB Aroclors	0.04	0.18	6.E-05	1.1	3.4	0.88	1.7	6.E-04	4.25E-03 Total PCB Congeners[e]	JW-EA01-TISSUE-120516
Dioxin/furan TEQ	5.E-07	8.5E-06	9.2E-10	8.E-06	4.E-05	5.8E-07	1.6E-05	7.6E-09	2.3E-07 Dioxin/furan TEQ[e,f] 8.2E-08 PCB TEQ[e,f]	JW-EA10-TISSUE-120516 JW-TISSUE-01-140428

Notes:
ESA = Endangered Species Act
mg/kg = milligrams per kilogram
PCB = polychlorinated biphenyl
TEQ = Toxic Equivalents Quotient
a RSET 2009
b ODEQ 2007
c TTL3 protective of high-end tribal consumption
d Lower of carcinogen or non-carcinogen subsistence tribal
e Totals were summed with non-detects equaling 1/2 the detection limit
f TEQs were calculated using 2005 Mammalian Toxicity Equivalency Factor

Table K-5
Human Health Risk-based SCO and CSL

	Protection of Human Health						Natural Background[a] (mg/kg-dw)	Regional Background (Port Gardner; mg/kg-dw)[b]	Applicable PQL[c] (mg/kg-dw)
	Via Shellfish Consumption (Adult) (mg/kg-dw)			Via Direct Contact, Clamming (Adult) (mg/kg-dw)					
	Carcinogenic		Non-carcinogenic	Carcinogenic		Non-carcinogenic			
Analyte	10-6, SCO_{HH}	10-5, SCO_{HH}	HQ=1, SCO_{HH} and CSL_{HH}	10-6, SCO_{HH}	10-5, SCO_{HH}	HQ=1, SCO_{HH} and CSL_{HH}	SCO_{NB}	CSL_{RB}	SCO_{PQL} and CSL_{PQL}
Polycyclic Aromatic Hydrocarbons									
cPAH TEQ 1	9.3E-04	9.3E-03	8.5E-01	6.6E-01	6.6E+00	2.0E+02	2.1E-02	5.6E-02	9.0E-03
Polychlorinated Biphenyls									
Total PCB Congeners	3.0E-02	3.0E-01	1.2E+00	3.1E-01	3.1E+00	1.3E+01	3.0E-03	1.4E-02	1.0E-06
PCB TEQ	1.5E-06	1.5E-05	1.3E-04	1.5E-05	1.5E-04	1.4E-03	2.0E-07	3.8E-07	7.0E-07
Dioxins/furans									
Dioxin/furan TEQ	2.4E-07	2.4E-06	2.2E-05	1.5E-05	1.5E-04	1.4E-03	4.0E-06	4.0E-06	5.0E-06

Notes:

cPAH RBCs calculated assuming early life exo

-- = not applicable

cPAH = carcinogenic polycyclic aromatic hydrocarbon

CSL = cleanup screening level

HH = Human Health

HQ = hazard quotient

mg/kg-dw = milligrams per kilogram dry weight

NB = Natural Background

PCB = polychlorinated biphenyl

PQL = practical quantitation limit

RB = Regional Background

SCO = sediment cleanup objective

TEQ = Toxic Equivalents Quotient

a Natural background values are from BOLD Plus Regional Background values included in *Sediment Cleanup Users Manual* Table 10-1 (Ecology 2019) and the *Port Gardner Regional Background Phase II Supplemental Sampling Data Workshop* presentation (Ecology 2014b)

b Regional background values are from the *Port Gardner Bay Regional Background Sediment Characterization Report* (Ecology 2014c) and the *Port Gardner Regional Background Phase II Supplemental Sampling Data Workshop* presentation (Ecology 2014b)

c PQL are from SCUM Table 11-1 (Ecology 2019), and the PCB Congener PQL is based on average laboratory performance

ATTACHMENT K-1
ECOLOGY-PROVIDED MICROSOFT EXCEL SPREADSHEETS OF HUMAN HEALTH TISSUE AND SEDIMENT RISK-BASED CONCENTRATION CALCULATIONS

Cleanup Levels and Risk Calculation (CLARC) Master Table - May 2019

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	RfDi Inhalation Reference Dose (mg/kg-day)	Source	CPFi Inhalation Cancer Potency Factor (kg-day/mg)	Source	RfDo Oral Reference Dose (mg/kg-day)	Source	CPFo Oral Cancer Potency Factor (kg-day/mg)	Source	Soil Method A Unrestricted Land Use (mg/kg)	Soil Method B Non cancer (mg/kg)	Soil Method B Cancer (mg/kg)	Soil Protective of Groundwater Vadose @ 13 degrees C see guidance (mg/kg)	Soil Protective of Groundwater Saturated see guidance (mg/kg)	Soil Method A Industrial Properties (mg/kg)	Soil Method C Non cancer (mg/kg)	Soil Method C Cancer (mg/kg)
83-32-9	PAHs	acenaphthene						6.00E-02	I				4.80E+03		9.80E+01	5.00E+00		2.10E+05	
208-96-8	PAHs	acenaphthylene																	
30560-19-1	Pesticides	acephate						4.00E-03	I	8.70E-03	I		3.20E+02	1.10E+02				1.40E+04	1.50E+04
75-07-0	VOCs	acetaldehyde		2.57E-03	I	7.70E-03	I												
34256-82-1	Pesticides	acetochlor						2.00E-02	I				1.60E+03					7.00E+04	
67-64-1	VOCs	acetone		8.86E+00	A			9.00E-01	I				7.20E+04		2.90E+01	2.10E+00		3.20E+06	
75-86-5	VOCs	acetone cyanohydrin		5.71E-04	X														
75-05-8	VOCs	acetonitrile		1.71E-02	I														
98-86-2	SVOCs	acetophenone						1.00E-01	I				8.00E+03					3.50E+05	
62476-59-9	Herbicides	acifluorfen, sodium						1.30E-02	I				1.00E+03					4.60E+04	
107-02-8	VOCs	acrolein		5.71E-06	I			5.00E-04	I				4.00E+01					1.80E+03	
79-06-1	VOCs	acrylamide		1.71E-03	I	3.50E-01	I	2.00E-03	I	5.00E-01	I		1.60E+02	2.00E+00				7.00E+03	2.60E+02
79-10-7	VOCs	acrylic acid		2.86E-04	I			5.00E-01	I				4.00E+04					1.80E+06	
107-13-1	VOCs	acrylonitrile		5.71E-04	I	2.38E-01	I	4.00E-02	A	5.40E-01	I		3.20E+03	1.90E+00				1.40E+05	2.40E+02
15972-60-8	Pesticides	alachlor						1.00E-02	I	5.60E-02	C		8.00E+02	1.80E+01				3.50E+04	2.30E+03
1596-84-5	Pesticides	alar				1.79E-02	C	1.50E-01	I	1.80E-02	C		1.20E+04	5.60E+01				5.30E+05	7.30E+03
116-06-3	Pesticides (Carbamate)	aldicarb						1.00E-03	I				8.00E+01					3.50E+03	
1646-88-4	Pesticides (Carbamate)	aldicarb sulfone						1.00E-03	I				8.00E+01					3.50E+03	
309-00-2	Pesticides	aldrin				1.72E+01	I	3.00E-05	I	1.70E+01	I		2.40E+00	5.90E-02	2.50E-03	1.30E-04		1.10E+02	7.70E+00
74223-64-6	Pesticides	ally						2.50E-01	I				2.00E+04					8.80E+05	
107-18-6	VOCs	allyl alcohol		2.86E-05	X			5.00E-03	I				4.00E+02					1.80E+04	
107-05-1	VOCs	allyl chloride		2.86E-04	I	2.10E-02	C			2.10E-02	C			4.80E+01					6.30E+03
7429-90-5	Metals	aluminum		1.43E-03	P			1.00E+00	P				8.00E+04					3.50E+06	
20859-73-8	Metals	aluminum phosphide						4.00E-04	I				3.20E+01					1.40E+03	
67485-29-4	Pesticides	amdro						3.00E-04	I				2.40E+01					1.10E+03	
834-12-8	Pesticides	ametryn						9.00E-03	I				7.20E+02					3.20E+04	
591-27-5	Phenols	aminophenol;m-						8.00E-02	P				6.40E+03					2.80E+05	
504-24-5	SVOCs	aminopyridine;4-																	
33089-61-1	Pesticides	amitraz						2.50E-03	I				2.00E+02					8.80E+03	
7664-41-7	Nutrients	AMMONIA	AMMONIA NOTES	1.40E-01	I														
7790-98-9	Perchlorates	ammonium perchlorate						7.00E-04	I				5.60E+01					2.50E+03	
7773-06-0	Pesticides	ammonium sulfamate						2.00E-01	I				1.60E+04					7.00E+05	
62-53-3	SVOCs	aniline		2.86E-04	I	5.60E-03	C	7.00E-03	P	5.70E-03	I		5.60E+02	1.80E+02				2.50E+04	2.30E+04
120-12-7	PAHs	anthracene						3.00E-01	I				2.40E+04		2.30E+03	1.10E+02		1.10E+06	
7440-36-0	Metals	antimony						4.00E-04	I				3.20E+01		5.40E+00	2.70E-01		1.40E+03	
1314-60-9	Metals	antimony pentoxide						5.00E-04	H				4.00E+01					1.80E+03	
28300-74-5	Metals	antimony potassium tartrate						9.00E-04	H				7.20E+01					3.20E+03	
1332-81-6	Metals	antimony tetroxide						4.00E-04	H				3.20E+01					1.40E+03	
1309-64-4	Metals	antimony trioxide		5.71E-05	I														
74115-24-5	Pesticides	apollo						1.30E-02	I				1.00E+03					4.60E+04	
140-57-8	SVOCs	aramite				2.49E-02	I	5.00E-02	H	2.50E-02	I		4.00E+03	4.00E+01				1.80E+05	5.30E+03
12674-11-2	PCBs	aroclor 1016				7.00E-02	S	7.00E-05	I	7.00E-02	S		5.60E+00	1.40E+01				2.50E+02	1.90E+03
11097-69-1	PCBs	aroclor 1254				2.00E+00	S	2.00E-05	I	2.00E+00	S		1.60E+00	5.00E-01				7.00E+01	6.60E+01
11096-82-5	PCBs	aroclor 1260				2.00E+00	S			2.00E+00	S			5.00E-01					6.60E+01
7440-38-2	Metals	arsenic, inorganic		4.29E-06	C	1.51E+01	I	3.00E-04	I	1.50E+00	I	2.00E+01	2.40E+01	6.70E-01	2.90E+00	1.50E-01	2.00E+01	1.10E+03	8.80E+01
7784-42-1	Metals	arsine		1.43E-05	I			3.50E-06	C				2.80E-01					1.20E+01	
1332-21-4	Fibers	ASBESTOS	ASBESTOS NOTE			2.30E-01	I												
76578-14-8	Pesticides	assure						9.00E-03	I				7.20E+02					3.20E+04	
3337-71-1	Pesticides	asulam						5.00E-02	I				4.00E+03					1.80E+05	
1912-24-9	Pesticides	atrazine						3.50E-02	I	2.30E-01	C		2.80E+03	4.30E+00				1.20E+05	5.70E+02
65195-55-3	Pesticides	avermectin B1						4.00E-04	I				3.20E+01					1.40E+03	
103-33-3	Pesticides	azobenzene				1.09E-01	I			1.10E-01	I			9.10E+00					1.20E+03
7440-39-3	Metals	barium and compounds		1.43E-04	H			2.00E-01	I				1.60E+04		1.60E+03	8.30E+01		7.00E+05	
542-62-1	Metals	barium cyanide																	

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	**RfDi** Inhalation Reference Dose (mg/kg-day)	Source	**CPFi** Inhalation Cancer Potency Factor (kg-day/mg)	Source	**RfDo** Oral Reference Dose (mg/kg-day)	Source	**CPFo** Oral Cancer Potency Factor (kg-day/mg)	Source	**Soil** Method A Unrestricted Land Use (mg/kg)	**Soil** Method B Non cancer (mg/kg)	**Soil** Method B Cancer (mg/kg)	**Soil** Protective of Groundwater Vadose @ 13 degrees C see guidance (mg/kg)	**Soil** Protective of Groundwater Saturated see guidance (mg/kg)	**Soil** Method A Industrial Properties (mg/kg)	**Soil** Method C Non cancer (mg/kg)	**Soil** Method C Cancer (mg/kg)
114-26-1	Pesticides	baygon						4.00E-03	I				3.20E+02					1.40E+04	
43121-43-3	Pesticides	bayleton						3.00E-02	I				2.40E+03					1.10E+05	
68359-37-5	Pesticides	baythroid						2.50E-02	I				2.00E+03					8.80E+04	
1861-40-1	Pesticides	benefin						3.00E-01	I				2.40E+04					1.10E+06	
17804-35-2	Pesticides	benomyl						5.00E-02	I				4.00E+03					1.80E+05	
25057-89-0	Herbicides	bentazon						3.00E-02	I				2.40E+03					1.10E+05	
100-52-7	SVOCs	benzaldehyde						1.00E-01	I	4.00E-03	P		8.00E+03	2.50E+02				3.50E+05	3.30E+04
71-43-2	VOCs	BENZENE		8.57E-03	I	2.73E-02	I	4.00E-03	I	5.50E-02	I	3.00E-02	3.20E+02	1.80E+01	2.70E-02	1.70E-03	3.00E-02	1.40E+04	2.40E+03
108-98-5	SVOCs	benzenethiol						1.00E-03	P				8.00E+01					3.50E+03	
92-87-5	SVOCs	benzidine				2.35E+02	I	3.00E-03	I	2.30E+02	I		2.40E+02	4.30E-03				1.10E+04	5.70E-01
191-24-2	PAHs	benzo(g,h,i)perylene																	
56-55-3	cPAHs	BENZO[a]ANTHRACENE	PAH NOTES			3.85E-01	C												
50-32-8	cPAHs	BENZO[a]PYRENE	PAH NOTES	5.70E-07	I	2.10E+00	I	3.00E-04	I	1.00E+00	I	1.00E-01	2.40E+01	1.90E-01	3.90E+00	1.90E-01	2.00E+00	1.10E+03	1.30E+02
205-99-2	cPAHs	BENZO[b]FLUORANTHENE	PAH NOTES			3.85E-01	C												
207-08-9	cPAHs	BENZO[k]FLUORANTHENE	PAH NOTES			3.85E-01	C												
65-85-0	SVOCs	BENZOIC ACID	pH-DEPENDENT					4.00E+00	I				3.20E+05		2.60E+02	1.80E+01		1.40E+07	
98-07-7	VOCs	benzotrichloride								1.30E+01	I			7.70E-02					1.00E+01
100-51-6	SVOCs	benzyl alcohol						1.00E-01	P				8.00E+03					3.50E+05	
100-44-7	VOCs	benzyl chloride		2.86E-04	P	1.72E-01	C	2.00E-03	P	1.70E-01	I		1.60E+02	5.90E+00				7.00E+03	7.70E+02
7440-41-7	Metals	beryllium		5.71E-06	I	8.40E+00	I	2.00E-03	I				1.60E+02		6.30E+01	3.20E+00		7.00E+03	
91-58-7	PAHs	beta-chloronaphthalene						8.00E-02	I				6.40E+03					2.80E+05	
141-66-2	SVOCs	bidrin						1.00E-04	I				8.00E+00					3.50E+02	
82657-04-3	Pesticides	biphenthrin						1.50E-02	I				1.20E+03					5.30E+04	
92-52-4	PAHs	biphenyl;1,1-		1.14E-04	X			5.00E-01	I	8.00E-03	I		4.00E+04	1.30E+02				1.80E+06	1.60E+04
108-60-1	VOCs	bis(2-chloro-1-methyl-ethyl)ether				3.50E-02	H	4.00E-02	I	7.00E-02	H		3.20E+03	1.40E+01				1.40E+05	1.90E+03
111-44-4	SVOCs	bis(2-chloroethyl)ether				1.16E+00	I			1.10E+00	I			9.10E-01	2.20E-04	1.40E-05			1.20E+02
39638-32-9	VOCs	bis(2-chloroisopropyl) ether																	
117-81-7	Phthalates	bis(2-ethylhexyl) phthalate				8.40E-03	C	2.00E-02	I	1.40E-02	I		1.60E+03	7.10E+01	1.30E+01	6.70E-01		7.00E+04	9.40E+03
542-88-1	VOCs	bis(chloromethyl)ether				2.17E+02	I			2.20E+02	I			4.50E-03					6.00E-01
80-05-7	Phenols	bisphenol a						5.00E-02	I				4.00E+03					1.80E+05	
7440-42-8	Metals	boron		5.71E-03	H			2.00E-01	I				1.60E+04					7.00E+05	
15541-45-4	Pesticides	bromate						4.00E-03	I	7.00E-01	I		3.20E+02	1.40E+00				1.40E+04	1.90E+02
79-08-3	SVOCs	bromoacetic acid																	
108-86-1	VOCs	bromobenzene		1.71E-02	I			8.00E-03	I					6.40E+02	5.60E-01	3.30E-02		2.80E+04	
75-27-4	VOCs	bromodichloromethane	TTHM NOTES			1.30E-01	C	2.00E-02	I	6.20E-02	I		1.60E+03	1.60E+01	3.70E-02	2.40E-03		7.00E+04	2.10E+03
593-60-2	VOCs	bromoethene		8.57E-04	I	1.12E-01	H												
75-25-2	VOCs	bromoform	TTHM NOTES			3.85E-03	I	2.00E-02	I	7.90E-03	I		1.60E+03	1.30E+02	3.60E-01	2.30E-02		7.00E+04	1.70E+04
74-83-9	VOCs	bromomethane		1.43E-03	I			1.40E-03	I				1.10E+02		5.00E-02	3.30E-03		4.90E+03	
2104-96-3	Pesticides	bromophos						5.00E-03	H				4.00E+02					1.80E+04	
1689-84-5	Herbicides	bromoxynil						2.00E-02	I				1.60E+03					7.00E+04	
1689-99-2	Pesticides	bromoxynil octanoate						2.00E-02	I				1.60E+03					7.00E+04	
106-99-0	VOCs	butadiene;1,3-		5.71E-04	I	1.05E-01	I			6.00E-01	C			1.70E+00					2.20E+02
71-36-3	VOCs	butanol;n-						1.00E-01	I				8.00E+03		3.30E+00	2.30E-01		3.50E+05	
85-68-7	Phthalates	butyl benzyl phthalate						2.00E-01	I	1.90E-03	P		1.60E+04	5.30E+02	1.30E+01	6.50E-01		7.00E+05	6.90E+04
2008-41-5	Pesticides	butylate						5.00E-02	I				4.00E+03					1.80E+05	
85-70-1	Phthalates	butylphthalyl butylglycolate						1.00E+00	I				8.00E+04					3.50E+06	
94-81-5	SVOCs	butyric acid;4-(2-methyl-4-chlorophenoxy)-						1.00E-02	I				8.00E+02					3.50E+04	
75-60-5	Pesticides	cacodylic acid						2.00E-02	A				1.60E+03					7.00E+04	
7440-43-9	Metals	CADMIUM (POTABLE GROUNDWATER & SURFACE WATER)	CADMIUM NOTES	2.86E-06	A	6.30E+00	I	5.00E-04	I										
7440-43-9a	Metals	CADMIUM (SOIL & NONPOTABLE SURFACE WATER)	CADMIUM NOTES	2.86E-06	A	6.30E+00	I	1.00E-03	I			2.00E+00	8.00E+01		6.90E-01	3.50E-02	2.00E+00	3.50E+03	
592-01-8	Cyanides	calcium cyanide						1.00E-03	I				8.00E+01					3.50E+03	
105-60-2	SVOCs	caprolactam		6.29E-04	C			5.00E-01	I				4.00E+04					1.80E+06	
2425-06-1	Pesticides	captafol				1.51E-01	C	2.00E-03	I	1.50E-01	C		1.60E+02	6.70E+00				7.00E+03	8.80E+02
133-06-2	Pesticides	captan				2.31E-03	C	1.30E-01	I	2.30E-03	C		1.00E+04	4.30E+02				4.60E+05	5.70E+04

Cleanup Levels and Risk Calculation (CLARC) Master Table - May 2019

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	RfDi Inhalation Reference Dose (mg/kg-day)	Source	CPFi Inhalation Cancer Potency Factor (kg-day/mg)	Source	RfDo Oral Reference Dose (mg/kg-day)	Source	CPFo Oral Cancer Potency Factor (kg-day/mg)	Source	Soil Method A Unrestricted Land Use (mg/kg)	Soil Method B Non cancer (mg/kg)	Soil Method B Cancer (mg/kg)	Soil Protective of Groundwater Vadose @ 13 degrees C see guidance (mg/kg)	Soil Protective of Groundwater Saturated see guidance (mg/kg)	Soil Method A Industrial Properties (mg/kg)	Soil Method C Non cancer (mg/kg)	Soil Method C Cancer (mg/kg)
63-25-2	Pesticides (Carbamate)	carbaryl						1.00E-01	I				8.00E+03					3.50E+05	
86-74-8	PAHs	carbazole																	
1563-66-2	Pesticides (Carbamate)	carbofuran						5.00E-03	I				4.00E+02					1.80E+04	
75-15-0	VOCs	carbon disulfide		2.00E-01	I			1.00E-01	I				8.00E+03		5.00E+00	2.70E-01		3.50E+05	
56-23-5	VOCs	carbon tetrachloride		2.86E-02	I	2.10E-02	I	4.00E-03	I	7.00E-02	I		3.20E+02	1.40E+01	4.20E-02	2.20E-03		1.40E+04	1.90E+03
786-19-6	Pesticides	carbophenothion																	
55285-14-8	Pesticides	carbosulfan						1.00E-02	I				8.00E+02					3.50E+04	
5234-68-4	Pesticides	carboxin						1.00E-01	I				8.00E+03					3.50E+05	
1306-38-3	Metals	cerium oxide and cerium compounds		2.60E-04	I														
75-87-6	VOCs	chloral																	
302-17-0	VOCs	chloral hydrate						1.00E-01	I				8.00E+03					3.50E+05	
133-90-4	Herbicides	chloramben						1.50E-02	I				1.20E+03					5.30E+04	
118-75-2	Pesticides	chloranil								4.00E-01	H			2.50E+00					3.30E+02
12789-03-6	Pesticides	chlordane		2.00E-04	I	3.50E-01	I	5.00E-04	I	3.50E-01	I		4.00E+01	2.90E+00	2.10E+00	1.00E-01		1.80E+03	3.80E+02
143-50-0	SVOCs	chlordecone (kepone)				1.61E+01	C	3.00E-04	I	1.00E+01	I		2.40E+01	1.00E-01				1.10E+03	1.30E+01
16887-00-6	Nutrients	chloride																	
90982-32-4	Pesticides	chlorimuron-ethyl						2.00E-02	I				1.60E+03					7.00E+04	
7782-50-5	Nutrients	chlorine	MCL FOR DISINFECTANTS	4.29E-05	A			1.00E-01	I				8.00E+03					3.50E+05	
506-77-4	Cyanides	chlorine cyanide						5.00E-02	I				4.00E+03					1.80E+05	
10049-04-4	VOCs	chlorine dioxide	MCL FOR DISINFECTANTS	5.71E-05	I			3.00E-02	I				2.40E+03					1.10E+05	
7758-19-2	Nutrients	chlorite						3.00E-02	I				2.40E+03					1.10E+05	
75-68-3	VOCs	chloro-1,1-difluoroethane;1-		1.43E+01	I														
126-99-8	VOCs	chloro-1,3-butadiene;2-		5.71E-03	I	1.05E+00	I	2.00E-02	H				1.60E+03					7.00E+04	
3165-93-3	SVOCs	chloro-2-methylaniline hydrochloride;4-								4.60E-01	H			2.20E+00					2.90E+02
95-69-2	SVOCs	chloro-2-methylaniline;4-				2.70E-01	C	3.00E-03	X	1.00E-01	P		2.40E+02	1.00E+01				1.10E+04	1.30E+03
79-11-8	SVOCs	chloroacetic acid						2.00E-03	H				1.60E+02					7.00E+03	
532-27-4	SVOCs	chloroacetophenone;2-		8.57E-06	I														
106-47-8	SVOCs	chloroaniline;p-						4.00E-03	I	2.00E-01	P		3.20E+02	5.00E+00	1.20E-03	7.70E-05		1.40E+04	6.60E+02
108-90-7	VOCs	chlorobenzene		1.43E-02	P			2.00E-02	I				1.60E+03		8.60E-01	5.10E-02		7.00E+04	
510-15-6	Pesticides	chlorobenzilate				1.09E-01	C	2.00E-02	I	1.10E-01	C		1.60E+03	9.10E+00				7.00E+04	1.20E+03
74-11-3	Pesticides	chlorobenzoic acid;p-						3.00E-02	X				2.40E+03					1.10E+05	
98-56-6	VOCs	chlorobenzotrifluoride;4-		8.57E-02	P			3.00E-03	P				2.40E+02					1.10E+04	
109-69-3	VOCs	chlorobutane;1-						4.00E-02	P				3.20E+03					1.40E+05	
59-50-7	Phenols	chlorocresol						1.00E-01	A				8.00E+03					3.50E+05	
75-45-6	VOCs	chlorodifluoromethane		1.43E+01	I														
67-66-3	VOCs	chloroform	TTHM NOTES	2.80E-02	A	8.05E-02	I	1.00E-02	I	3.10E-02	C		8.00E+02	3.20E+01	7.40E-02	4.80E-03		3.50E+04	4.20E+03
74-87-3	VOCs	chloromethane		2.57E-02	I														
107-30-2	VOCs	chloromethyl methyl ether				2.42E+00	C			2.40E+00	C			4.20E-01					5.50E+01
88-73-3	Pesticides	chloronitrobenzene;o-		2.86E-06	X			3.00E-03	P	3.00E-01	P		2.40E+02	3.30E+00				1.10E+04	4.40E+02
100-00-5	Pesticides	chloronitrobenzene;p-		5.71E-04	P			7.00E-04	P	6.00E-02	P		5.60E+01	1.70E+01				2.50E+03	2.20E+03
95-57-8	Phenols	CHLOROPHENOL;2-	pH-DEPENDENT					5.00E-03	I				4.00E+02		4.70E-01	2.70E-02		1.80E+04	
123-09-1	Pesticides	chlorophenyl methyl sulfide;p-																	
98-57-7	SVOCs	chlorophenyl methyl sulfone;p-																	
934-73-6	SVOCs	chlorophenyl methyl sulfoxide;p-																	
75-29-6	VOCs	chloropropane;2-																	
1897-45-6	Pesticides	chlorothalonil				3.12E-03	C	1.50E-02	I	3.10E-03	C		1.20E+03	3.20E+02				5.30E+04	4.20E+04
95-49-8	VOCs	chlorotoluene;o-						2.00E-02	I				1.60E+03					7.00E+04	
101-21-3	Pesticides	chlorpropham						2.00E-01	I				1.60E+04					7.00E+05	
2921-88-2	Pesticides	chlorpyrifos						1.00E-03	A				8.00E+01					3.50E+03	
5598-13-0	Pesticides	chlorpyrifos-methyl						1.00E-02	H				8.00E+02					3.50E+04	
64902-72-3	Herbicides	chlorsulfuron						5.00E-02	I				4.00E+03					1.80E+05	
60238-56-4	Pesticides	chlorthiophos						8.00E-04	H				6.40E+01					2.80E+03	
7440-47-3	Metals	CHROMIUM (TOTAL)	CHROMIUM NOTES																
16065-83-1	Metals	CHROMIUM (III)	CHROMIUM NOTES					1.50E+00	I			2.00E+03	1.20E+05		4.80E+05	2.40E+04	2.00E+03	5.30E+06	

Cleanup Levels and Risk Calculation (CLARC) Master Table - May 2019

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	**RfDi** Inhalation Reference Dose (mg/kg-day)	Source	**CPFi** Inhalation Cancer Potency Factor (kg-day/mg)	Source	**RfDo** Oral Reference Dose (mg/kg-day)	Source	**CPFo** Oral Cancer Potency Factor (kg-day/mg)	Source	**Soil** Method A Unrestricted Land Use (mg/kg)	**Soil** Method B Non cancer (mg/kg)	**Soil** Method B Cancer (mg/kg)	**Soil** Protective of Groundwater Vadose @ 13 degrees C see guidance (mg/kg)	**Soil** Protective of Groundwater Saturated see guidance (mg/kg)	**Soil** Method A Industrial Properties (mg/kg)	**Soil** Method C Non cancer (mg/kg)	**Soil** Method C Cancer (mg/kg)
18540-29-9	Metals	CHROMIUM (VI)	CHROMIUM NOTES	2.86E-05	I	2.94E+02	S	3.00E-03	I			1.90E+01	2.40E+02		1.80E+01	9.30E-01	1.90E+01	1.10E+04	
218-01-9	cPAHs	CHRYSENE	PAH NOTES			3.85E-02	C												
8001-58-9	PAHs	coal tar creosote																	
8007-45-2	VOCs	coke oven emissions				2.17E+00	I												
7440-50-8	Metals	COPPER	HARDNESS - DEPENDENT					4.00E-02	H				3.20E+03		2.80E+02	1.40E+01		1.40E+05	
544-92-3	Cyanides	copper cyanide						5.00E-03	I				4.00E+02					1.80E+04	
108-39-4	Phenols	cresol;m-		1.71E-01	C			5.00E-02	I				4.00E+03					1.80E+05	
95-48-7	Phenols	cresol;o-		1.71E-01	C			5.00E-02	I				4.00E+03		2.30E+00	1.50E-01		1.80E+05	
106-44-5	Phenols	cresol;p-		1.71E-01	C			1.00E-01	A				8.00E+03					3.50E+05	
4170-30-3	VOCs	crotonaldehyde						1.00E-03	P	1.90E+00	H		8.00E+01	5.30E-01				3.50E+03	6.90E+01
98-82-8	VOCs	cumene		1.14E-01	I			1.00E-01	I				8.00E+03					3.50E+05	
21725-46-2	Pesticides	cyanazine						2.00E-03	H	8.40E-01	H		1.60E+02	1.20E+00				7.00E+03	1.60E+02
57-12-5	Cyanides	CYANIDE	CYANIDE NOTES	2.29E-04	S			6.30E-04	I				5.00E+01					2.20E+03	
460-19-5	Cyanides	cyanogen						1.00E-03	I				8.00E+01					3.50E+03	
506-68-3	Cyanides	cyanogen bromide						9.00E-02	I				7.20E+03					3.20E+05	
110-82-7	VOCs	cyclohexane		1.71E+00	I														
108-94-1	VOCs	cyclohexanone		2.00E-01	P			5.00E+00	I				4.00E+05					1.80E+07	
108-91-8	SVOCs	cyclohexylamine						2.00E-01	I				1.60E+04					7.00E+05	
542-92-7	SVOCs	cyclopentadiene																	
68085-85-8	Pesticides	cyhalothrin/karate						5.00E-03	I				4.00E+02					1.80E+04	
52315-07-8	Pesticides	cypermethrin						1.00E-02	I				8.00E+02					3.50E+04	
66215-27-8	Pesticides	cyromazine						7.50E-03	I				6.00E+02					2.60E+04	
1861-32-1	Herbicides	dacthal						1.00E-02	I				8.00E+02					3.50E+04	
75-99-0	Herbicides	dalapon, sodium salt						3.00E-02	I				2.40E+03					1.10E+05	
39515-41-8	Pesticides	danitol						2.50E-02	I				2.00E+03					8.80E+04	
94-82-6	Herbicides	db;2,4-						8.00E-03	I				6.40E+02					2.80E+04	
72-54-8	Pesticides	ddd				2.42E-01	C	3.00E-05	X	2.40E-01	I		2.40E+00	4.20E+00	3.40E-01	1.70E-02		1.10E+02	5.50E+02
72-55-9	Pesticides	dde				3.40E-01	C	3.00E-04	X	3.40E-01	I		2.40E+01	2.90E+00	4.50E-01	2.20E-02		1.10E+03	3.90E+02
50-29-3	Pesticides	ddt				3.40E-01	I	5.00E-04	I	3.40E-01	I	3.00E+00	4.00E+01	2.90E+00	3.50E+00	1.70E-01	4.00E+00	1.80E+03	3.90E+02
1163-19-5	PBDEs	decabromodiphenyl ether						7.00E-03	I	7.00E-04	I		5.60E+02	1.40E+03				2.50E+04	1.90E+05
8065-48-3	Pesticides	demeton						4.00E-05	I				3.20E+00					1.40E+02	
103-23-1	Phthalates	di(2-ethylhexyl)adipate						6.00E-01	I	1.20E-03	I		4.80E+04	8.30E+02				2.10E+06	1.10E+05
2303-16-4	Pesticides	diallate								6.10E-02	H			1.60E+01					2.20E+03
333-41-5	Pesticides	diazinon						7.00E-04	A				5.60E+01					2.50E+03	
53-70-3	cPAHs	DIBENZ[a,h]ANTHRACENE	PAH NOTES			4.20E+00	C												
132-64-9	PAHs	dibenzofuran						1.00E-03	X				8.00E+01					3.50E+03	
96-12-8	Pesticides	dibromo-3-chloropropane;1,2-		5.71E-05	I	2.10E+01	P	2.00E-04	P	8.00E-01	P		1.60E+01	1.30E+00				7.00E+02	1.60E+02
631-64-1	SVOCs	dibromoacetic acid																	
106-37-6	Pesticides	dibromobenzene;1,4-						1.00E-02	I				8.00E+02					3.50E+04	
124-48-1	VOCs	dibromochloromethane	TTHM NOTES					2.00E-02	I	8.40E-02	I		1.60E+03	1.20E+01	2.80E-02	1.80E-03		7.00E+04	1.60E+03
84-74-2	Phthalates	di-butyl phthalate						1.00E-01	I				8.00E+03		5.70E+01	3.00E+00		3.50E+05	
1918-00-9	Herbicides	dicamba						3.00E-02	I				2.40E+03					1.10E+05	
3400-09-7	Disinfectants	dichloramine	MCL FOR DISINFECTANTS																
764-41-0	VOCs	dichloro-2-butene;1,4-				1.47E+01	P												
79-43-6	SVOCs	dichloroacetic acid						4.00E-03	I	5.00E-02	I		3.20E+02	2.00E+01				1.40E+04	2.60E+03
95-50-1	VOCs	dichlorobenzene;1,2-		5.71E-02	H			9.00E-02	I				7.20E+03		7.00E+00	4.00E-01		3.20E+05	
541-73-1	VOCs	dichlorobenzene;1,3-																	
106-46-7	VOCs	dichlorobenzene;1,4-		2.29E-01	I	3.85E-02	C	7.00E-02	A	5.40E-03	C		5.60E+03	1.90E+02	1.20E+00	6.80E-02		2.50E+05	2.40E+04
91-94-1	SVOCs	dichlorobenzidine;3,3'-				1.19E+00	C			4.50E-01	I			2.20E+00	3.60E-03	2.00E-04			2.90E+02
75-71-8	VOCs	dichlorodifluoromethane		2.86E-02	X			2.00E-01	I				1.60E+04					7.00E+05	
75-34-3	VOCs	dichloroethane;1,1-				5.60E-03	C	2.00E-01	P	5.70E-03	C		1.60E+04	1.80E+02	4.10E-02	2.60E-03		7.00E+05	2.30E+04
107-06-2	VOCs	dichloroethane;1,2-		2.00E-03	P	9.10E-02	I	6.00E-03	X	9.10E-02	I		4.80E+02	1.10E+01	2.30E-02	1.60E-03		2.10E+04	1.40E+03
540-59-0	VOCs	dichloroethylene,1,2- (mixed isomers)						9.00E-03	H				7.20E+02					3.20E+04	
75-35-4	VOCs	dichloroethylene;1,1-		5.71E-02	I			5.00E-02	I				4.00E+03		4.60E-02	2.50E-03		1.80E+05	
156-59-2	VOCs	dichloroethylene;1,2-,cis						2.00E-03	I				1.60E+02		7.80E-02	5.20E-03		7.00E+03	
156-60-5	VOCs	dichloroethylene;1,2-,trans						2.00E-02	I				1.60E+03		5.20E-01	3.20E-02		7.00E+04	
120-83-2	Phenols	DICHLOROPHENOL;2,4-	pH-DEPENDENT					3.00E-03	I				2.40E+02		1.70E-01	1.00E-02		1.10E+04	

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	RfDi Inhalation Reference Dose (mg/kg-day)	Source	CPFi Inhalation Cancer Potency Factor (kg-day/mg)	Source	RfDo Oral Reference Dose (mg/kg-day)	Source	CPFo Oral Cancer Potency Factor (kg-day/mg)	Source	Soil Method A Unrestricted Land Use (mg/kg)	Soil Method B Non cancer (mg/kg)	Soil Method B Cancer (mg/kg)	Soil Protective of Groundwater Vadose @ 13 degrees C see guidance (mg/kg)	Soil Protective of Groundwater Saturated see guidance (mg/kg)	Soil Method A Industrial Properties (mg/kg)	Soil Method C Non cancer (mg/kg)	Soil Method C Cancer (mg/kg)
94-75-7	Herbicides	dichlorophenoxyacetic acid;2,4-						1.00E-02	I				8.00E+02					3.50E+04	
78-87-5	VOCs	dichloropropane;1,2-		1.14E-03	I	1.30E-02	P	4.00E-02	P	3.70E-02	P		3.20E+03	2.70E+01	2.50E-02	1.70E-03		1.40E+05	3.50E+03
616-23-9	SVOCs	dichloropropanol;2,3-						3.00E-03	I				2.40E+02					1.10E+04	
542-75-6	VOCs	dichloropropene;1,3-		5.71E-03	I	1.40E-02	I	3.00E-02	I	1.00E-01	I		2.40E+03	1.00E+01	2.30E-03	1.40E-04		1.10E+05	1.30E+03
62-73-7	Pesticides	dichlorvos		1.43E-04	I	2.91E-01	C	5.00E-04	I	2.90E-01	I		4.00E+01	3.40E+00				1.80E+03	4.50E+02
115-32-2	Pesticides	dicofol																	
77-73-6	VOCs	dicyclopentadiene		8.57E-05	X			8.00E-02	P				6.40E+03					2.80E+05	
60-57-1	Pesticides	dieldrin				1.61E+01	I	5.00E-05	I	1.60E+01	I		4.00E+00	6.30E-02	2.80E-03	1.40E-04		1.80E+02	8.20E+00
84-66-2	Phthalates	diethyl phthalate						8.00E-01	I				6.40E+04		7.20E+01	4.70E+00		2.80E+06	
111-46-6	Glycols	diethylene glycol																	
693-21-0	Glycols	diethylene glycol dinitrate																	
112-34-5	Glycols	diethylene glycol monobutyl ether		2.86E-05	P			3.00E-02	P				2.40E+03					1.10E+05	
111-90-0	Glycols	diethylene glycol monoethyl ether		8.57E-05	P			6.00E-02	P				4.80E+03					2.10E+05	
617-84-5	SVOCs	diethylformamide						1.00E-03	P				8.00E+01					3.50E+03	
311-45-5	Pesticides	diethyl-p-nitrophenylphosphate																	
56-53-1	SVOCs	diethylstilbesterol				3.50E+02	C			3.50E+02	C			2.90E-03					3.80E-01
43222-48-6	Pesticides	difenzoquat						8.00E-02	I				6.40E+03					2.80E+05	
35367-38-5	Pesticides	diflubenzuron						2.00E-02	I				1.60E+03					7.00E+04	
75-37-6	VOCs	difluoroethane;1,1-		1.14E+01	I														
1445-75-6	SVOCs	diisopropyl methylphosphonate						8.00E-02	I				6.40E+03					2.80E+05	
55290-64-7	Pesticides	dimethipin						2.00E-02	I				1.60E+03					7.00E+04	
60-51-5	Pesticides	dimethoate						2.00E-04	I				1.60E+01					7.00E+02	
119-90-4	SVOCs	dimethoxybenzidine;3,3'-								1.60E+00	P			6.30E-01					8.20E+01
131-11-3	Phthalates	dimethyl phthalate																	
120-61-6	Phthalates	dimethyl terephthalate						1.00E-01	I				8.00E+03					3.50E+05	
124-40-3	VOCs	dimethylamine																	
21436-96-4	SVOCs	dimethylaniline hydrochloride;2,4-								5.80E-01	H			1.70E+00					2.30E+02
95-68-1	SVOCs	dimethylaniline;2,4-						2.00E-03	X	2.00E-01	P		1.60E+02	5.00E+00				7.00E+03	6.60E+02
121-69-7	SVOCs	dimethylaniline;N,N-						2.00E-03	I	2.70E-02	P		1.60E+02	3.70E+01				7.00E+03	4.90E+03
119-93-7	SVOCs	dimethylbenzidine;3,3'-								1.10E+01	P			9.10E-02					1.20E+01
68-12-2	VOCs	dimethylformamide;N,N-		8.57E-03	I			1.00E-01	P				8.00E+03					3.50E+05	
57-14-7	VOCs	dimethylhydrazine;1,1-		5.71E-07	X			1.00E-04	X				8.00E+00					3.50E+02	
540-73-8	VOCs	dimethylhydrazine;1,2-				5.60E+02	C			5.50E+02	C			1.80E-03					2.40E-01
105-67-9	Phenols	dimethylphenol;2,4-						2.00E-02	I				1.60E+03		1.30E+00	7.90E-02		7.00E+04	
576-26-1	Phenols	dimethylphenol;2,6-						6.00E-04	I				4.80E+01					2.10E+03	
95-65-8	Phenols	dimethylphenol;3,4-						1.00E-03	I				8.00E+01					3.50E+03	
99-65-0	Explosives	dinitrobenzene;m-						1.00E-04	I				8.00E+00					3.50E+02	
528-29-0	SVOCs	dinitrobenzene;o-						1.00E-04	P				8.00E+00					3.50E+02	
100-25-4	SVOCs	dinitrobenzene;p-						1.00E-04	P				8.00E+00					3.50E+02	
131-89-5	Phenols	dinitro-o-cyclohexyl phenol;4,6-						2.00E-03	I				1.60E+02					7.00E+03	
51-28-5	Phenols	DINITROPHENOL;2,4-	pH-DEPENDENT					2.00E-03	I				1.60E+02		1.30E-01	9.20E-03		7.00E+03	
25550-58-7	Phenols	dinitrophenols																	
25321-14-6	SVOCs	dinitrotoluene mixture; 2,4-/2,6-						9.00E-04	X	6.80E-01	I		7.20E+01	1.50E+00				3.20E+03	1.90E+02
121-14-2	Explosives	dinitrotoluene;2,4-				3.12E-01	C	2.00E-03	I	3.10E-01	C		1.60E+02	3.20E+00	1.70E-03	1.10E-04		7.00E+03	4.20E+02
606-20-2	Explosives	dinitrotoluene;2,6-						3.00E-04	X	1.50E+00	P		2.40E+01	6.70E-01	3.10E-04	2.10E-05		1.10E+03	8.80E+01
117-84-0	Phthalates	di-n-octyl phthalate						1.00E-02	P				8.00E+02		2.70E+05	1.30E+04		3.50E+04	
88-85-7	Herbicides	dinoseb						1.00E-03	I				8.00E+01					3.50E+03	
123-91-1	VOCs	dioxane;1,4-		8.57E-03	I	1.75E-02	I	3.00E-02	I	1.00E-01	I		2.40E+03	1.00E+01				1.10E+05	1.30E+03
957-51-7	Pesticides	diphenamid						3.00E-02	I				2.40E+03					1.10E+05	
122-39-4	SVOCs	diphenylamine						2.50E-02	I				2.00E+03					8.80E+04	
122-66-7	SVOCs	diphenylhydrazine;1,2-				7.70E-01	I			8.00E-01	I			1.30E+00					1.60E+02
85-00-7	Pesticides	diquat						2.20E-03	I				1.80E+02					7.70E+03	
1937-37-7	Dyes	direct black 38				4.90E+02	C			7.10E+00	C			1.40E-01					1.80E+01
2602-46-2	Dyes	direct blue 6				4.90E+02	C			7.40E+00	C			1.40E-01					1.80E+01

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	RfDi Inhalation Reference Dose (mg/kg-day)	Source	CPFi Inhalation Cancer Potency Factor (kg-day/mg)	Source	RfDo Oral Reference Dose (mg/kg-day)	Source	CPFo Oral Cancer Potency Factor (kg-day/mg)	Source	Soil Method A Unrestricted Land Use (mg/kg)	Soil Method B Non cancer (mg/kg)	Soil Method B Cancer (mg/kg)	Soil Protective of Groundwater Vadose @ 13 degrees C see guidance (mg/kg)	Soil Protective of Groundwater Saturated see guidance (mg/kg)	Soil Method A Industrial Properties (mg/kg)	Soil Method C Non cancer (mg/kg)	Soil Method C Cancer (mg/kg)
16071-86-6	Dyes	direct brown 95				4.90E+02	C			6.70E+00	C			1.50E-01					2.00E+01
2610-05-1	Dyes	direct sky blue																	
298-04-4	Pesticides	disulfoton						4.00E-05	I				3.20E+00					1.40E+02	
505-29-3	SVOCs	dithiane;1,4-						1.00E-02	I				8.00E+02					3.50E+04	
330-54-1	Pesticides (Carbamate)	diuron						2.00E-03	I				1.60E+02					7.00E+03	
534-52-1	Phenols	DNOC						8.00E-05	X				6.40E+00					2.80E+02	
2439-10-3	Pesticides	dodine						4.00E-03	I				3.20E+02					1.40E+04	
115-29-7	Pesticides	endosulfan						6.00E-03	I				4.80E+02		4.30E+00	2.20E-01		2.10E+04	
1031-07-8	Pesticides	endosulfan sulfate						6.00E-03	P				4.80E+02					2.10E+04	
959-98-8	Pesticides	endosulfan;alpha																	
33213-65-9	Pesticides	endosulfan;beta																	
145-73-3	Herbicides	endothall						2.00E-02	I				1.60E+03					7.00E+04	
72-20-8	Pesticides	endrin						3.00E-04	I				2.40E+01		4.40E-01	2.20E-02		1.10E+03	
7421-93-4	Pesticides	endrin aldehyde																	
106-89-8	VOCs	epichlorohydrin		2.86E-04	I	4.20E-03	I	6.00E-03	P	9.90E-03	I		4.80E+02	1.00E+02				2.10E+04	1.30E+04
106-88-7	VOCs	epoxybutane		5.71E-03	I														
16672-87-0	Pesticides	ethephon						5.00E-03	I				4.00E+02					1.80E+04	
563-12-2	Pesticides	ethion						5.00E-04	I				4.00E+01					1.80E+03	
111-15-9	VOCs	ethoxyethanol acetate;2-		1.71E-02	P			1.00E-01	P				8.00E+03					3.50E+05	
110-80-5	VOCs	ethoxyethanol;2-		5.71E-02	I			9.00E-02	P				7.20E+03					3.20E+05	
141-78-6	VOCs	ethyl acetate		2.00E-02	P			9.00E-01	I				7.20E+04					3.20E+06	
140-88-5	VOCs	ethyl acrylate		2.30E-03	P			5.00E-03	P	4.80E-02	H		4.00E+02	2.10E+01				1.80E+04	2.70E+03
75-00-3	VOCs	ethyl chloride		2.86E+00	I														
759-94-4	Pesticides	ethyl dipropylthiocarbamate;S-						2.50E-02	I				2.00E+03					8.80E+04	
60-29-7	VOCs	ethyl ether						2.00E-01	I				1.60E+04					7.00E+05	
97-63-2	VOCs	ethyl methacrylate		8.57E-02	P			9.00E-02	H				7.20E+03					3.20E+05	
2104-64-5	Pesticides	ethyl p-nitrophenyl phenylphosphorothioate						1.00E-05	I				8.00E-01					3.50E+01	
100-41-4	VOCs	ethylbenzene		2.86E-01	I			1.00E-01	I			6.00E+00	8.00E+03		5.90E+00	3.40E-01	6.00E+00	3.50E+05	
109-78-4	SVOCs	ethylene cyanohydrin						7.00E-02	P				5.60E+03					2.50E+05	
107-15-3	SVOCs	ethylene diamine						9.00E-02	P				7.20E+03					3.20E+05	
106-93-4	VOCs	ethylene dibromide (EDB)		2.57E-03	I	2.10E+00	I	9.00E-03	I	2.00E+00	I	5.00E-03	7.20E+02	5.00E-01			5.00E-03	3.20E+04	6.60E+01
107-21-1	VOCs	ethylene glycol		1.14E-01	C			2.00E+00	I				1.60E+05					7.00E+06	
111-76-2	Glycols	ethylene glycol monobutyl ether (EGBE)		4.57E-01	I			1.00E-01	I				8.00E+03					3.50E+05	
75-21-8	VOCs	ethylene oxide		8.57E-03	C	1.05E+01	I			3.10E-01	C			3.20E+00					4.20E+02
96-45-7	SVOCs	ethylene thiourea				4.55E-02	C	8.00E-05	I	4.50E-02	C		6.40E+00	2.20E+01				2.80E+02	2.90E+03
84-72-0	Phthalates	ethylphthalyl ethylglycolate						3.00E+00	I				2.40E+05					1.10E+07	
101200-48-0	Pesticides	express						8.00E-03	I				6.40E+02					2.80E+04	
22224-92-6	Pesticides	fenamiphos						2.50E-04	I				2.00E+01					8.80E+02	
115-90-2	Pesticides	fensulfothion																	
2164-17-2	Pesticides	fluometuron						1.30E-02	I				1.00E+03					4.60E+04	
206-44-0	PAHs	fluoranthene						4.00E-02	I				3.20E+03		6.30E+02	3.20E+01		1.40E+05	
86-73-7	PAHs	fluorene						4.00E-02	I				3.20E+03		1.00E+02	5.10E+00		1.40E+05	
16984-48-8	Nutrients	FLUORIDE	FLUORIDE NOTES	3.71E-03	C			6.00E-02	I				4.80E+03					2.10E+05	
59756-60-4	Pesticides	fluridone						8.00E-02	I				6.40E+03					2.80E+05	
56425-91-3	Pesticides	flurprimidol						2.00E-02	I				1.60E+03					7.00E+04	
66332-96-5	Pesticides	flutolanil						6.00E-02	I				4.80E+03					2.10E+05	
69409-94-5	Pesticides	fluvalinate						1.00E-02	I				8.00E+02					3.50E+04	
133-07-3	Pesticides	folpet						1.00E-01	I	3.50E-03	I		8.00E+03	2.90E+02				3.50E+05	3.80E+04
72178-02-0	Pesticides	fomesafen								1.90E-01	I			5.30E+00					6.90E+02
944-22-9	Pesticides	fonofos						2.00E-03	I				1.60E+02					7.00E+03	
50-00-0	VOCs	formaldehyde		2.80E-03	A	4.55E-02	I	2.00E-01	I	2.10E-02	C		1.60E+04	4.80E+01				7.00E+05	6.30E+03
64-18-6	VOCs	formic acid		8.57E-05	X			9.00E-01	P				7.20E+04					3.20E+06	
39148-24-8	Pesticides	fosetyl-al						3.00E+00	I				2.40E+05					1.10E+07	
110-00-9	Furans	furan						1.00E-03	I				8.00E+01					3.50E+03	

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	**RfDi** Inhalation Reference Dose (mg/kg-day)	Source	**CPFi** Inhalation Cancer Potency Factor (kg-day/mg)	Source	**RfDo** Oral Reference Dose (mg/kg-day)	Source	**CPFo** Oral Cancer Potency Factor (kg-day/mg)	Source	**Soil** Method A Unrestricted Land Use (mg/kg)	**Soil** Method B Non cancer (mg/kg)	**Soil** Method B Cancer (mg/kg)	**Soil** Protective of Groundwater Vadose @ 13 degrees C see guidance (mg/kg)	**Soil** Protective of Groundwater Saturated see guidance (mg/kg)	**Soil** Method A Industrial Properties (mg/kg)	**Soil** Method C Non cancer (mg/kg)	**Soil** Method C Cancer (mg/kg)
67-45-8	SVOCs	furazolidone								3.80E+00	H			2.60E-01					3.50E+01
98-01-1	VOCs	furfural		1.43E-02	H			3.00E-03	I				2.40E+02					1.10E+04	
531-82-8	SVOCs	furium				1.51E+00	C			1.50E+00	C			6.70E-01					8.80E+01
60568-05-0	Pesticides	furmecyclox				3.01E-02	C			3.00E-02	I			3.30E+01					4.40E+03
77182-82-2	SVOCs	glufosinate-ammonium						4.00E-04	I				3.20E+01					1.40E+03	
765-34-4	VOCs	glycidaldehyde		2.86E-04	H			4.00E-04	I				3.20E+01					1.40E+03	
1071-83-6	SVOCs	glyphosate						1.00E-01	I				8.00E+03					3.50E+05	
unavailable20	Radionuclides	gross alpha particle activity	ALPHA PARTICLE NOTE																
unavailable21	Radionuclides	gross beta particle activity	BETA PARTICLE NOTE																
86-50-0	Pesticides	guthion		2.86E-03	A			3.00E-03	A				2.40E+02					1.10E+04	
69806-40-2	Pesticides	haloxyfop-methyl						5.00E-05	I				4.00E+00					1.80E+02	
79277-27-3	Pesticides	harmony						1.30E-02	I				1.00E+03					4.60E+04	
76-44-8	Pesticides	heptachlor				4.55E+00	I	5.00E-04	I	4.50E+00	I		4.00E+01	2.20E-01	3.80E-02	1.90E-03		1.80E+03	2.90E+01
1024-57-3	Pesticides	heptachlor epoxide				9.10E+00	I	1.30E-05	I	9.10E+00	I		1.00E+00	1.10E-01	8.00E-02	4.00E-03		4.60E+01	1.40E+01
142-82-5	VOCs	heptane;n-		1.10E-01	P			3.00E-04	X				2.40E+01					1.10E+03	
87-82-1	SVOCs	hexabromobenzene						2.00E-03	I				1.60E+02					7.00E+03	
68631-49-2	PBDEs	hexabromodiphenyl ether; 2,2',4,4',5,5'-						2.00E-04	I				1.60E+01					7.00E+02	
118-74-1	Pesticides	hexachlorobenzene				1.61E+00	I	8.00E-04	I	1.60E+00	I		6.40E+01	6.30E-01	8.80E-01	4.40E-02		2.80E+03	8.20E+01
87-68-3	VOCs	hexachlorobutadiene				7.70E-02	I	1.00E-03	P	7.80E-02	I		8.00E+01	1.30E+01	6.00E-01	3.00E-02		3.50E+03	1.70E+03
319-84-6	Pesticides	hexachlorocyclohexane;alpha				6.30E+00	I	8.00E-03	A	6.30E+00	I		6.40E+02	1.60E-01	5.50E-04	2.80E-05		2.80E+04	2.10E+01
319-85-7	Pesticides	hexachlorocyclohexane;beta-				1.86E+00	I			1.80E+00	I			5.60E-01	2.30E-03	1.20E-04			7.30E+01
319-86-8	Pesticides	hexachlorocyclohexane;delta-																	
608-73-1	SVOCs	hexachlorocyclohexane;technical				1.79E+00	I			1.80E+00	I			5.60E-01					7.30E+01
77-47-4	Pesticides	hexachlorocyclopentadiene		5.71E-05	I			6.00E-03	I				4.80E+02		1.90E+02	9.60E+00		2.10E+04	
19408-74-3	Dioxins	hexachlorodibenzo-p-dioxin, mixture				4.55E+03	I			6.20E+03	I			1.60E-04					2.10E-02
67-72-1	VOCs	hexachloroethane		8.57E-03	I	3.85E-02	C	7.00E-04	I	4.00E-02	I		5.60E+01	2.50E+01	4.30E-02	2.30E-03		2.50E+03	3.30E+03
70-30-4	SVOCs	hexachlorophene						3.00E-04	I				2.40E+01					1.10E+03	
822-06-0	VOCs	hexamethylene diisocyanate;1,6-		2.86E-06	I														
110-54-3	VOCs	hexane;n-		2.00E-01	I			6.00E-02	H				4.80E+03		6.90E+01	1.80E+00		2.10E+05	
591-78-6	VOCs	hexanone;2-		8.60E-03	I			5.00E-03	I				4.00E+02					1.80E+04	
51235-04-2	Pesticides	hexazinone						3.30E-02	I				2.60E+03					1.20E+05	
302-01-2	VOCs	hydrazine		8.57E-06	P	1.72E+01	I			3.00E+00	I			3.30E-01					4.40E+01
10034-93-2	SVOCs	hydrazine sulfate				1.72E+01	I			3.00E+00	I			3.30E-01					4.40E+01
7647-01-0	VOCs	hydrogen chloride		5.71E-03	I														
74-90-8	Cyanides	hydrogen cyanide		2.29E-04	I			6.00E-04	I				4.80E+01					2.10E+03	
7783-06-4	VOCs	hydrogen sulfide		5.71E-04	I														
123-31-9	SVOCs	hydroquinone						4.00E-02	P	6.00E-02	P		3.20E+03	1.70E+01				1.40E+05	2.20E+03
35554-44-0	Pesticides	imazalil						1.30E-02	I				1.00E+03					4.60E+04	
81335-37-7	Pesticides	imazaquin						2.50E-01	I				2.00E+04					8.80E+05	
193-39-5	cPAHs	INDENO[1,2,3-cd]PYRENE	PAH NOTES			3.85E-01	C												
36734-19-7	Pesticides	iprodione						4.00E-02	I				3.20E+03					1.40E+05	
7439-89-6	Metals	iron						7.00E-01	P				5.60E+04					2.50E+06	
78-83-1	VOCs	isobutyl alcohol						3.00E-01	I				2.40E+04					1.10E+06	
78-59-1	SVOCs	isophorone		5.71E-01	C			2.00E-01	I	9.50E-04	I		1.60E+04	1.10E+03	2.30E-01	1.50E-02		7.00E+05	1.40E+05
33820-53-0	Pesticides	isopropalin						1.50E-02	I				1.20E+03					5.30E+04	
1832-54-8	SVOCs	isopropyl methyl phosphonic acid						1.00E-01	I				8.00E+03					3.50E+05	
82558-50-7	Pesticides	isoxaben						5.00E-02	I				4.00E+03					1.80E+05	
77501-63-4	Pesticides	lactofen						2.00E-03	I				1.60E+02					7.00E+03	
7439-92-1	Metals	LEAD	LEAD NOTES									2.50E+02			3.00E+03	1.50E+02	1.00E+03		
unavailable02	Metals	lead alkyls																	
58-89-9	Pesticides	lindane				1.09E+00	C	3.00E-04	I	1.10E+00	C	1.00E-02	2.40E+01	9.10E-01	6.20E-03	3.30E-04	1.00E-02	1.10E+03	1.20E+02
330-55-2	Pesticides (Carbamate)	linuron						2.00E-03	I				1.60E+02					7.00E+03	
7791-03-9	Perchlorates	lithium perchlorate						7.00E-04	I				5.60E+01					2.50E+03	
83055-99-6	Pesticides	londax						2.00E-01	I				1.60E+04					7.00E+05	

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	**RfDi** Inhalation Reference Dose (mg/kg-day)	Source	**CPFi** Inhalation Cancer Potency Factor (kg-day/mg)	Source	**RfDo** Oral Reference Dose (mg/kg-day)	Source	**CPFo** Oral Cancer Potency Factor (kg-day/mg)	Source	**Soil** Method A Unrestricted Land Use (mg/kg)	**Soil** Method B Non cancer (mg/kg)	**Soil** Method B Cancer (mg/kg)	**Soil** Protective of Groundwater Vadose @ 13 degrees C see guidance (mg/kg)	**Soil** Protective of Groundwater Saturated see guidance (mg/kg)	**Soil** Method A Industrial Properties (mg/kg)	**Soil** Method C Non cancer (mg/kg)	**Soil** Method C Cancer (mg/kg)
121-75-5	Pesticides	malathion						2.00E-02	I				1.60E+03					7.00E+04	
108-31-6	SVOCs	maleic anhydride		2.00E-04	C			1.00E-01	I				8.00E+03					3.50E+05	
123-33-1	SVOCs	maleic hydrazide						5.00E-01	I				4.00E+04					1.80E+06	
109-77-3	VOCs	malononitrile						1.00E-04	P				8.00E+00					3.50E+02	
8018-01-7	Pesticides	mancozeb						3.00E-02	H				2.40E+03					1.10E+05	
12427-38-2	Pesticides	maneb						5.00E-03	I				4.00E+02					1.80E+04	
7439-96-5	Metals	MANGANESE (Diet)	MANGANESE NOTES	1.43E-05	I			1.40E-01	I										
7439-96-5a	Metals	MANGANESE (Non-Diet)	MANGANESE NOTES	1.43E-05	I			4.67E-02	I				3.70E+03					1.60E+05	
950-10-7	Pesticides	mephosfolan						9.00E-05	H				7.20E+00					3.20E+02	
24307-26-4	Pesticides	mepiquat chloride						3.00E-02	I				2.40E+03					1.10E+05	
7487-94-7	Metals	mercuric chloride		8.57E-05	S			3.00E-04	I				2.40E+01					1.10E+03	
7439-97-6	Metals	mercury		8.57E-05	I							2.00E+00			2.10E+00	1.00E-01	2.00E+00		
150-50-5	Pesticides	merphos						3.00E-05	I				2.40E+00					1.10E+02	
57837-19-1	Pesticides	metalaxyl						6.00E-02	I				4.80E+03					2.10E+05	
126-98-7	VOCs	methacrylonitrile		8.57E-03	P			1.00E-04	I				8.00E+00					3.50E+02	
10265-92-6	Pesticides	methamidosphos						5.00E-05	I				4.00E+00					1.80E+02	
67-56-1	VOCs	methanol		5.71E+00	I			2.00E+00	I				1.60E+05					7.00E+06	
950-37-8	Pesticides	methidathion						1.00E-03	I				8.00E+01					3.50E+03	
16752-77-5	Pesticides (Carbamate)	methomyl						2.50E-02	I				2.00E+03					8.80E+04	
99-59-2	SVOCs	methoxy-5-nitroaniline;2-				4.90E-02	C			4.90E-02	C			2.00E+01					2.70E+03
72-43-5	Pesticides	methoxychlor						5.00E-03	I				4.00E+02		6.40E+01	3.20E+00		1.80E+04	
110-49-6	VOCs	methoxyethanol acetate;2-		2.86E-04	P			8.00E-03	P				6.40E+02					2.80E+04	
109-86-4	VOCs	methoxyethanol;2-		5.71E-03	I			5.00E-03	P				4.00E+02					1.80E+04	
79-20-9	VOCs	methyl acetate						1.00E+00	X				8.00E+04					3.50E+06	
96-33-3	VOCs	methyl acrylate		5.71E-03	P			3.00E-02	H				2.40E+03					1.10E+05	
78-93-3	VOCs	methyl ethyl ketone		1.43E+00	I			6.00E-01	I				4.80E+04					2.10E+06	
108-10-1	VOCs	methyl isobutyl ketone		8.57E-01	I			8.00E-02	H				6.40E+03					2.80E+05	
22967-92-6	Metals (organometallic)	METHYL MERCURY	METHYL MERCURY NOTES					1.00E-04	I				8.00E+00					3.50E+02	
80-62-6	VOCs	methyl methacrylate		2.00E-01	I			1.40E+00	I				1.10E+05					4.90E+06	
90-12-0	PAHs	methyl naphthalene;1-						7.00E-02	A	2.90E-02	P		5.60E+03	3.40E+01				2.50E+05	4.50E+03
91-57-6	PAHs	methyl naphthalene;2-						4.00E-03	I				3.20E+02					1.40E+04	
298-00-0	Pesticides	methyl parathion						2.50E-04	I				2.00E+01					8.80E+02	
25013-15-4	VOCs	methyl styrene		1.14E-02	H			6.00E-03	H				4.80E+02					2.10E+04	
98-83-9	SVOCs	methyl styrene, alpha						7.00E-02	H				5.60E+03					2.50E+05	
1634-04-4	VOCs	methyl tert-butyl ether		8.57E-01	I	9.10E-04	C			1.80E-03	C	1.00E-01		5.60E+02	1.00E-01	7.20E-03	1.00E-01		7.30E+04
94-74-6	Herbicides	methyl-4-chlorophenoxy-acetic acid;2-						5.00E-04	I				4.00E+01					1.80E+03	
99-55-8	SVOCs	methyl-5-nitroaniline;2-						2.00E-02	X	9.00E-03	P		1.60E+03	1.10E+02				7.00E+04	1.50E+04
636-21-5	SVOCs	methylaniline hydrochloride;2-				1.30E-01	C			1.30E-01	C			7.70E+00					1.00E+03
95-53-4	VOCs	methylaniline;2-				1.79E-01	C			1.60E-02	P			6.30E+01					8.20E+03
108-87-2	VOCs	methylcyclohexane																	
101-14-4	SVOCs	methylene bis(2-chloroaniline);4,4'-				1.51E+00	C	2.00E-03	P	1.00E-01	P		1.60E+02	1.00E+01				7.00E+03	1.30E+03
101-61-1	SVOCs	methylene bis(n,n'-dimethyl)aniline;4,4'-				4.55E-02	C			4.60E-02	I			2.20E+01					2.90E+03
74-95-3	VOCs	methylene bromide		1.14E-03	X			1.00E-02	H				8.00E+02					3.50E+04	
75-09-2	VOCs	methylene chloride		1.71E-01	I	3.50E-05	I	6.00E-03	I	2.00E-03	I	2.00E-02	4.80E+02	5.00E+02	2.10E-02	1.50E-03	2.00E-02	2.10E+04	6.60E+04
101-68-8	SVOCs	methylene diphenyl diisocyanate (MDI)		1.71E-04	I														
9016-87-9	SVOCs	methylene diphenyl diisocyanate (PMDI)		1.71E-04	I														
101-77-9	SVOCs	methylenebisbenzenamine;4,4-		5.71E-03	C	1.61E+00	C			1.60E+00	C			6.30E-01					8.20E+01
60-34-4	VOCs	methylhydrazine		5.71E-06	X	3.50E+00	X	1.00E-03	P				8.00E+01					3.50E+03	
51218-45-2	Pesticides	metolachlor						1.50E-01	I				1.20E+04					5.30E+05	
21087-64-9	Pesticides	metribuzin						2.50E-02	I				2.00E+03					8.80E+04	
7786-34-7	Pesticides	mevinphos																	
2385-85-5	Pesticides	mirex				1.79E+01	C	2.00E-04	I	1.80E+01	C		1.60E+01	5.60E-02				7.00E+02	7.30E+00
2212-67-1	Pesticides	molinate						2.00E-03	I				1.60E+02					7.00E+03	
7439-98-7	Metals	molybdenum						5.00E-03	I				4.00E+02					1.80E+04	

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10599-90-3	Disinfectants	monochloramine	MCL FOR DISINFECTANTS					1.00E-01	I				8.00E+03					3.50E+05	
unavailable03	SVOCs	monochlorobutanes (not in HSDB)																	
300-76-5	Pesticides	naled						2.00E-03	I				1.60E+02					7.00E+03	
91-20-3	PAHs	naphthalene		8.57E-04	I	1.19E-01	C	2.00E-02	I			5.00E+00	1.60E+03		4.50E+00	2.40E-01	5.00E+00	7.00E+04	
15299-99-7	Pesticides	napropamide						1.00E-01	I				8.00E+03					3.50E+05	
104-51-8	VOCs	n-butylbenzene						5.00E-02	P				4.00E+03					1.80E+05	
2429-74-5	Dyes	niagara blue 4B																	
unavailable04	Metals	nickel refinery dust		4.00E-06	C	8.40E-01	I	1.10E-02	C				8.80E+02					3.90E+04	
7440-02-0	Metals	NICKEL SOLUBLE SALTS	HARDNESS - DEPENDENT	2.57E-05	A	9.10E-01	C	2.00E-02	I				1.60E+03		1.30E+02	6.50E+00		7.00E+04	
12035-72-2	Metals	nickel subsulfide		4.00E-06	C	1.68E+00	I	1.10E-02	C	1.70E+00	C		8.80E+02	5.90E-01				3.90E+04	7.70E+01
14797-55-8	Nutrients	nitrate						1.60E+00	I				1.30E+05					5.60E+06	
10102-43-9	Gases	nitric oxide																	
14797-65-0	Nutrients	nitrite						1.00E-01	I				8.00E+03					3.50E+05	
88-74-4	SVOCs	nitroaniline, 2-		1.43E-05	X			1.00E-02	X				8.00E+02					3.50E+04	
100-01-6	SVOCs	nitroaniline, 4-		1.71E-03	P			4.00E-03	P				3.20E+02					1.40E+04	
98-95-3	Explosives	nitrobenzene		2.57E-03	I	1.40E-01	I	2.00E-03	I				1.60E+02		1.00E-01	6.50E-03		7.00E+03	
67-20-9	SVOCs	nitrofurantoin						7.00E-02	H				5.60E+03					2.50E+05	
59-87-0	SVOCs	nitrofurazone				1.30E+00	C			1.30E+00	C			7.70E-01					1.00E+02
10102-44-0	Gases	nitrogen dioxide																	
556-88-7	SVOCs	nitroguanidine						1.00E-01	I				8.00E+03					3.50E+05	
79-46-9	VOCs	nitropropane;2-		5.71E-03	I	9.45E+00	H												
1116-54-7	SVOCs	nitrosodiethanolamine;N-				2.80E+00	C			2.80E+00	I			3.60E-01					4.70E+01
55-18-5	SVOCs	nitrosodiethylamine;N-				1.51E+02	I			1.50E+02	I			6.70E-03					8.80E-01
62-75-9	SVOCs	nitrosodimethylamine;N-		1.14E-05	X	4.90E+01	I	8.00E-06	P	5.10E+01	I		6.40E-01	2.00E-02				2.80E+01	2.60E+00
924-16-3	VOCs	nitroso-di-n-butylamine;N-				5.60E+00	I			5.40E+00	I			1.90E-01					2.40E+01
621-64-7	SVOCs	nitroso-di-n-propylamine;N-				7.00E+00	C			7.00E+00	I			1.40E-01	5.60E-05	3.90E-06			1.90E+01
86-30-6	SVOCs	nitrosodiphenylamine;N-				9.10E-03	C			4.90E-03	I			2.00E+02	5.30E-01	2.80E-02			2.70E+04
4549-40-0	SVOCs	nitrosomethylvinylamine,n-																	
759-73-9	SVOCs	nitroso-n-ethylurea;n-				2.70E+01	C			2.70E+01	C			3.70E-02					4.90E+00
10595-95-6	SVOCs	nitroso-N-methylethylamine;N-				2.21E+01	C			2.20E+01	I			4.50E-02					6.00E+00
684-93-5	SVOCs	nitroso-n-methylurea,n-				1.19E+02	C			1.20E+02	C			8.30E-03					1.10E+00
930-55-2	SVOCs	nitrosopyrrolidine;N-				2.14E+00	I			2.10E+00	I			4.80E-01					6.30E+01
99-08-1	Explosives	nitrotoluene, m-						1.00E-04	X				8.00E+00					3.50E+02	
88-72-2	Explosives	nitrotoluene, o-						9.00E-04	P	2.20E-01	P		7.20E+01	4.50E+00				3.20E+03	6.00E+02
99-99-0	Explosives	nitrotoluene, p-						4.00E-03	P	1.60E-02	P		3.20E+02	6.30E+01				1.40E+04	8.20E+03
1321-12-6	Explosives	nitrotoluenes;o-,m-,p-																	
84852-15-3	Phenols	nonylphenol																	
27314-13-2	Pesticides	norflurazon						4.00E-02	I				3.20E+03					1.40E+05	
85509-19-9	Herbicides	nustar						7.00E-04	I				5.60E+01					2.50E+03	
32536-52-0	PBDEs	octabromodiphenyl ether						3.00E-03	I				2.40E+02					1.10E+04	
2691-41-0	Explosives	octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine						5.00E-02	I				4.00E+03					1.80E+05	
152-16-9	SVOCs	octamethylpyrophosphoramide						2.00E-03	H				1.60E+02					7.00E+03	
19044-88-3	Pesticides	oryzalin						5.00E-02	I				4.00E+03					1.80E+05	
19666-30-9	Pesticides	oxadiazon						5.00E-03	I				4.00E+02					1.80E+04	
23135-22-0	Pesticides (Carbamate)	oxamyl						2.50E-02	I				2.00E+03					8.80E+04	
42874-03-3	Pesticides	oxyfluorfen						3.00E-03	I				2.40E+02					1.10E+04	
76738-62-0	Herbicides	paclobutrazol						1.30E-02	I				1.00E+03					4.60E+04	
unavailable05	PAHs	PAHs	PAH NOTES																
4685-14-7	Pesticides	paraquat																	
56-38-2	Pesticides	parathion						6.00E-03	H				4.80E+02					2.10E+04	
1114-71-2	Pesticides	pebulate						5.00E-02	H				4.00E+03					1.80E+05	
40487-42-1	Pesticides	pendimethalin						4.00E-02	I				3.20E+03					1.40E+05	
87-84-3	SVOCs	pentabromo-6-chloro-cyclohexane;1,2,3,4,5-						2.00E-02	X	2.30E-02	H		1.60E+03	4.30E+01				7.00E+04	5.70E+03
60348-60-9	PBDEs	pentabromodiphenyl ether; 2,2',4,4',5-						1.00E-04	I				8.00E+00					3.50E+02	

Cleanup Levels and Risk Calculation (CLARC) Master Table - May 2019

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	RfDi Inhalation Reference Dose (mg/kg-day)	Source	CPFi Inhalation Cancer Potency Factor (kg-day/mg)	Source	RfDo Oral Reference Dose (mg/kg-day)	Source	CPFo Oral Cancer Potency Factor (kg-day/mg)	Source	Soil Method A Unrestricted Land Use (mg/kg)	Soil Method B Non cancer (mg/kg)	Soil Method B Cancer (mg/kg)	Soil Protective of Groundwater Vadose @ 13 degrees C see guidance (mg/kg)	Soil Protective of Groundwater Saturated see guidance (mg/kg)	Soil Method A Industrial Properties (mg/kg)	Soil Method C Non cancer (mg/kg)	Soil Method C Cancer (mg/kg)
32534-81-9	PBDEs	pentabromodiphenyl ethers						2.00E-03	I				1.60E+02					7.00E+03	
608-93-5	SVOCs	pentachlorobenzene						8.00E-04	I				6.40E+01					2.80E+03	
82-68-8	Pesticides	pentachloronitrobenzene						3.00E-03	I	2.60E-01	H		2.40E+02	3.80E+00				1.10E+04	5.00E+02
87-86-5	Herbicides	PENTACHLOROPHENOL	pH-DEPENDENT			1.79E-02	C	5.00E-03	I	4.00E-01	I		4.00E+02	2.50E+00	1.60E-02	8.80E-04		1.80E+04	3.30E+02
14797-73-0	Perchlorates	perchlorate and perchlorate salts						7.00E-04	I				5.60E+01					2.50E+03	
52645-53-1	Pesticides	permethrin						5.00E-02	I				4.00E+03					1.80E+05	
72-56-0	Pesticides	perthane																	
unavailable19	General Chemistry	pH	pH NOTES																
85-01-8	PAHs	phenanthrene																	
13684-63-4	Pesticides	phenmedipham						2.50E-01	I				2.00E+04					8.80E+05	
108-95-2	Phenols	phenol		5.71E-02	C			3.00E-01	I				2.40E+04		1.10E+01	7.60E-01		1.10E+06	
106-50-3	SVOCs	phenylenediamine, p-						1.90E-01	H				1.50E+04					6.70E+05	
108-45-2	SVOCs	phenylenediamine;m-						6.00E-03	I				4.80E+02					2.10E+04	
95-54-5	SVOCs	phenylenediamine;o-						4.00E-03	P	4.70E-02	H		3.20E+02	2.10E+01				1.40E+04	2.80E+03
62-38-4	Metals (organometallic)	phenylmercuric acetate						8.00E-05	I				6.40E+00					2.80E+02	
90-43-7	Phenols	phenylphenol;2-								1.90E-03	H			5.30E+02					6.90E+04
298-02-2	Pesticides	phorate						2.00E-04	H				1.60E+01					7.00E+02	
75-44-5	VOCs	phosgene		8.60E-05	I														
732-11-6	Pesticides	phosmet						2.00E-02	I				1.60E+03					7.00E+04	
7803-51-2	Gases	phosphine		8.57E-05	I			3.00E-04	I				2.40E+01					1.10E+03	
7664-38-2	SVOCs	phosphoric acid		2.86E-03	I			4.90E+01	P				3.90E+06					1.70E+08	
7723-14-0	Metals	phosphorus						2.00E-05	I				1.60E+00					7.00E+01	
100-21-0	Phthalates	phthalic acid;p-						1.00E+00	H				8.00E+04					3.50E+06	
85-44-9	Phthalates	phthalic anhydride		5.71E-03	C			2.00E+00	I				1.60E+05					7.00E+06	
1918-02-1	Herbicides	picloram						7.00E-02	I				5.60E+03					2.50E+05	
29232-93-7	Pesticides	pirimiphos-methyl						1.00E-02	I				8.00E+02					3.50E+04	
59536-65-1	PBBs	polybrominated biphenyls				3.01E+01	C	7.00E-06	H	3.00E+01	C		5.60E-01	3.30E-02				2.50E+01	4.40E+00
1336-36-3	PCBs	polychlorinated biphenyls (PCBs)				2.00E+00	I			2.00E+00	I	1.00E+00		5.00E-01			1.00E+01		6.60E+01
151-50-8	Cyanides	potassium cyanide						2.00E-03	I				1.60E+02					7.00E+03	
7778-74-7	Perchlorates	potassium perchlorate						7.00E-04	I				5.60E+01					2.50E+03	
506-61-6	Cyanides	potassium silver cyanide						5.00E-03	I				4.00E+02					1.80E+04	
67747-09-5	Pesticides	prochloraz (not in HSDB)						9.00E-03	I	1.50E-01	I		7.20E+02	6.70E+00				3.20E+04	8.80E+02
26399-36-0	Pesticides	profluralin						6.00E-03	H				4.80E+02					2.10E+04	
1610-18-0	Pesticides	prometon						1.50E-02	I				1.20E+03					5.30E+04	
7287-19-6	Pesticides	prometryn						4.00E-03	I				3.20E+02					1.40E+04	
23950-58-5	Pesticides	pronamide						7.50E-02	I				6.00E+03					2.60E+05	
1918-16-7	Pesticides	propachlor						1.30E-02	I				1.00E+03					4.60E+04	
709-98-8	Pesticides	propanil						5.00E-03	I				4.00E+02					1.80E+04	
2312-35-8	Pesticides	propargite						2.00E-02	I				1.60E+03					7.00E+04	
107-19-7	VOCs	propargyl alcohol						2.00E-03	I				1.60E+02					7.00E+03	
139-40-2	Pesticides	propazine						2.00E-02	I				1.60E+03					7.00E+04	
122-42-9	Pesticides	propham						2.00E-02	I				1.60E+03					7.00E+04	
60207-90-1	Pesticides	propiconazole						1.30E-02	I				1.00E+03					4.60E+04	
123-38-6	VOCs	propionaldehyde		2.30E-03	I														
93-65-2	Herbicides	propionic acid;(2-methyl-4-chlorophenoxy)2-						1.00E-03	I				8.00E+01					3.50E+03	
103-65-1	VOCs	propylbenzene;n-		2.86E-01	X			1.00E-01	X				8.00E+03					3.50E+05	
57-55-6	Glycols	propylene glycol						2.00E+01	P				1.60E+06					7.00E+07	
6423-43-4	Glycols	propylene glycol dinitrate;1,2-		7.71E-05	A														
52125-53-8	Glycols	propylene glycol monoethyl ether						7.00E-01	H				5.60E+04					2.50E+06	
107-98-2	Glycols	propylene glycol monomethyl ether		5.71E-01	I			7.00E-01	H				5.60E+04					2.50E+06	
75-56-9	VOCs	propylene oxide		8.57E-03	I	1.30E-02	I			2.40E-01	I			4.20E+00					5.50E+02
81335-77-5	Pesticides	pursuit						2.50E-01	I				2.00E+04					8.80E+05	
51630-58-1	Pesticides	pydrin						2.50E-02	I				2.00E+03					8.80E+04	
129-00-0	PAHs	pyrene						3.00E-02	I				2.40E+03		6.50E+02	3.30E+01		1.10E+05	

Cleanup Levels and Risk Calculation (CLARC) Master Table - May 2019

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	**RfDi** Inhalation Reference Dose (mg/kg-day)	Source	**CPFi** Inhalation Cancer Potency Factor (kg-day/mg)	Source	**RfDo** Oral Reference Dose (mg/kg-day)	Source	**CPFo** Oral Cancer Potency Factor (kg-day/mg)	Source	**Soil** Method A Unrestricted Land Use (mg/kg)	**Soil** Method B Non cancer (mg/kg)	**Soil** Method B Cancer (mg/kg)	**Soil** Protective of Groundwater Vadose @ 13 degrees C see guidance (mg/kg)	**Soil** Protective of Groundwater Saturated see guidance (mg/kg)	**Soil** Method A Industrial Properties (mg/kg)	**Soil** Method C Non cancer (mg/kg)	**Soil** Method C Cancer (mg/kg)
110-86-1	VOCs	pyridine						1.00E-03	I				8.00E+01					3.50E+03	
13593-03-8	Pesticides	quinalphos						5.00E-04	I				4.00E+01					1.80E+03	
91-22-5	SVOCs	quinoline								3.00E+00	I			3.30E-01					4.40E+01
13982-63-3	Radionuclides	radium 226	RADIUM 226 NOTE																
unavailable23	Radionuclides	radium 226 and 228	RADIUM 226 & 228 NOTES																
121-82-4	Explosives	rdx						4.00E-03	I	8.00E-02	I		3.20E+02	1.30E+01				1.40E+04	1.60E+03
unavailable07	Fibers	REFRACTORY CERAMIC FIBERS	REFRACTORY FIBER NOTE	3.00E-02	A														
10453-86-8	Pesticides	resmethrin						3.00E-02	I				2.40E+03					1.10E+05	
299-84-3	Pesticides	ronnel						5.00E-02	H				4.00E+03					1.80E+05	
83-79-4	Pesticides	rotenone						4.00E-03	I				3.20E+02					1.40E+04	
78-48-8	Pesticides	s,s;s-tributylphosphorotrithioate						3.00E-05	I				2.40E+00					1.10E+02	
78587-05-0	Pesticides	savey						2.50E-02	I				2.00E+03					8.80E+04	
135-98-8	VOCs	sec-butylbenzene						1.00E-01	X				8.00E+03					3.50E+05	
7783-00-8	Metals	selenious acid						5.00E-03	I				4.00E+02					1.80E+04	
7782-49-2	Metals	selenium and compounds		5.71E-03	C			5.00E-03	I				4.00E+02		5.20E+00	2.60E-01		1.80E+04	
630-10-4	Metals (organometallic)	selenourea																	
74051-80-2	Pesticides	sethoxydim						9.00E-02	I				7.20E+03					3.20E+05	
7440-22-4	Metals	SILVER	HARDNESS - DEPENDENT					5.00E-03	I				4.00E+02		1.40E+01	6.90E-01		1.80E+04	
506-64-9	Cyanides	silver cyanide						1.00E-01	I				8.00E+03					3.50E+05	
122-34-9	Pesticides	simazine						5.00E-03	I	1.20E-01	H		4.00E+02	8.30E+00				1.80E+04	1.10E+03
26628-22-8	Metals	sodium azide						4.00E-03	I				3.20E+02					1.40E+04	
143-33-9	Cyanides	sodium cyanide						1.00E-03	I				8.00E+01					3.50E+03	
148-18-5	Metals (organometallic)	sodium diethyldithiocarbamate						3.00E-02	I	2.70E-01	H		2.40E+03	3.70E+00				1.10E+05	4.90E+02
62-74-8	Metals (organometallic)	sodium fluoroacetate						2.00E-05	I				1.60E+00					7.00E+01	
13718-26-8	Metals	sodium metavanadate						1.00E-03	H				8.00E+01					3.50E+03	
7601-89-0	Perchlorates	sodium perchlorate						7.00E-04	I				5.60E+01					2.50E+03	
7440-24-6	Metals	strontium						6.00E-01	I				4.80E+04					2.10E+06	
57-24-9	SVOCs	strychnine						3.00E-04	I				2.40E+01					1.10E+03	
100-42-5	VOCs	styrene		2.86E-01	I			2.00E-01	I				1.60E+04		2.20E+00	1.20E-01		7.00E+05	
unavailable17	Metals	sulfate																	
88671-89-0	Pesticides	systhane						2.50E-02	I				2.00E+03					8.80E+04	
1746-01-6	Dioxins	TCDD;2,3,7,8- (LOW ORGANIC) (DIOXIN)	TEF NOTES	1.14E-08	C	1.33E+05	C	7.00E-10	I	1.30E+05	C		9.30E-05	1.30E-05				4.10E-03	1.70E-03
34014-18-1	Pesticides	tebuthiuron						7.00E-02	I				5.60E+03					2.50E+05	
3383-96-8	Pesticides	temephos						2.00E-02	H				1.60E+03					7.00E+04	
5902-51-2	Pesticides	terbacil						1.30E-02	I				1.00E+03					4.60E+04	
13071-79-9	SVOCs	terbufos						2.50E-05	H				2.00E+00					8.80E+01	
886-50-0	Pesticides	terbutryn						1.00E-03	I				8.00E+01					3.50E+03	
98-06-6	VOCs	tert-butylbenzene						1.00E-01	X				8.00E+03					3.50E+05	
5436-43-1	PBDEs	tetrabromodiphenyl ether 2,2',4,4'						1.00E-04	I				8.00E+00					3.50E+02	
95-94-3	SVOCs	tetrachlorobenzene;1,2,4,5-						3.00E-04	I				2.40E+01					1.10E+03	
630-20-6	VOCs	tetrachloroethane;1,1,1,2-				2.59E-02	I	3.00E-02	I	2.60E-02	I		2.40E+03	3.80E+01				1.10E+05	5.00E+03
79-34-5	VOCs	tetrachloroethane;1,1,2,2-				2.03E-01	C	2.00E-02	I	2.00E-01	I		1.60E+03	5.00E+00	1.20E-03	8.00E-05		7.00E+04	6.60E+02
127-18-4	VOCs	TETRACHLOROETHYLENE (PCE)	PCE NOTES	1.14E-02	I	9.10E-04	I	6.00E-03	I	2.10E-03	I	5.00E-02	4.80E+02	4.80E+02	5.00E-02	2.80E-03	5.00E-02	2.10E+04	6.30E+04
58-90-2	Phenols	TETRACHLOROPHENOL;2,3,4,6-	pH-DEPENDENT					3.00E-02	I				2.40E+03					1.10E+05	
5216-25-1	VOCs	tetrachlorotoluene;p,a,a,a,-								2.00E+01	H			5.00E-02					6.60E+00
961-11-5	Pesticides	tetrachlorvinphos						3.00E-02	I	2.40E-02	H		2.40E+03	4.20E+01				1.10E+05	5.50E+03
3689-24-5	Pesticides	tetraethyl dithiopyrophosphate						5.00E-04	I				4.00E+01					1.80E+03	
78-00-2	Metals (organometallic)	tetraethyl lead						1.00E-07	I				8.00E-03					3.50E-01	
811-97-2	VOCs	tetrafluoroethane;1,1,1,2-		2.29E+01	I														
109-99-9	Furans	tetrahydrofuran		5.70E-01	I			9.00E-01	I				7.20E+04					3.20E+06	
1314-32-5	Metals	thallic oxide						2.00E-05	S				1.60E+00					7.00E+01	
563-68-8	Metals	thallium acetate						1.00E-05	X				8.00E-01					3.50E+01	
6533-73-9	Metals	thallium carbonate						2.00E-05	X				1.60E+00					7.00E+01	
7791-12-0	Metals	thallium chloride						1.00E-05	X				8.00E-01					3.50E+01	

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	RfDi Inhalation Reference Dose (mg/kg-day)	Source	CPFi Inhalation Cancer Potency Factor (kg-day/mg)	Source	RfDo Oral Reference Dose (mg/kg-day)	Source	CPFo Oral Cancer Potency Factor (kg-day/mg)	Source	Soil Method A Unrestricted Land Use (mg/kg)	Soil Method B Non cancer (mg/kg)	Soil Method B Cancer (mg/kg)	Soil Protective of Groundwater Vadose @ 13 degrees C see guidance (mg/kg)	Soil Protective of Groundwater Saturated see guidance (mg/kg)	Soil Method A Industrial Properties (mg/kg)	Soil Method C Non cancer (mg/kg)	Soil Method C Cancer (mg/kg)
10102-45-1	Metals	thallium nitrate						1.00E-05	X				8.00E-01					3.50E+01	
12039-52-0	Metals	thallium selenite						1.00E-05	S				8.00E-01					3.50E+01	
7446-18-6	Metals	thallium(I) sulfate						2.00E-05	X				1.60E+00					7.00E+01	
7440-28-0	Metals	thallium, soluble salts						1.00E-05	X				8.00E-01		2.30E-01	1.10E-02		3.50E+01	
28249-77-6	Pesticides	thiobencarb						1.00E-02	I				8.00E+02					3.50E+04	
21564-17-0	SVOCs	thiocyanomethylthiobenzothiazole;2-						3.00E-02	H				2.40E+03					1.10E+05	
39196-18-4	Pesticides	thiofanox						3.00E-04	H				2.40E+01					1.10E+03	
23564-05-8	Pesticides	thiophanate-methyl						8.00E-02	I				6.40E+03					2.80E+05	
137-26-8	Pesticides	thiram						5.00E-03	I				4.00E+02					1.80E+04	
7440-31-5	Metals	tin						6.00E-01	H				4.80E+04					2.10E+06	
118-96-7	Explosives	tnt						5.00E-04	I	3.00E-02	I		4.00E+01	3.30E+01				1.80E+03	4.40E+03
108-88-3	VOCs	toluene		1.43E+00	I			8.00E-02	I			7.00E+00	6.40E+03		4.50E+00	2.70E-01	7.00E+00	2.80E+05	
26471-62-5	VOCs	toluene diisocyanate mixture;2,4-/2,6-				3.85E-02	C			3.90E-02	C			2.60E+01					3.40E+03
584-84-9	VOCs	toluene-2,4-diisocyanate		2.29E-06	C	3.85E-02	C			3.90E-02	C			2.60E+01					3.40E+03
91-08-7	VOCs	toluene-2,6-diisocyanate		2.29E-06	C	3.85E-02	C			3.90E-02	C			2.60E+01					3.40E+03
95-80-7	SVOCs	toluenediamine;2,4-																	
95-70-5	SVOCs	toluenediamine;2,5-						2.00E-04	X	1.80E-01	X		1.60E+01	5.60E+00				7.00E+02	7.30E+02
823-40-5	SVOCs	toluenediamine;2,6-																	
106-49-0	SVOCs	toluidine;p-						4.00E-03	X	3.00E-02	P		3.20E+02	3.30E+01				1.40E+04	4.40E+03
unavailable18	General Chemistry	total dissolved solids																	
8001-35-2	Pesticides	toxaphene				1.12E+00	I	9.00E-05	P	1.10E+00	I		7.20E+00	9.10E-01	1.50E+00	7.60E-02		3.20E+02	1.20E+02
93-72-1	Herbicides	tp;2,4,5-						8.00E-03	I				6.40E+02					2.80E+04	
unavailable09	Petroleum	tph, diesel range organics										2.00E+03					2.00E+03		
unavailable10	Petroleum	tph, heavy oils										2.00E+03					2.00E+03		
unavailable11	Petroleum	tph, mineral oils										4.00E+03					4.00E+03		
unavailable25	Petroleum	tph: gasoline range organics, benzene present										3.00E+01					3.00E+01		
unavailable08	Petroleum	tph: gasoline range organics, no detectable benzene										1.00E+02					1.00E+02		
66841-25-6	Pesticides	tralomethrin						7.50E-03	I				6.00E+02					2.60E+04	
2303-17-5	Pesticides	triallate						1.30E-02	I				1.00E+03					4.60E+04	
82097-50-5	Pesticides	triasulfuron						1.00E-02	I				8.00E+02					3.50E+04	
615-54-3	VOCs	tribromobenzene;1,2,4-						5.00E-03	I				4.00E+02					1.80E+04	
688-73-3	Organotins	tributyltin																	
56-35-9	Organotins	tributyltin oxide						3.00E-04	I				2.40E+01					1.10E+03	
10025-85-1	Disinfectants	trichloramine	MCL FOR DISINFECTANTS																
76-13-1	VOCs	trichloro-1,2,2-trifluoroethane;1,1,2-		1.43E+00	P			3.00E+01	I				2.40E+06					1.10E+08	
76-03-9	SVOCs	trichloroacetic acid						2.00E-02	I	7.00E-02	I		1.60E+03	1.40E+01				7.00E+04	1.90E+03
33663-50-2	SVOCs	trichloroaniline hydrochloride;2,4,6-								2.90E-02	H			3.40E+01					4.50E+03
634-93-5	SVOCs	trichloroaniline;2,4,6-						3.00E-05	X	7.00E-03	X		2.40E+00	1.40E+02				1.10E+02	1.90E+04
120-82-1	VOCs	trichlorobenzene;1,2,4-		5.71E-04	P			1.00E-02	I	2.90E-02	P		8.00E+02	3.40E+01	5.60E-01	2.90E-02		3.50E+04	4.50E+03
71-55-6	VOCs	trichloroethane;1,1,1-		1.43E+00	I			2.00E+00	I			2.00E+00	1.60E+05		1.50E+00	8.40E-02	2.00E+00	7.00E+06	
79-00-5	VOCs	trichloroethane;1,1,2-		5.71E-05	X	5.60E-02	I	4.00E-03	I	5.70E-02	I		3.20E+02	1.80E+01	2.80E-02	1.80E-03		1.40E+04	2.30E+03
79-01-6	VOCs	TRICHLOROETHYLENE (TCE)	TCE NOTES	5.71E-04	I	1.44E-02	I	5.00E-04	I	4.64E-02	I	3.00E-02	4.00E+01	1.20E+01	2.50E-02	1.50E-03	3.00E-02	1.80E+03	2.80E+03
75-69-4	VOCs	trichlorofluoromethane		2.00E-01	H			3.00E-01	I				2.40E+04					1.10E+06	
95-95-4	Phenols	TRICHLOROPHENOL;2,4,5-	pH-DEPENDENT					1.00E-01	I				8.00E+03		2.90E+01	1.50E+00		3.50E+05	
88-06-2	Phenols	TRICHLOROPHENOL;2,4,6-	pH-DEPENDENT			1.09E-02	I	1.00E-03	P	1.10E-02	I		8.00E+01	9.10E+01	4.60E-02	2.70E-03		3.50E+03	1.20E+04
93-76-5	Herbicides	trichlorophenoxyacetic acid;2,4,5-						1.00E-02	I				8.00E+02					3.50E+04	
598-77-6	VOCs	trichloropropane;1,1,2-						5.00E-03	I				4.00E+02					1.80E+04	
96-18-4	VOCs	trichloropropane;1,2,3-		8.57E-05	I			4.00E-03	I	3.00E+01	I		3.20E+02	3.30E-02				1.40E+04	4.40E+00
96-19-5	VOCs	trichloropropene;1,2,3-		8.57E-05	P			3.00E-03	X				2.40E+02					1.10E+04	
58138-08-2	Pesticides	tridiphane						3.00E-03	I				2.40E+02					1.10E+04	
121-44-8	VOCs	triethylamine		2.00E-03	I														
1582-09-8	Pesticides	trifluralin						7.50E-03	I	7.70E-03	I		6.00E+02	1.30E+02				2.60E+04	1.70E+04
unavailable13	VOCs	trihalomethanes, (total) (TTHMs)	TTHM NOTES																
512-56-1	SVOCs	trimethyl phosphate						1.00E-02	P	2.00E-02	P		8.00E+02	5.00E+01				3.50E+04	6.60E+03
526-73-8	VOCs	trimethylbenzene;1,2,3-		1.70E-02	I			1.00E-02	I				8.00E+02					3.50E+04	
95-63-6	VOCs	trimethylbenzene;1,2,4-		1.70E-02	I			1.00E-02	I				8.00E+02					3.50E+04	
108-67-8	VOCs	trimethylbenzene;1,3,5-		1.70E-02	I			1.00E-02	I				8.00E+02					3.50E+04	

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	**RfDi** Inhalation Reference Dose (mg/kg-day)	Source	**CPFi** Inhalation Cancer Potency Factor (kg-day/mg)	Source	**RfDo** Oral Reference Dose (mg/kg-day)	Source	**CPFo** Oral Cancer Potency Factor (kg-day/mg)	Source	**Soil** Method A Unrestricted Land Use (mg/kg)	**Soil** Method B Non cancer (mg/kg)	**Soil** Method B Cancer (mg/kg)	**Soil** Protective of Groundwater Vadose @ 13 degrees C see guidance (mg/kg)	**Soil** Protective of Groundwater Saturated see guidance (mg/kg)	**Soil** Method A Industrial Properties (mg/kg)	**Soil** Method C Non cancer (mg/kg)	**Soil** Method C Cancer (mg/kg)
99-35-4	Explosives	trinitrobenzene;1,3,5-						3.00E-02	I				2.40E+03					1.10E+05	
479-45-8	Explosives	trinitrophenylmethylnitramine						2.00E-03	P				1.60E+02					7.00E+03	
unavailable12	Radionuclides	uranium, soluble salts		1.14E-05	A			3.00E-03	I				2.40E+02					1.10E+04	
7440-62-2	Metals	vanadium		2.86E-05	A			5.00E-03	S				4.00E+02		1.60E+03	8.00E+01		1.80E+04	
1314-62-1	Metals	vanadium pentoxide		2.00E-06	P	2.91E+01	P	9.00E-03	I				7.20E+02					3.20E+04	
27774-13-6	Metals	vanadyl sulfate																	
1929-77-7	Pesticides	vernam						1.00E-03	I				8.00E+01					3.50E+03	
50471-44-8	Pesticides	vinclozolin						2.50E-02	I				2.00E+03					8.80E+04	
108-05-4	VOCs	vinyl acetate		5.71E-02	I			1.00E+00	H				8.00E+04		3.30E+01	2.30E+00		3.50E+06	
75-01-4	VOCs	VINYL CHLORIDE	VINYL CHLORIDE NOTES	2.86E-02	I	3.10E-02	I	3.00E-03	I	1.50E+00	I		2.40E+02	6.70E-01	1.70E-03	8.90E-05		1.10E+04	8.80E+01
81-81-2	Pesticides	warfarin						3.00E-04	I				2.40E+01					1.10E+03	
8012-95-1	Petroleum	white mineral oil						3.00E+00	P				2.40E+05					1.10E+07	
108-38-3	VOCs	xylene;m-		2.86E-02	S			2.00E-01	S				1.60E+04		1.30E+01	7.70E-01		7.00E+05	
95-47-6	VOCs	xylene;o-		2.86E-02	S			2.00E-01	S				1.60E+04		1.40E+01	8.40E-01		7.00E+05	
106-42-3	VOCs	xylene;p-		2.86E-02	S			2.00E-01	S				1.60E+04		1.70E+01	9.60E-01		7.00E+05	
1330-20-7	VOCs	xylenes		2.86E-02	I			2.00E-01	I			9.00E+00	1.60E+04		1.40E+01	8.30E-01	9.00E+00	7.00E+05	
7440-66-6	Metals	ZINC	HARDNESS - DEPENDENT					3.00E-01	I				2.40E+04		6.00E+03	3.00E+02		1.10E+06	
557-21-1	Cyanides	zinc cyanide						5.00E-02	I				4.00E+03					1.80E+05	
1314-84-7	Metals	zinc phosphide						3.00E-04	I				2.40E+01					1.10E+03	
12122-67-7	Pesticides	zineb						5.00E-02	I				4.00E+03					1.80E+05	

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Ground Water Method A (µg/L)	Ground Water Method B Non cancer (µg/L)	Ground Water Method B Cancer (µg/L)	Ground Water Method C Non cancer (µg/L)	Ground Water Method C Cancer (µg/L)	Ground Water Maximum Contaminant Level Goal (µg/L)	Ground Water Federal Maximum Contaminant Level (µg/L)	Ground Water WA State Maximum Contaminant Level (µg/L)	Surface Water Method B Non cancer (µg/L)	Surface Water Method B Cancer (µg/L)	Surface Water Method C Non cancer (µg/L)	Surface Water Method C Cancer (µg/L)
83-32-9	PAHs	acenaphthene			9.60E+02		2.10E+03					6.40E+02		1.60E+03	
208-96-8	PAHs	acenaphthylene													
30560-19-1	Pesticides	acephate			6.40E+01	1.00E+01	1.40E+02	1.00E+02							
75-07-0	VOCs	acetaldehyde													
34256-82-1	Pesticides	acetochlor			3.20E+02		7.00E+02								
67-64-1	VOCs	acetone			7.20E+03		1.60E+04								
75-86-5	VOCs	acetone cyanohydrin													
75-05-8	VOCs	acetonitrile													
98-86-2	SVOCs	acetophenone			8.00E+02		1.80E+03								
62476-59-9	Herbicides	acifluorfen, sodium			1.00E+02		2.30E+02								
107-02-8	VOCs	acrolein			4.00E+00		8.80E+00								
79-06-1	VOCs	acrylamide			1.60E+01	8.80E-02	3.50E+01	8.80E-01	0.00E+00						
79-10-7	VOCs	acrylic acid			4.00E+03		8.80E+03								
107-13-1	VOCs	acrylonitrile			3.20E+02	8.10E-02	7.00E+02	8.10E-01				3.50E+03	4.00E-01	8.60E+03	1.00E+01
15972-60-8	Pesticides	alachlor			1.60E+02	1.60E+00	3.50E+02	1.60E+01	0.00E+00	2.00E+00	2.00E+00				
1596-84-5	Pesticides	alar			2.40E+03	4.90E+00	5.30E+03	4.90E+01							
116-06-3	Pesticides (Carbamate)	aldicarb			1.60E+01		3.50E+01								
1646-88-4	Pesticides (Carbamate)	aldicarb sulfone			1.60E+01		3.50E+01								
309-00-2	Pesticides	aldrin			2.40E-01	2.60E-03	5.30E-01	2.60E-02				1.70E-02	8.20E-05	4.20E-02	2.00E-03
74223-64-6	Pesticides	ally			4.00E+03		8.80E+03								
107-18-6	VOCs	allyl alcohol			4.00E+01		8.80E+01								
107-05-1	VOCs	allyl chloride				2.10E+00		2.10E+01							
7429-90-5	Metals	aluminum			1.60E+04		3.50E+04								
20859-73-8	Metals	aluminum phosphide			6.40E+00		1.40E+01								
67485-29-4	Pesticides	amdro			4.80E+00		1.10E+01								
834-12-8	Pesticides	ametryn			1.40E+02		3.20E+02								
591-27-5	Phenols	aminophenol;m-			1.30E+03		2.80E+03								
504-24-5	SVOCs	aminopyridine;4-													
33089-61-1	Pesticides	amitraz			4.00E+01		8.80E+01								
7664-41-7	Nutrients	AMMONIA	AMMONIA NOTES												
7790-98-9	Perchlorates	ammonium perchlorate			1.10E+01		2.50E+01								
7773-06-0	Pesticides	ammonium sulfamate			3.20E+03		7.00E+03								
62-53-3	SVOCs	aniline			5.60E+01	7.70E+00	1.20E+02	7.70E+01							
120-12-7	PAHs	anthracene			4.80E+03		1.10E+04					2.60E+04		6.50E+04	
7440-36-0	Metals	antimony			6.40E+00		1.40E+01		6.00E+00	6.00E+00	6.00E+00	1.00E+03		2.60E+03	
1314-60-9	Metals	antimony pentoxide			8.00E+00		1.80E+01								
28300-74-5	Metals	antimony potassium tartrate			1.40E+01		3.20E+01								
1332-81-6	Metals	antimony tetroxide			6.40E+00		1.40E+01								
1309-64-4	Metals	antimony trioxide													
74115-24-5	Pesticides	apollo			2.10E+02		4.60E+02								
140-57-8	SVOCs	aramite			8.00E+02	3.50E+00	1.80E+03	3.50E+01							
12674-11-2	PCBs	aroclor 1016			1.10E+00	1.30E+00	2.50E+00	1.30E+01				5.80E-03	3.00E-03	1.50E-02	7.40E-02
11097-69-1	PCBs	aroclor 1254			3.20E-01	4.40E-02	7.00E-01	4.40E-01				1.70E-03	1.00E-04	4.20E-03	2.60E-03
11096-82-5	PCBs	aroclor 1260				4.40E-02		4.40E-01							
7440-38-2	Metals	arsenic, inorganic		5.00E+00	4.80E+00	5.80E-02	1.10E+01	5.80E-01	0.00E+00	1.00E+01	1.00E+01	1.80E+01	9.80E-02	4.40E+01	2.50E+00
7784-42-1	Metals	arsine			2.80E-02		6.10E-02								
1332-21-4	Fibers	ASBESTOS	ASBESTOS NOTE						7.00E+06	7.00E+06	7.00E+06				
76578-14-8	Pesticides	assure			1.40E+02		3.20E+02								
3337-71-1	Pesticides	asulam			8.00E+02		1.80E+03								
1912-24-9	Pesticides	atrazine			5.60E+02	3.80E-01	1.20E+03	3.80E+00	3.00E+00	3.00E+00	3.00E+00				
65195-55-3	Pesticides	avermectin B1			6.40E+00		1.40E+01								
103-33-3	Pesticides	azobenzene				8.00E-01		8.00E+00							
7440-39-3	Metals	barium and compounds			3.20E+03		7.00E+03		2.00E+03	2.00E+03	2.00E+03				
542-62-1	Metals	barium cyanide													

Cleanup Levels and Risk Calculation (CLARC) Master Table - May 2019

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Ground Water Method A (µg/L)	Ground Water Method B Non cancer (µg/L)	Ground Water Method B Cancer (µg/L)	Ground Water Method C Non cancer (µg/L)	Ground Water Method C Cancer (µg/L)	Ground Water Maximum Contaminant Level Goal (µg/L)	Ground Water Federal Maximum Contaminant Level (µg/L)	Ground Water WA State Maximum Contaminant Level (µg/L)	Surface Water Method B Non cancer (µg/L)	Surface Water Method B Cancer (µg/L)	Surface Water Method C Non cancer (µg/L)	Surface Water Method C Cancer (µg/L)
114-26-1	Pesticides	baygon			6.40E+01		1.40E+02								
43121-43-3	Pesticides	bayleton			4.80E+02		1.10E+03								
68359-37-5	Pesticides	baythroid			4.00E+02		8.80E+02								
1861-40-1	Pesticides	benefin			2.40E+03		5.30E+03								
17804-35-2	Pesticides	benomyl			8.00E+02		1.80E+03								
25057-89-0	Herbicides	bentazon			4.80E+02		1.10E+03								
100-52-7	SVOCs	benzaldehyde			8.00E+02	1.10E+01	1.80E+03	1.10E+02							
71-43-2	VOCs	BENZENE		5.00E+00	3.20E+01	8.00E-01	7.00E+01	8.00E+00	0.00E+00	5.00E+00	5.00E+00	2.00E+03	2.30E+01	5.00E+03	5.70E+02
108-98-5	SVOCs	benzenethiol			8.00E+00		1.80E+01								
92-87-5	SVOCs	benzidine			4.80E+01	3.80E-04	1.10E+02	3.80E-03				8.90E+01	3.20E-04	2.20E+02	8.10E-03
191-24-2	PAHs	benzo(g,h,i)perylene													
56-55-3	cPAHs	BENZO[a]ANTHRACENE	PAH NOTES												
50-32-8	cPAHs	BENZO[a]PYRENE	PAH NOTES	1.00E-01	4.80E+00	2.30E-02	1.10E+01	2.30E-01	0.00E+00	2.00E-01	2.00E-01	2.60E+01	3.50E-02	6.50E+01	8.80E-01
205-99-2	cPAHs	BENZO[b]FLUORANTHENE	PAH NOTES												
207-08-9	cPAHs	BENZO[k]FLUORANTHENE	PAH NOTES												
65-85-0	SVOCs	BENZOIC ACID	pH-DEPENDENT		6.40E+04		1.40E+05								
98-07-7	VOCs	benzotrichloride				3.40E-03		3.40E-02							
100-51-6	SVOCs	benzyl alcohol			8.00E+02		1.80E+03								
100-44-7	VOCs	benzyl chloride			1.60E+01	2.60E-01	3.50E+01	2.60E+00							
7440-41-7	Metals	beryllium			3.20E+01		7.00E+01		4.00E+00	4.00E+00	4.00E+00	2.70E+02		6.80E+02	
91-58-7	PAHs	beta-chloronaphthalene			6.40E+02		1.40E+03					1.00E+03		2.60E+03	
141-66-2	SVOCs	bidrin			1.60E+00		3.50E+00								
82657-04-3	Pesticides	biphenthrin			2.40E+02		5.30E+02								
92-52-4	PAHs	biphenyl;1,1-			4.00E+03	5.50E+00	8.80E+03	5.50E+01							
108-60-1	VOCs	bis(2-chloro-1-methyl-ethyl)ether			3.20E+02	6.30E-01	7.00E+02	6.30E+00				4.20E+04	3.70E+01	1.00E+05	9.40E+02
111-44-4	SVOCs	bis(2-chloroethyl)ether				4.00E-02		4.00E-01					8.50E-01		2.10E+01
39638-32-9	VOCs	bis(2-chloroisopropyl) ether													
117-81-7	Phthalates	bis(2-ethylhexyl) phthalate			3.20E+02	6.30E+00	7.00E+02	6.30E+01	0.00E+00	6.00E+00	6.00E+00	4.00E+02	3.60E+00	1.00E+03	8.90E+01
542-88-1	VOCs	bis(chloromethyl)ether				2.00E-04		2.00E-03							
80-05-7	Phenols	bisphenol a			8.00E+02		1.80E+03								
7440-42-8	Metals	boron			3.20E+03		7.00E+03								
15541-45-4	Pesticides	bromate			6.40E+01	1.30E-01	1.40E+02	1.30E+00	0.00E+00	1.00E+01	1.00E+01				
79-08-3	SVOCs	bromoacetic acid								6.00E+01	6.00E+01				
108-86-1	VOCs	bromobenzene			6.40E+01		1.40E+02								
75-27-4	VOCs	bromodichloromethane	TTHM NOTES		1.60E+02	7.10E-01	3.50E+02	7.10E+00	0.00E+00	8.00E+01	8.00E+01	1.40E+04	2.80E+01	3.50E+04	7.00E+02
593-60-2	VOCs	bromoethene													
75-25-2	VOCs	bromoform	TTHM NOTES		1.60E+02	5.50E+00	3.50E+02	5.50E+01	0.00E+00	8.00E+01	8.00E+01	1.40E+04	2.20E+02	3.50E+04	5.50E+03
74-83-9	VOCs	bromomethane			1.10E+01		2.50E+01					9.70E+02		2.40E+03	
2104-96-3	Pesticides	bromophos			8.00E+01		1.80E+02								
1689-84-5	Herbicides	bromoxynil			3.20E+02		7.00E+02								
1689-99-2	Pesticides	bromoxynil octanoate			3.20E+02		7.00E+02								
106-99-0	VOCs	butadiene;1,3-				7.30E-02		7.30E-01							
71-36-3	VOCs	butanol;n-			8.00E+02		1.80E+03								
85-68-7	Phthalates	butyl benzyl phthalate			3.20E+03	4.60E+01	7.00E+03	4.60E+02				1.30E+03	8.20E+00	3.10E+03	2.10E+02
2008-41-5	Pesticides	butylate			4.00E+02		8.80E+02								
85-70-1	Phthalates	butylphthalyl butylglycolate			1.60E+04		3.50E+04								
94-81-5	SVOCs	butyric acid;4-(2-methyl-4-chlorophenoxy)-			1.60E+02		3.50E+02								
75-60-5	Pesticides	cacodylic acid			3.20E+02		7.00E+02								
7440-43-9	Metals	CADMIUM (POTABLE GROUNDWATER & SURFACE WATER)	CADMIUM NOTES	5.00E+00	8.00E+00		1.80E+01		5.00E+00	5.00E+00	5.00E+00				
7440-43-9a	Metals	CADMIUM (SOIL & NONPOTABLE SURFACE WATER)	CADMIUM NOTES									4.10E+01		1.00E+02	
592-01-8	Cyanides	calcium cyanide			1.60E+01		3.50E+01								
105-60-2	SVOCs	caprolactam			8.00E+03		1.80E+04								
2425-06-1	Pesticides	captafol			3.20E+01	5.80E-01	7.00E+01	5.80E+00							
133-06-2	Pesticides	captan			2.10E+03	3.80E+01	4.60E+03	3.80E+02							

Cleanup Levels and Risk Calculation (CLARC) Master Table - May 2019

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Ground Water Method A (µg/L)	Ground Water Method B Non cancer (µg/L)	Ground Water Method B Cancer (µg/L)	Ground Water Method C Non cancer (µg/L)	Ground Water Method C Cancer (µg/L)	Ground Water Maximum Contaminant Level Goal (µg/L)	Ground Water Federal Maximum Contaminant Level (µg/L)	Ground Water WA State Maximum Contaminant Level (µg/L)	Surface Water Method B Non cancer (µg/L)	Surface Water Method B Cancer (µg/L)	Surface Water Method C Non cancer (µg/L)	Surface Water Method C Cancer (µg/L)
63-25-2	Pesticides (Carbamate)	carbaryl			1.60E+03		3.50E+03								
86-74-8	PAHs	carbazole													
1563-66-2	Pesticides (Carbamate)	carbofuran			8.00E+01		1.80E+02		4.00E+01	4.00E+01	4.00E+01				
75-15-0	VOCs	carbon disulfide			8.00E+02		1.80E+03								
56-23-5	VOCs	carbon tetrachloride			3.20E+01	6.30E-01	7.00E+01	6.30E+00	0.00E+00	5.00E+00	5.00E+00	5.50E+02	4.90E+00	1.40E+03	1.20E+02
786-19-6	Pesticides	carbophenothion													
55285-14-8	Pesticides	carbosulfan			1.60E+02		3.50E+02								
5234-68-4	Pesticides	carboxin			1.60E+03		3.50E+03								
1306-38-3	Metals	cerium oxide and cerium compounds													
75-87-6	VOCs	chloral													
302-17-0	VOCs	chloral hydrate			8.00E+02		1.80E+03								
133-90-4	Herbicides	chloramben			2.40E+02		5.30E+02								
118-75-2	Pesticides	chloranil				2.20E-01		2.20E+00							
12789-03-6	Pesticides	chlordane			8.00E+00	2.50E-01	1.80E+01	2.50E+00	0.00E+00	2.00E+00	2.00E+00	9.20E-02	1.30E-03	2.30E-01	3.30E-02
143-50-0	SVOCs	chlordecone (kepone)			4.80E+00	8.80E-03	1.10E+01	8.80E-02							
16887-00-6	Nutrients	chloride													
90982-32-4	Pesticides	chlorimuron-ethyl			3.20E+02		7.00E+02								
7782-50-5	Nutrients	chlorine	MCL FOR DISINFECTANTS		8.00E+02		1.80E+03		4.00E+03	4.00E+03	4.00E+03				
506-77-4	Cyanides	chlorine cyanide			4.00E+02		8.80E+02								
10049-04-4	VOCs	chlorine dioxide	MCL FOR DISINFECTANTS		2.40E+02		5.30E+02		8.00E+02	8.00E+02	8.00E+02				
7758-19-2	Nutrients	chlorite			4.80E+02		1.10E+03		8.00E+02	1.00E+03	1.00E+03				
75-68-3	VOCs	chloro-1,1-difluoroethane;1-													
126-99-8	VOCs	chloro-1,3-butadiene;2-			1.60E+02		3.50E+02								
3165-93-3	SVOCs	chloro-2-methylaniline hydrochloride;4-				1.90E-01		1.90E+00							
95-69-2	SVOCs	chloro-2-methylaniline;4-			4.80E+01	8.80E-01	1.10E+02	8.80E+00							
79-11-8	SVOCs	chloroacetic acid			3.20E+01		7.00E+01		7.00E+01	6.00E+01	6.00E+01				
532-27-4	SVOCs	chloroacetophenone;2-													
106-47-8	SVOCs	chloroaniline;p-			3.20E+01	2.20E-01	7.00E+01	2.20E+00							
108-90-7	VOCs	chlorobenzene			1.60E+02		3.50E+02		1.00E+02	1.00E+02	1.00E+02	5.00E+03		1.30E+04	
510-15-6	Pesticides	chlorobenzilate			3.20E+02	8.00E-01	7.00E+02	8.00E+00							
74-11-3	Pesticides	chlorobenzoic acid;p-			4.80E+02		1.10E+03								
98-56-6	VOCs	chlorobenzotrifluoride;4-			2.40E+01		5.30E+01								
109-69-3	VOCs	chlorobutane;1-			3.20E+02		7.00E+02								
59-50-7	Phenols	chlorocresol			1.60E+03		3.50E+03								
75-45-6	VOCs	chlorodifluoromethane													
67-66-3	VOCs	chloroform	TTHM NOTES		8.00E+01	1.40E+00	1.80E+02	1.40E+01	7.00E+01	8.00E+01	8.00E+01	6.90E+03	5.60E+01	1.70E+04	1.40E+03
74-87-3	VOCs	chloromethane													
107-30-2	VOCs	chloromethyl methyl ether				1.80E-02		1.80E-01							
88-73-3	Pesticides	chloronitrobenzene;o-			4.80E+01	2.90E-01	1.10E+02	2.90E+00							
100-00-5	Pesticides	chloronitrobenzene;p-			5.60E+00	7.30E-01	1.20E+01	7.30E+00							
95-57-8	Phenols	CHLOROPHENOL;2-	pH-DEPENDENT		4.00E+01		8.80E+01					9.70E+01		2.40E+02	
123-09-1	Pesticides	chlorophenyl methyl sulfide;p-													
98-57-7	SVOCs	chlorophenyl methyl sulfone;p-													
934-73-6	SVOCs	chlorophenyl methyl sulfoxide;p-													
75-29-6	VOCs	chloropropane;2-													
1897-45-6	Pesticides	chlorothalonil			2.40E+02	2.80E+01	5.30E+02	2.80E+02							
95-49-8	VOCs	chlorotoluene;o-			1.60E+02		3.50E+02								
101-21-3	Pesticides	chlorpropham			3.20E+03		7.00E+03								
2921-88-2	Pesticides	chlorpyrifos			1.60E+01		3.50E+01								
5598-13-0	Pesticides	chlorpyrifos-methyl			1.60E+02		3.50E+02								
64902-72-3	Herbicides	chlorsulfuron			8.00E+02		1.80E+03								
60238-56-4	Pesticides	chlorthiophos			1.30E+01		2.80E+01								
7440-47-3	Metals	CHROMIUM (TOTAL)	CHROMIUM NOTES	5.00E+01					1.00E+02	1.00E+02	1.00E+02				
16065-83-1	Metals	CHROMIUM (III)	CHROMIUM NOTES		2.40E+04		5.30E+04					2.40E+05		6.10E+05	

Cleanup Levels and Risk Calculation (CLARC) Master Table - May 2019

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Ground Water Method A (µg/L)	Ground Water Method B Non cancer (µg/L)	Ground Water Method B Cancer (µg/L)	Ground Water Method C Non cancer (µg/L)	Ground Water Method C Cancer (µg/L)	Ground Water Maximum Contaminant Level Goal (µg/L)	Ground Water Federal Maximum Contaminant Level (µg/L)	Ground Water WA State Maximum Contaminant Level (µg/L)	Surface Water Method B Non cancer (µg/L)	Surface Water Method B Cancer (µg/L)	Surface Water Method C Non cancer (µg/L)	Surface Water Method C Cancer (µg/L)
18540-29-9	Metals	CHROMIUM (VI)	CHROMIUM NOTES		4.80E+01		1.10E+02					4.90E+02		1.20E+03	
218-01-9	cPAHs	CHRYSENE	PAH NOTES												
8001-58-9	PAHs	coal tar creosote													
8007-45-2	VOCs	coke oven emissions													
7440-50-8	Metals	COPPER	HARDNESS - DEPENDENT		6.40E+02		1.40E+03		1.30E+03	1.30E+03	1.30E+03	2.90E+03		7.20E+03	
544-92-3	Cyanides	copper cyanide			8.00E+01		1.80E+02								
108-39-4	Phenols	cresol;m-			4.00E+02		8.80E+02								
95-48-7	Phenols	cresol;o-			4.00E+02		8.80E+02								
106-44-5	Phenols	cresol;p-			8.00E+02		1.80E+03								
4170-30-3	VOCs	crotonaldehyde			8.00E+00	2.30E-02	1.80E+01	2.30E-01							
98-82-8	VOCs	cumene			8.00E+02		1.80E+03								
21725-46-2	Pesticides	cyanazine			3.20E+01	1.00E-01	7.00E+01	1.00E+00							
57-12-5	Cyanides	CYANIDE	CYANIDE NOTES		1.00E+01		2.20E+01		2.00E+02	2.00E+02	2.00E+02	1.60E+03		4.10E+03	
460-19-5	Cyanides	cyanogen			8.00E+00		1.80E+01								
506-68-3	Cyanides	cyanogen bromide			7.20E+02		1.60E+03								
110-82-7	VOCs	cyclohexane													
108-94-1	VOCs	cyclohexanone			4.00E+04		8.80E+04								
108-91-8	SVOCs	cyclohexylamine			1.60E+03		3.50E+03								
542-92-7	SVOCs	cyclopentadiene													
68085-85-8	Pesticides	cyhalothrin/karate			8.00E+01		1.80E+02								
52315-07-8	Pesticides	cypermethrin			1.60E+02		3.50E+02								
66215-27-8	Pesticides	cyromazine			1.20E+02		2.60E+02								
1861-32-1	Herbicides	dacthal			1.60E+02		3.50E+02								
75-99-0	Herbicides	dalapon, sodium salt			2.40E+02		5.30E+02		2.00E+02	2.00E+02	2.00E+02				
39515-41-8	Pesticides	danitol			4.00E+02		8.80E+02								
94-82-6	Herbicides	db;2,4-			1.30E+02		2.80E+02								
72-54-8	Pesticides	ddd			4.80E-01	3.60E-01	1.10E+00	3.60E+00				1.50E-03	5.00E-04	3.60E-03	1.30E-02
72-55-9	Pesticides	dde			4.80E+00	2.60E-01	1.10E+01	2.60E+00				1.50E-02	3.60E-04	3.60E-02	8.90E-03
50-29-3	Pesticides	ddt		3.00E-01	8.00E+00	2.60E-01	1.80E+01	2.60E+00				2.40E-02	3.60E-04	6.00E-02	8.90E-03
1163-19-5	PBDEs	decabromodiphenyl ether			1.10E+02	1.30E+02	2.50E+02	1.30E+03				5.70E+03	2.90E+03	1.40E+04	7.20E+04
8065-48-3	Pesticides	demeton			6.40E-01		1.40E+00								
103-23-1	Phthalates	di(2-ethylhexyl)adipate			9.60E+03	7.30E+01	2.10E+04	7.30E+02	4.00E+02	4.00E+02	4.00E+02				
2303-16-4	Pesticides	diallate				1.40E+00		1.40E+01							
333-41-5	Pesticides	diazinon			1.10E+01		2.50E+01								
53-70-3	cPAHs	DIBENZ[a,h]ANTHRACENE	PAH NOTES												
132-64-9	PAHs	dibenzofuran			1.60E+01		3.50E+01								
96-12-8	Pesticides	dibromo-3-chloropropane;1,2-			1.60E+00	5.50E-02	3.50E+00	5.50E-01	0.00E+00	2.00E-01	2.00E-01				
631-64-1	SVOCs	dibromoacetic acid								6.00E+01	6.00E+01				
106-37-6	Pesticides	dibromobenzene;1,4-			8.00E+01		1.80E+02								
124-48-1	VOCs	dibromochloromethane	TTHM NOTES		1.60E+02	5.20E-01	3.50E+02	5.20E+00	6.00E+01	8.00E+01	8.00E+01	1.40E+04	2.10E+01	3.50E+04	5.10E+02
84-74-2	Phthalates	di-butyl phthalate			1.60E+03		3.50E+03					2.90E+03		7.30E+03	
1918-00-9	Herbicides	dicamba			4.80E+02		1.10E+03								
3400-09-7	Disinfectants	dichloramine	MCL FOR DISINFECTANTS						4.00E+03	4.00E+03	4.00E+03				
764-41-0	VOCs	dichloro-2-butene;1,4-													
79-43-6	SVOCs	dichloroacetic acid			6.40E+01	1.80E+00	1.40E+02	1.80E+01	0.00E+00	6.00E+01	6.00E+01				
95-50-1	VOCs	dichlorobenzene;1,2-			7.20E+02		1.60E+03		6.00E+02	6.00E+02	6.00E+02	4.20E+03		1.00E+04	
541-73-1	VOCs	dichlorobenzene;1,3-													
106-46-7	VOCs	dichlorobenzene;1,4-			5.60E+02	8.10E+00	1.20E+03	8.10E+01	7.50E+01	7.50E+01	7.50E+01	3.30E+03	2.20E+01	8.20E+03	5.40E+02
91-94-1	SVOCs	dichlorobenzidine;3,3'-				1.90E-01		1.90E+00					4.60E-02		1.20E+00
75-71-8	VOCs	dichlorodifluoromethane			1.60E+03		3.50E+03								
75-34-3	VOCs	dichloroethane;1,1-			1.60E+03	7.70E+00	3.50E+03	7.70E+01							
107-06-2	VOCs	dichloroethane;1,2-		5.00E+00	4.80E+01	4.80E-01	1.10E+02	4.80E+00	0.00E+00	5.00E+00	5.00E+00	1.30E+04	5.90E+01	3.20E+04	1.50E+03
540-59-0	VOCs	dichloroethylene,1,2- (mixed isomers)			7.20E+01		1.60E+02								
75-35-4	VOCs	dichloroethylene;1,1-			4.00E+02		8.80E+02		7.00E+00	7.00E+00	7.00E+00	2.30E+04		5.80E+04	
156-59-2	VOCs	dichloroethylene;1,2-,cis			1.60E+01		3.50E+01		7.00E+01	7.00E+01	7.00E+01				
156-60-5	VOCs	dichloroethylene;1,2-,trans			1.60E+02		3.50E+02		1.00E+02	1.00E+02	1.00E+02	3.30E+04		8.20E+04	
120-83-2	Phenols	DICHLOROPHENOL;2,4-	pH-DEPENDENT		2.40E+01		5.30E+01					1.90E+02		4.80E+02	

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94-75-7	Herbicides	dichlorophenoxyacetic acid;2,4-			1.60E+02		3.50E+02		7.00E+01	7.00E+01	7.00E+01				
78-87-5	VOCs	dichloropropane;1,2-			3.20E+02	1.20E+00	7.00E+02	1.20E+01	0.00E+00	5.00E+00	5.00E+00	2.50E+04	4.30E+01	6.30E+04	1.10E+03
616-23-9	SVOCs	dichloropropanol;2,3-			2.40E+01		5.30E+01								
542-75-6	VOCs	dichloropropene;1,3-			2.40E+02	4.40E-01	5.30E+02	4.40E+00				4.10E+04	3.40E+01	1.00E+05	8.50E+02
62-73-7	Pesticides	dichlorvos			4.00E+00	1.50E-01	8.80E+00	1.50E+00							
115-32-2	Pesticides	dicofol													
77-73-6	VOCs	dicyclopentadiene			6.40E+02		1.40E+03								
60-57-1	Pesticides	dieldrin			8.00E-01	5.50E-03	1.80E+00	5.50E-02				2.80E-02	8.70E-05	6.90E-02	2.20E-03
84-66-2	Phthalates	diethyl phthalate			1.30E+04		2.80E+04					2.80E+04		7.10E+04	
111-46-6	Glycols	diethylene glycol													
693-21-0	Glycols	diethylene glycol dinitrate													
112-34-5	Glycols	diethylene glycol monobutyl ether			2.40E+02		5.30E+02								
111-90-0	Glycols	diethylene glycol monoethyl ether			4.80E+02		1.10E+03								
617-84-5	SVOCs	diethylformamide			1.60E+01		3.50E+01								
311-45-5	Pesticides	diethyl-p-nitrophenylphosphate													
56-53-1	SVOCs	diethylstilbesterol				2.50E-04		2.50E-03							
43222-48-6	Pesticides	difenzoquat			1.30E+03		2.80E+03								
35367-38-5	Pesticides	diflubenzuron			3.20E+02		7.00E+02								
75-37-6	VOCs	difluoroethane;1,1-													
1445-75-6	SVOCs	diisopropyl methylphosphonate			6.40E+02		1.40E+03								
55290-64-7	Pesticides	dimethipin			3.20E+02		7.00E+02								
60-51-5	Pesticides	dimethoate			3.20E+00		7.00E+00								
119-90-4	SVOCs	dimethoxybenzidine;3,3'-				5.50E-02		5.50E-01							
131-11-3	Phthalates	dimethyl phthalate													
120-61-6	Phthalates	dimethyl terephthalate			8.00E+02		1.80E+03								
124-40-3	VOCs	dimethylamine													
21436-96-4	SVOCs	dimethylaniline hydrochloride;2,4-				1.50E-01		1.50E+00							
95-68-1	SVOCs	dimethylaniline;2,4-			1.60E+01	2.20E-01	3.50E+01	2.20E+00							
121-69-7	SVOCs	dimethylaniline;N,N-			1.60E+01	1.60E+00	3.50E+01	1.60E+01							
119-93-7	SVOCs	dimethylbenzidine;3,3'-				8.00E-03		8.00E-02							
68-12-2	VOCs	dimethylformamide;N,N-			8.00E+02		1.80E+03								
57-14-7	VOCs	dimethylhydrazine;1,1-			8.00E-01		1.80E+00								
540-73-8	VOCs	dimethylhydrazine;1,2-				8.00E-05		8.00E-04							
105-67-9	Phenols	dimethylphenol;2,4-			1.60E+02		3.50E+02					5.50E+02		1.40E+03	
576-26-1	Phenols	dimethylphenol;2,6-			4.80E+00		1.10E+01								
95-65-8	Phenols	dimethylphenol;3,4-			8.00E+00		1.80E+01								
99-65-0	Explosives	dinitrobenzene;m-			1.60E+00		3.50E+00								
528-29-0	SVOCs	dinitrobenzene;o-			1.60E+00		3.50E+00								
100-25-4	SVOCs	dinitrobenzene;p-			1.60E+00		3.50E+00								
131-89-5	Phenols	dinitro-o-cyclohexyl phenol;4,6-			3.20E+01		7.00E+01								
51-28-5	Phenols	DINITROPHENOL;2,4-	pH-DEPENDENT		3.20E+01		7.00E+01					3.50E+03		8.60E+03	
25550-58-7	Phenols	dinitrophenols													
25321-14-6	SVOCs	dinitrotoluene mixture; 2,4-/2,6-			1.40E+01	1.30E-01	3.20E+01	1.30E+00							
121-14-2	Explosives	dinitrotoluene;2,4-			3.20E+01	2.80E-01	7.00E+01	2.80E+00				1.40E+03	5.50E+00	3.40E+03	1.40E+02
606-20-2	Explosives	dinitrotoluene;2,6-			4.80E+00	5.80E-02	1.10E+01	5.80E-01							
117-84-0	Phthalates	di-n-octyl phthalate			1.60E+02		3.50E+02								
88-85-7	Herbicides	dinoseb			1.60E+01		3.50E+01		7.00E+00	7.00E+00	7.00E+00				
123-91-1	VOCs	dioxane;1,4-			2.40E+02	4.40E-01	5.30E+02	4.40E+00							
957-51-7	Pesticides	diphenamid			4.80E+02		1.10E+03								
122-39-4	SVOCs	diphenylamine			4.00E+02		8.80E+02					2.20E+03		5.40E+03	
122-66-7	SVOCs	diphenylhydrazine;1,2-				1.10E-01		1.10E+00					3.30E-01		8.10E+00
85-00-7	Pesticides	diquat			3.50E+01		7.70E+01		2.00E+01	2.00E+01	2.00E+01				
1937-37-7	Dyes	direct black 38				1.20E-02		1.20E-01							
2602-46-2	Dyes	direct blue 6				1.20E-02		1.20E-01							

Cleanup Levels and Risk Calculation (CLARC) Master Table - May 2019

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Ground Water Method A (µg/L)	Ground Water Method B Non cancer (µg/L)	Ground Water Method B Cancer (µg/L)	Ground Water Method C Non cancer (µg/L)	Ground Water Method C Cancer (µg/L)	Ground Water Maximum Contaminant Level Goal (µg/L)	Ground Water Federal Maximum Contaminant Level (µg/L)	Ground Water WA State Maximum Contaminant Level (µg/L)	Surface Water Method B Non cancer (µg/L)	Surface Water Method B Cancer (µg/L)	Surface Water Method C Non cancer (µg/L)	Surface Water Method C Cancer (µg/L)
16071-86-6	Dyes	direct brown 95				1.30E-02		1.30E-01							
2610-05-1	Dyes	direct sky blue													
298-04-4	Pesticides	disulfoton			6.40E-01		1.40E+00								
505-29-3	SVOCs	dithiane;1,4-			1.60E+02		3.50E+02								
330-54-1	Pesticides (Carbamate)	diuron			3.20E+01		7.00E+01								
534-52-1	Phenols	DNOC			1.30E+00		2.80E+00								
2439-10-3	Pesticides	dodine			6.40E+01		1.40E+02								
115-29-7	Pesticides	endosulfan			9.60E+01		2.10E+02					5.80E+01		1.40E+02	
1031-07-8	Pesticides	endosulfan sulfate			9.60E+01		2.10E+02								
959-98-8	Pesticides	endosulfan;alpha													
33213-65-9	Pesticides	endosulfan;beta													
145-73-3	Herbicides	endothall			3.20E+02		7.00E+02		1.00E+02	1.00E+02	1.00E+02				
72-20-8	Pesticides	endrin			4.80E+00		1.10E+01		2.00E+00	2.00E+00	2.00E+00	2.00E-01		4.90E-01	
7421-93-4	Pesticides	endrin aldehyde													
106-89-8	VOCs	epichlorohydrin			4.80E+01	4.40E+00	1.10E+02	4.40E+01	0.00E+00						
106-88-7	VOCs	epoxybutane													
16672-87-0	Pesticides	ethephon			8.00E+01		1.80E+02								
563-12-2	Pesticides	ethion			8.00E+00		1.80E+01								
111-15-9	VOCs	ethoxyethanol acetate;2-			8.00E+02		1.80E+03								
110-80-5	VOCs	ethoxyethanol;2-			7.20E+02		1.60E+03								
141-78-6	VOCs	ethyl acetate			7.20E+03		1.60E+04								
140-88-5	VOCs	ethyl acrylate			4.00E+01	9.10E-01	8.80E+01	9.10E+00							
75-00-3	VOCs	ethyl chloride													
759-94-4	Pesticides	ethyl dipropylthiocarbamate;S-			2.00E+02		4.40E+02								
60-29-7	VOCs	ethyl ether			1.60E+03		3.50E+03								
97-63-2	VOCs	ethyl methacrylate			7.20E+02		1.60E+03								
2104-64-5	Pesticides	ethyl p-nitrophenyl phenylphosphorothioate			1.60E-01		3.50E-01								
100-41-4	VOCs	ethylbenzene		7.00E+02	8.00E+02		1.80E+03		7.00E+02	7.00E+02	7.00E+02	6.90E+03		1.70E+04	
109-78-4	SVOCs	ethylene cyanohydrin			5.60E+02		1.20E+03								
107-15-3	SVOCs	ethylene diamine			7.20E+02		1.60E+03								
106-93-4	VOCs	ethylene dibromide (EDB)		1.00E-02	7.20E+01	2.20E-02	1.60E+02	2.20E-01	0.00E+00	5.00E-02	5.00E-02				
107-21-1	VOCs	ethylene glycol			1.60E+04		3.50E+04								
111-76-2	Glycols	ethylene glycol monobutyl ether (EGBE)			8.00E+02		1.80E+03								
75-21-8	VOCs	ethylene oxide				1.40E-01		1.40E+00							
96-45-7	SVOCs	ethylene thiourea			1.30E+00	1.90E+00	2.80E+00	1.90E+01							
84-72-0	Phthalates	ethylphthalyl ethylglycolate			4.80E+04		1.10E+05								
101200-48-0	Pesticides	express			1.30E+02		2.80E+02								
22224-92-6	Pesticides	fenamiphos			4.00E+00		8.80E+00								
115-90-2	Pesticides	fensulfothion													
2164-17-2	Pesticides	fluometuron			2.10E+02		4.60E+02								
206-44-0	PAHs	fluoranthene			6.40E+02		1.40E+03					9.00E+01		2.30E+02	
86-73-7	PAHs	fluorene			6.40E+02		1.40E+03					3.50E+03		8.60E+03	
16984-48-8	Nutrients	FLUORIDE	FLUORIDE NOTES		9.60E+02		2.10E+03		4.00E+03	4.00E+03	4.00E+03				
59756-60-4	Pesticides	fluridone			1.30E+03		2.80E+03								
56425-91-3	Pesticides	flurprimidol			3.20E+02		7.00E+02								
66332-96-5	Pesticides	flutolanil			9.60E+02		2.10E+03								
69409-94-5	Pesticides	fluvalinate			1.60E+02		3.50E+02								
133-07-3	Pesticides	folpet			1.60E+03	2.50E+01	3.50E+03	2.50E+02							
72178-02-0	Pesticides	fomesafen				4.60E-01		4.60E+00							
944-22-9	Pesticides	fonofos			3.20E+01		7.00E+01								
50-00-0	VOCs	formaldehyde			1.60E+03	2.10E+00	3.50E+03	2.10E+01							
64-18-6	VOCs	formic acid			7.20E+03		1.60E+04								
39148-24-8	Pesticides	fosetyl-al			4.80E+04		1.10E+05								
110-00-9	Furans	furan			8.00E+00		1.80E+01								

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Ground Water Method A (µg/L)	Ground Water Method B Non cancer (µg/L)	Ground Water Method B Cancer (µg/L)	Ground Water Method C Non cancer (µg/L)	Ground Water Method C Cancer (µg/L)	Ground Water Maximum Contaminant Level Goal (µg/L)	Ground Water Federal Maximum Contaminant Level (µg/L)	Ground Water WA State Maximum Contaminant Level (µg/L)	Surface Water Method B Non cancer (µg/L)	Surface Water Method B Cancer (µg/L)	Surface Water Method C Non cancer (µg/L)	Surface Water Method C Cancer (µg/L)
67-45-8	SVOCs	furazolidone				2.30E-02		2.30E-01							
98-01-1	VOCs	furfural			2.40E+01		5.30E+01								
531-82-8	SVOCs	furium				5.80E-02		5.80E-01							
60568-05-0	Pesticides	furmecyclox				2.90E+00		2.90E+01							
77182-82-2	SVOCs	glufosinate-ammonium			6.40E+00		1.40E+01								
765-34-4	VOCs	glycidaldehyde			3.20E+00		7.00E+00								
1071-83-6	SVOCs	glyphosate			1.60E+03		3.50E+03		7.00E+02	7.00E+02	7.00E+02				
unavailable20	Radionuclides	gross alpha particle activity	ALPHA PARTICLE NOTE	1.50E+01					0.00E+00	1.50E+01	1.50E+01				
unavailable21	Radionuclides	gross beta particle activity	BETA PARTICLE NOTE	4.00E+00					0.00E+00	4.00E+00	4.00E+00				
86-50-0	Pesticides	guthion			4.80E+01		1.10E+02								
69806-40-2	Pesticides	haloxyfop-methyl			8.00E-01		1.80E+00								
79277-27-3	Pesticides	harmony			2.10E+02		4.60E+02								
76-44-8	Pesticides	heptachlor			8.00E+00	1.90E-02	1.80E+01	1.90E-01	0.00E+00	4.00E-01	4.00E-01	1.20E-01	1.30E-04	2.90E-01	3.20E-03
1024-57-3	Pesticides	heptachlor epoxide			1.00E-01	4.80E-03	2.30E-01	4.80E-02	0.00E+00	2.00E-01	2.00E-01	3.00E-03	6.40E-05	7.50E-03	1.60E-03
142-82-5	VOCs	heptane;n-			2.40E+00		5.30E+00								
87-82-1	SVOCs	hexabromobenzene			3.20E+01		7.00E+01								
68631-49-2	PBDEs	hexabromodiphenyl ether; 2,2',4,4',5,5'-			3.20E+00		7.00E+00								
118-74-1	Pesticides	hexachlorobenzene			1.30E+01	5.50E-02	2.80E+01	5.50E-01	0.00E+00	1.00E+00	1.00E+00	2.40E-01	4.70E-04	6.00E-01	1.20E-02
87-68-3	VOCs	hexachlorobutadiene			8.00E+00	5.60E-01	1.80E+01	5.60E+00				9.30E+02	3.00E+01	2.30E+03	7.50E+02
319-84-6	Pesticides	hexachlorocyclohexane;alpha			1.30E+02	1.40E-02	2.80E+02	1.40E-01				1.60E+02	7.90E-03	4.00E+02	2.00E-01
319-85-7	Pesticides	hexachlorocyclohexane;beta-				4.90E-02		4.90E-01					2.80E-02		6.90E-01
319-86-8	Pesticides	hexachlorocyclohexane;delta-													
608-73-1	SVOCs	hexachlorocyclohexane;technical				4.90E-02		4.90E-01							
77-47-4	Pesticides	hexachlorocyclopentadiene			4.80E+01		1.10E+02		5.00E+01	5.00E+01	5.00E+01	3.60E+03		9.00E+03	
19408-74-3	Dioxins	hexachlorodibenzo-p-dioxin, mixture				1.40E-05		1.40E-04							
67-72-1	VOCs	hexachloroethane			5.60E+00	1.10E+00	1.20E+01	1.10E+01				2.10E+01	1.90E+00	5.20E+01	4.70E+01
70-30-4	SVOCs	hexachlorophene			4.80E+00		1.10E+01								
822-06-0	VOCs	hexamethylene diisocyanate;1,6-													
110-54-3	VOCs	hexane;n-			4.80E+02		1.10E+03								
591-78-6	VOCs	hexanone;2-			4.00E+01		8.80E+01								
51235-04-2	Pesticides	hexazinone			5.30E+02		1.20E+03								
302-01-2	VOCs	hydrazine				1.50E-02		1.50E-01							
10034-93-2	SVOCs	hydrazine sulfate				2.90E-02		2.90E-01							
7647-01-0	VOCs	hydrogen chloride													
74-90-8	Cyanides	hydrogen cyanide			4.80E+00		1.10E+01								
7783-06-4	VOCs	hydrogen sulfide													
123-31-9	SVOCs	hydroquinone			6.40E+02	1.50E+00	1.40E+03	1.50E+01							
35554-44-0	Pesticides	imazalil			2.10E+02		4.60E+02								
81335-37-7	Pesticides	imazaquin			4.00E+03		8.80E+03								
193-39-5	cPAHs	INDENO[1,2,3-cd]PYRENE	PAH NOTES												
36734-19-7	Pesticides	iprodione			6.40E+02		1.40E+03								
7439-89-6	Metals	iron			1.10E+04		2.50E+04								
78-83-1	VOCs	isobutyl alcohol			2.40E+03		5.30E+03								
78-59-1	SVOCs	isophorone			1.60E+03	4.60E+01	3.50E+03	4.60E+02				1.20E+05	1.60E+03	3.00E+05	3.90E+04
33820-53-0	Pesticides	isopropalin			2.40E+02		5.30E+02								
1832-54-8	SVOCs	isopropyl methyl phosphonic acid			1.60E+03		3.50E+03								
82558-50-7	Pesticides	isoxaben			8.00E+02		1.80E+03								
77501-63-4	Pesticides	lactofen			3.20E+01		7.00E+01								
7439-92-1	Metals	LEAD	LEAD NOTES	1.50E+01					0.00E+00	1.50E+01	1.50E+01				
unavailable02	Metals	lead alkyls													
58-89-9	Pesticides	lindane		2.00E-01	4.80E+00	8.00E-02	1.10E+01	8.00E-01	2.00E-01	2.00E-01	2.00E-01	6.00E+00	4.50E-02	1.50E+01	1.10E+00
330-55-2	Pesticides (Carbamate)	linuron			3.20E+01		7.00E+01								
7791-03-9	Perchlorates	lithium perchlorate			1.10E+01		2.50E+01								
83055-99-6	Pesticides	londax			3.20E+03		7.00E+03								

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	**Ground Water** Method A (µg/L)	**Ground Water** Method B Non cancer (µg/L)	**Ground Water** Method B Cancer (µg/L)	**Ground Water** Method C Non cancer (µg/L)	**Ground Water** Method C Cancer (µg/L)	**Ground Water** Maximum Contaminant Level Goal (µg/L)	**Ground Water** Federal Maximum Contaminant Level (µg/L)	**Ground Water** WA State Maximum Contaminant Level (µg/L)	**Surface Water** Method B Non cancer (µg/L)	**Surface Water** Method B Cancer (µg/L)	**Surface Water** Method C Non cancer (µg/L)	**Surface Water** Method C Cancer (µg/L)
121-75-5	Pesticides	malathion			3.20E+02		7.00E+02								
108-31-6	SVOCs	maleic anhydride			8.00E+02		1.80E+03								
123-33-1	SVOCs	maleic hydrazide			8.00E+03		1.80E+04								
109-77-3	VOCs	malononitrile			8.00E-01		1.80E+00								
8018-01-7	Pesticides	mancozeb			4.80E+02		1.10E+03								
12427-38-2	Pesticides	maneb			8.00E+01		1.80E+02								
7439-96-5	Metals	MANGANESE (Diet)	MANGANESE NOTES												
7439-96-5a	Metals	MANGANESE (Non-Diet)	MANGANESE NOTES		7.50E+02		1.60E+03								
950-10-7	Pesticides	mephosfolan			1.40E+00		3.20E+00								
24307-26-4	Pesticides	mepiquat chloride			4.80E+02		1.10E+03								
7487-94-7	Metals	mercuric chloride			4.80E+00		1.10E+01								
7439-97-6	Metals	mercury		2.00E+00					2.00E+00	2.00E+00	2.00E+00				
150-50-5	Pesticides	merphos			4.80E-01		1.10E+00								
57837-19-1	Pesticides	metalaxyl			9.60E+02		2.10E+03								
126-98-7	VOCs	methacrylonitrile			8.00E-01		1.80E+00								
10265-92-6	Pesticides	methamidosphos			8.00E-01		1.80E+00								
67-56-1	VOCs	methanol			1.60E+04		3.50E+04								
950-37-8	Pesticides	methidathion			1.60E+01		3.50E+01								
16752-77-5	Pesticides (Carbamate)	methomyl			4.00E+02		8.80E+02								
99-59-2	SVOCs	methoxy-5-nitroaniline;2-				1.80E+00		1.80E+01							
72-43-5	Pesticides	methoxychlor			8.00E+01		1.80E+02		4.00E+01	4.00E+01	4.00E+01	8.40E+00		2.10E+01	
110-49-6	VOCs	methoxyethanol acetate;2-			6.40E+01		1.40E+02								
109-86-4	VOCs	methoxyethanol;2-			4.00E+01		8.80E+01								
79-20-9	VOCs	methyl acetate			8.00E+03		1.80E+04								
96-33-3	VOCs	methyl acrylate			2.40E+02		5.30E+02								
78-93-3	VOCs	methyl ethyl ketone			4.80E+03		1.10E+04								
108-10-1	VOCs	methyl isobutyl ketone			6.40E+02		1.40E+03								
22967-92-6	Metals (organometallic)	METHYL MERCURY	METHYL MERCURY NOTES		1.60E+00		3.50E+00								
80-62-6	VOCs	methyl methacrylate			1.10E+04		2.50E+04								
90-12-0	PAHs	methyl naphthalene;1-			5.60E+02	1.50E+00	1.20E+03	1.50E+01							
91-57-6	PAHs	methyl naphthalene;2-			3.20E+01		7.00E+01								
298-00-0	Pesticides	methyl parathion			4.00E+00		8.80E+00								
25013-15-4	VOCs	methyl styrene			4.80E+01		1.10E+02								
98-83-9	SVOCs	methyl styrene, alpha			5.60E+02		1.20E+03								
1634-04-4	VOCs	methyl tert-butyl ether		2.00E+01		2.40E+01		2.40E+02							
94-74-6	Herbicides	methyl-4-chlorophenoxy-acetic acid;2-			8.00E+00		1.80E+01								
99-55-8	SVOCs	methyl-5-nitroaniline;2-			3.20E+02	9.70E+00	7.00E+02	9.70E+01							
636-21-5	SVOCs	methylaniline hydrochloride;2-				6.70E-01		6.70E+00							
95-53-4	VOCs	methylaniline;2-				2.70E+00		2.70E+01							
108-87-2	VOCs	methylcyclohexane													
101-14-4	SVOCs	methylene bis(2-chloroaniline);4,4'-			3.20E+01	8.80E-01	7.00E+01	8.80E+00							
101-61-1	SVOCs	methylene bis(n,n'-dimethyl)aniline;4,4'-				1.90E+00		1.90E+01							
74-95-3	VOCs	methylene bromide			8.00E+01		1.80E+02								
75-09-2	VOCs	methylene chloride		5.00E+00	4.80E+01	2.20E+01	1.10E+02	2.20E+02	0.00E+00	5.00E+00	5.00E+00	1.70E+04	3.60E+03	4.30E+04	9.00E+04
101-68-8	SVOCs	methylene diphenyl diisocyanate (MDI)													
9016-87-9	SVOCs	methylene diphenyl diisocyanate (PMDI)													
101-77-9	SVOCs	methylenebisbenzenamine;4,4-				5.50E-02		5.50E-01							
60-34-4	VOCs	methylhydrazine			8.00E+00		1.80E+01								
51218-45-2	Pesticides	metolachlor			2.40E+03		5.30E+03								
21087-64-9	Pesticides	metribuzin			4.00E+02		8.80E+02								
7786-34-7	Pesticides	mevinphos													
2385-85-5	Pesticides	mirex			3.20E+00	4.90E-03	7.00E+00	4.90E-02							
2212-67-1	Pesticides	molinate			3.20E+01		7.00E+01								
7439-98-7	Metals	molybdenum			8.00E+01		1.80E+02								

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Ground Water Method A (µg/L)	Ground Water Method B Non cancer (µg/L)	Ground Water Method B Cancer (µg/L)	Ground Water Method C Non cancer (µg/L)	Ground Water Method C Cancer (µg/L)	Ground Water Maximum Contaminant Level Goal (µg/L)	Ground Water Federal Maximum Contaminant Level (µg/L)	Ground Water WA State Maximum Contaminant Level (µg/L)	Surface Water Method B Non cancer (µg/L)	Surface Water Method B Cancer (µg/L)	Surface Water Method C Non cancer (µg/L)	Surface Water Method C Cancer (µg/L)
10599-90-3	Disinfectants	monochloramine	MCL FOR DISINFECTANTS		1.60E+03		3.50E+03		4.00E+03	4.00E+03	4.00E+03				
unavailable03	SVOCs	monochlorobutanes (not in HSDB)													
300-76-5	Pesticides	naled			3.20E+01		7.00E+01								
91-20-3	PAHs	naphthalene		1.60E+02	1.60E+02		3.50E+02					4.90E+03		1.20E+04	
15299-99-7	Pesticides	napropamide			1.60E+03		3.50E+03								
104-51-8	VOCs	n-butylbenzene			4.00E+02		8.80E+02								
2429-74-5	Dyes	niagara blue 4B													
unavailable04	Metals	nickel refinery dust			1.80E+02		3.90E+02								
7440-02-0	Metals	NICKEL SOLUBLE SALTS	HARDNESS - DEPENDENT		3.20E+02		7.00E+02				1.00E+02	1.10E+03		2.80E+03	
12035-72-2	Metals	nickel subsulfide			1.80E+02	5.10E-02	3.90E+02	5.10E-01							
14797-55-8	Nutrients	nitrate			2.60E+04		5.60E+04		1.00E+04	1.00E+04	1.00E+04				
10102-43-9	Gases	nitric oxide													
14797-65-0	Nutrients	nitrite			1.60E+03		3.50E+03		1.00E+03	1.00E+03	1.00E+03				
88-74-4	SVOCs	nitroaniline, 2-			1.60E+02		3.50E+02								
100-01-6	SVOCs	nitroaniline, 4-			6.40E+01		1.40E+02								
98-95-3	Explosives	nitrobenzene			1.60E+01		3.50E+01					1.80E+03		4.50E+03	
67-20-9	SVOCs	nitrofurantoin			1.10E+03		2.50E+03								
59-87-0	SVOCs	nitrofurazone				6.70E-02		6.70E-01							
10102-44-0	Gases	nitrogen dioxide													
556-88-7	SVOCs	nitroguanidine			1.60E+03		3.50E+03								
79-46-9	VOCs	nitropropane;2-													
1116-54-7	SVOCs	nitrosodiethanolamine;N-				3.10E-02		3.10E-01							
55-18-5	SVOCs	nitrosodiethylamine;N-				2.90E-04		2.90E-03							
62-75-9	SVOCs	nitrosodimethylamine;N-			6.40E-02	8.60E-04	1.40E-01	8.60E-03				8.00E+02	4.90E+00	2.00E+03	1.20E+02
924-16-3	VOCs	nitroso-di-n-butylamine;N-				8.10E-03		8.10E-02							
621-64-7	SVOCs	nitroso-di-n-propylamine;N-				1.30E-02		1.30E-01					8.20E-01		2.00E+01
86-30-6	SVOCs	nitrosodiphenylamine;N-				1.80E+01		1.80E+02					9.70E+00		2.40E+02
4549-40-0	SVOCs	nitrosomethylvinylamine,n-													
759-73-9	SVOCs	nitroso-n-ethylurea;n-				3.20E-03		3.20E-02							
10595-95-6	SVOCs	nitroso-N-methylethylamine;N-				4.00E-03		4.00E-02							
684-93-5	SVOCs	nitroso-n-methylurea,n-				7.30E-04		7.30E-03							
930-55-2	SVOCs	nitrosopyrrolidine;N-				2.10E-02		2.10E-01							
99-08-1	Explosives	nitrotoluene, m-			8.00E-01		1.80E+00								
88-72-2	Explosives	nitrotoluene, o-			7.20E+00	2.00E-01	1.60E+01	2.00E+00							
99-99-0	Explosives	nitrotoluene, p-			3.20E+01	2.70E+00	7.00E+01	2.70E+01							
1321-12-6	Explosives	nitrotoluenes;o-,m-,p-													
84852-15-3	Phenols	nonylphenol													
27314-13-2	Pesticides	norflurazon			6.40E+02		1.40E+03								
85509-19-9	Herbicides	nustar			1.10E+01		2.50E+01								
32536-52-0	PBDEs	octabromodiphenyl ether			4.80E+01		1.10E+02					2.40E+03		6.10E+03	
2691-41-0	Explosives	octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine			8.00E+02		1.80E+03								
152-16-9	SVOCs	octamethylpyrophosphoramide			3.20E+01		7.00E+01								
19044-88-3	Pesticides	oryzalin			8.00E+02		1.80E+03								
19666-30-9	Pesticides	oxadiazon			8.00E+01		1.80E+02								
23135-22-0	Pesticides (Carbamate)	oxamyl			4.00E+02		8.80E+02		2.00E+02	2.00E+02	2.00E+02				
42874-03-3	Pesticides	oxyfluorfen			4.80E+01		1.10E+02								
76738-62-0	Herbicides	paclobutrazol			2.10E+02		4.60E+02								
unavailable05	PAHs	PAHs	PAH NOTES												
4685-14-7	Pesticides	paraquat													
56-38-2	Pesticides	parathion			9.60E+01		2.10E+02								
1114-71-2	Pesticides	pebulate			4.00E+02		8.80E+02								
40487-42-1	Pesticides	pendimethalin			6.40E+02		1.40E+03								
87-84-3	SVOCs	pentabromo-6-chloro-cyclohexane;1,2,3,4,5-			3.20E+02	3.80E+00	7.00E+02	3.80E+01							
60348-60-9	PBDEs	pentabromodiphenyl ether; 2,2',4,4',5-			1.60E+00		3.50E+00					3.20E-02		8.00E-02	

Cleanup Levels and Risk Calculation (CLARC) Master Table - May 2019

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Ground Water Method A (µg/L)	Ground Water Method B Non cancer (µg/L)	Ground Water Method B Cancer (µg/L)	Ground Water Method C Non cancer (µg/L)	Ground Water Method C Cancer (µg/L)	Ground Water Maximum Contaminant Level Goal (µg/L)	Ground Water Federal Maximum Contaminant Level (µg/L)	Ground Water WA State Maximum Contaminant Level (µg/L)	Surface Water Method B Non cancer (µg/L)	Surface Water Method B Cancer (µg/L)	Surface Water Method C Non cancer (µg/L)	Surface Water Method C Cancer (µg/L)
32534-81-9	PBDEs	pentabromodiphenyl ethers			3.20E+01		7.00E+01								
608-93-5	SVOCs	pentachlorobenzene			1.30E+01		2.80E+01								
82-68-8	Pesticides	pentachloronitrobenzene			4.80E+01	3.40E-01	1.10E+02	3.40E+00							
87-86-5	Herbicides	PENTACHLOROPHENOL	pH-DEPENDENT		8.00E+01	2.20E-01	1.80E+02	2.20E+00	0.00E+00	1.00E+00	1.00E+00	1.20E+03	1.50E+00	2.90E+03	3.70E+01
14797-73-0	Perchlorates	perchlorate and perchlorate salts			1.10E+01		2.50E+01								
52645-53-1	Pesticides	permethrin			8.00E+02		1.80E+03								
72-56-0	Pesticides	perthane													
unavailable19	General Chemistry	pH	pH NOTES												
85-01-8	PAHs	phenanthrene													
13684-63-4	Pesticides	phenmedipham			4.00E+03		8.80E+03								
108-95-2	Phenols	phenol			2.40E+03		5.30E+03					5.60E+05		1.40E+06	
106-50-3	SVOCs	phenylenediamine, p-			3.00E+03		6.70E+03								
108-45-2	SVOCs	phenylenediamine;m-			9.60E+01		2.10E+02								
95-54-5	SVOCs	phenylenediamine;o-			6.40E+01	1.90E+00	1.40E+02	1.90E+01							
62-38-4	Metals (organometallic)	phenylmercuric acetate			1.30E+00		2.80E+00								
90-43-7	Phenols	phenylphenol;2-				4.60E+01		4.60E+02							
298-02-2	Pesticides	phorate			3.20E+00		7.00E+00								
75-44-5	VOCs	phosgene													
732-11-6	Pesticides	phosmet			3.20E+02		7.00E+02								
7803-51-2	Gases	phosphine			2.40E+00		5.30E+00								
7664-38-2	SVOCs	phosphoric acid			3.90E+05		8.60E+05								
7723-14-0	Metals	phosphorus			1.60E-01		3.50E-01								
100-21-0	Phthalates	phthalic acid;p-			1.60E+04		3.50E+04								
85-44-9	Phthalates	phthalic anhydride			3.20E+04		7.00E+04								
1918-02-1	Herbicides	picloram			1.10E+03		2.50E+03		5.00E+02	5.00E+02	5.00E+02				
29232-93-7	Pesticides	pirimiphos-methyl			1.60E+02		3.50E+02								
59536-65-1	PBBs	polybrominated biphenyls			1.10E-01	2.90E-03	2.50E-01	2.90E-02							
1336-36-3	PCBs	polychlorinated biphenyls (PCBs)		1.00E-01		4.40E-02		4.40E-01	0.00E+00	5.00E-01	5.00E-01		1.00E-04		2.60E-03
151-50-8	Cyanides	potassium cyanide			3.20E+01		7.00E+01								
7778-74-7	Perchlorates	potassium perchlorate			1.10E+01		2.50E+01								
506-61-6	Cyanides	potassium silver cyanide			8.00E+01		1.80E+02								
67747-09-5	Pesticides	prochloraz (not in HSDB)			1.40E+02	5.80E-01	3.20E+02	5.80E+00							
26399-36-0	Pesticides	profluralin			9.60E+01		2.10E+02								
1610-18-0	Pesticides	prometon			2.40E+02		5.30E+02								
7287-19-6	Pesticides	prometryn			6.40E+01		1.40E+02								
23950-58-5	Pesticides	pronamide			1.20E+03		2.60E+03								
1918-16-7	Pesticides	propachlor			2.10E+02		4.60E+02								
709-98-8	Pesticides	propanil			8.00E+01		1.80E+02								
2312-35-8	Pesticides	propargite			1.60E+02		3.50E+02								
107-19-7	VOCs	propargyl alcohol			1.60E+01		3.50E+01								
139-40-2	Pesticides	propazine			3.20E+02		7.00E+02								
122-42-9	Pesticides	propham			3.20E+02		7.00E+02								
60207-90-1	Pesticides	propiconazole			2.10E+02		4.60E+02								
123-38-6	VOCs	propionaldehyde													
93-65-2	Herbicides	propionic acid;(2-methyl-4-chlorophenoxy)2-			1.60E+01		3.50E+01								
103-65-1	VOCs	propylbenzene;n-			8.00E+02		1.80E+03								
57-55-6	Glycols	propylene glycol			1.60E+05		3.50E+05								
6423-43-4	Glycols	propylene glycol dinitrate;1,2-													
52125-53-8	Glycols	propylene glycol monoethyl ether			5.60E+03		1.20E+04								
107-98-2	Glycols	propylene glycol monomethyl ether			5.60E+03		1.20E+04								
75-56-9	VOCs	propylene oxide				1.80E-01		1.80E+00							
81335-77-5	Pesticides	pursuit			4.00E+03		8.80E+03								
51630-58-1	Pesticides	pydrin			4.00E+02		8.80E+02								
129-00-0	PAHs	pyrene			4.80E+02		1.10E+03					2.60E+03		6.50E+03	

Cleanup Levels and Risk Calculation (CLARC) Master Table - May 2019

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110-86-1	VOCs	pyridine			8.00E+00		1.80E+01								
13593-03-8	Pesticides	quinalphos			8.00E+00		1.80E+01								
91-22-5	SVOCs	quinoline				1.50E-02		1.50E-01							
13982-63-3	Radionuclides	radium 226	RADIUM 226 NOTE	3.00E+00											
unavailable23	Radionuclides	radium 226 and 228	RADIUM 226 & 228 NOTES	5.00E+00					0.00E+00	5.00E+00	5.00E+00				
121-82-4	Explosives	rdx			6.40E+01	1.10E+00	1.40E+02	1.10E+01							
unavailable07	Fibers	REFRACTORY CERAMIC FIBERS	REFRACTORY FIBER NOTE												
10453-86-8	Pesticides	resmethrin			4.80E+02		1.10E+03								
299-84-3	Pesticides	ronnel			8.00E+02		1.80E+03								
83-79-4	Pesticides	rotenone			6.40E+01		1.40E+02								
78-48-8	Pesticides	s,s;s-tributylphosphorotrithioate			4.80E-01		1.10E+00								
78587-05-0	Pesticides	savey			4.00E+02		8.80E+02								
135-98-8	VOCs	sec-butylbenzene			8.00E+02		1.80E+03								
7783-00-8	Metals	selenious acid			8.00E+01		1.80E+02								
7782-49-2	Metals	selenium and compounds			8.00E+01		1.80E+02		5.00E+01	5.00E+01	5.00E+01	2.70E+03		6.80E+03	
630-10-4	Metals (organometallic)	selenourea													
74051-80-2	Pesticides	sethoxydim			1.40E+03		3.20E+03								
7440-22-4	Metals	SILVER	HARDNESS - DEPENDENT		8.00E+01		1.80E+02					2.60E+04		6.50E+04	
506-64-9	Cyanides	silver cyanide			1.60E+03		3.50E+03								
122-34-9	Pesticides	simazine			8.00E+01	7.30E-01	1.80E+02	7.30E+00	4.00E+00	4.00E+00	4.00E+00				
26628-22-8	Metals	sodium azide			3.20E+01		7.00E+01								
143-33-9	Cyanides	sodium cyanide			1.60E+01		3.50E+01								
148-18-5	Metals (organometallic)	sodium diethyldithiocarbamate			4.80E+02	3.20E-01	1.10E+03	3.20E+00							
62-74-8	Metals (organometallic)	sodium fluoroacetate			3.20E-01		7.00E-01								
13718-26-8	Metals	sodium metavanadate			1.60E+01		3.50E+01								
7601-89-0	Perchlorates	sodium perchlorate			1.10E+01		2.50E+01								
7440-24-6	Metals	strontium			9.60E+03		2.10E+04								
57-24-9	SVOCs	strychnine			4.80E+00		1.10E+01								
100-42-5	VOCs	styrene			1.60E+03		3.50E+03		1.00E+02	1.00E+02	1.00E+02				
unavailable17	Metals	sulfate													
88671-89-0	Pesticides	systhane			4.00E+02		8.80E+02								
1746-01-6	Dioxins	TCDD;2,3,7,8- (LOW ORGANIC) (DIOXIN)	TEF NOTES		1.10E-05	6.70E-07	2.50E-05	6.70E-06	0.00E+00	3.00E-05	3.00E-05	3.60E-07	1.00E-08	9.10E-07	2.50E-07
34014-18-1	Pesticides	tebuthiuron			1.10E+03		2.50E+03								
3383-96-8	Pesticides	temephos			3.20E+02		7.00E+02								
5902-51-2	Pesticides	terbacil			2.10E+02		4.60E+02								
13071-79-9	SVOCs	terbufos			4.00E-01		8.80E-01								
886-50-0	Pesticides	terbutryn			1.60E+01		3.50E+01								
98-06-6	VOCs	tert-butylbenzene			8.00E+02		1.80E+03								
5436-43-1	PBDEs	tetrabromodiphenyl ether 2,2',4,4'			1.60E+00		3.50E+00								
95-94-3	SVOCs	tetrachlorobenzene;1,2,4,5-			4.80E+00		1.10E+01								
630-20-6	VOCs	tetrachloroethane;1,1,1,2-			2.40E+02	1.70E+00	5.30E+02	1.70E+01							
79-34-5	VOCs	tetrachloroethane;1,1,2,2-			1.60E+02	2.20E-01	3.50E+02	2.20E+00				1.00E+04	6.50E+00	2.60E+04	1.60E+02
127-18-4	VOCs	TETRACHLOROETHYLENE (PCE)	PCE NOTES	5.00E+00	4.80E+01	2.10E+01	1.10E+02	2.10E+02	0.00E+00	5.00E+00	5.00E+00	5.00E+02	1.00E+02	1.30E+03	2.50E+03
58-90-2	Phenols	TETRACHLOROPHENOL;2,3,4,6-	pH-DEPENDENT		4.80E+02		1.10E+03								
5216-25-1	VOCs	tetrachlorotoluene;p,a,a,a,-				4.40E-03		4.40E-02							
961-11-5	Pesticides	tetrachlorvinphos			4.80E+02	3.60E+00	1.10E+03	3.60E+01							
3689-24-5	Pesticides	tetraethyl dithiopyrophosphate			8.00E+00		1.80E+01								
78-00-2	Metals (organometallic)	tetraethyl lead			8.00E-04		1.80E-03								
811-97-2	VOCs	tetrafluoroethane;1,1,1,2-													
109-99-9	Furans	tetrahydrofuran			7.20E+03		1.60E+04								
1314-32-5	Metals	thallic oxide			3.20E-01		7.00E-01								
563-68-8	Metals	thallium acetate			1.60E-01		3.50E-01								
6533-73-9	Metals	thallium carbonate			3.20E-01		7.00E-01								
7791-12-0	Metals	thallium chloride			1.60E-01		3.50E-01								

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10102-45-1	Metals	thallium nitrate			1.60E-01		3.50E-01								
12039-52-0	Metals	thallium selenite			1.60E-01		3.50E-01								
7446-18-6	Metals	thallium(I) sulfate			3.20E-01		7.00E-01								
7440-28-0	Metals	thallium, soluble salts			1.60E-01		3.50E-01		5.00E-01	2.00E+00	2.00E+00	2.20E-01		5.60E-01	
28249-77-6	Pesticides	thiobencarb			1.60E+02		3.50E+02								
21564-17-0	SVOCs	thiocyanomethylthiobenzothiazole;2-			4.80E+02		1.10E+03								
39196-18-4	Pesticides	thiofanox			4.80E+00		1.10E+01								
23564-05-8	Pesticides	thiophanate-methyl			1.30E+03		2.80E+03								
137-26-8	Pesticides	thiram			4.00E+01		8.80E+01								
7440-31-5	Metals	tin			9.60E+03		2.10E+04								
118-96-7	Explosives	tnt			8.00E+00	2.90E+00	1.80E+01	2.90E+01							
108-88-3	VOCs	toluene		1.00E+03	6.40E+02		1.40E+03		1.00E+03	1.00E+03	1.00E+03	1.90E+04		4.80E+04	
26471-62-5	VOCs	toluene diisocyanate mixture;2,4-/2,6-				1.10E+00		1.10E+01							
584-84-9	VOCs	toluene-2,4-diisocyanate				1.10E+00		1.10E+01							
91-08-7	VOCs	toluene-2,6-diisocyanate				1.10E+00		1.10E+01							
95-80-7	SVOCs	toluenediamine;2,4-													
95-70-5	SVOCs	toluenediamine;2,5-			3.20E+00	4.90E-01	7.00E+00	4.90E+00							
823-40-5	SVOCs	toluenediamine;2,6-													
106-49-0	SVOCs	toluidine;p-			3.20E+01	1.50E+00	7.00E+01	1.50E+01							
unavailable18	General Chemistry	total dissolved solids													
8001-35-2	Pesticides	toxaphene			1.40E+00	8.00E-02	3.20E+00	8.00E-01	0.00E+00	3.00E+00	3.00E+00	1.80E-02	4.50E-04	4.50E-02	1.10E-02
93-72-1	Herbicides	tp;2,4,5-			1.30E+02		2.80E+02		5.00E+01	5.00E+01	5.00E+01				
unavailable09	Petroleum	tph, diesel range organics		5.00E+02											
unavailable10	Petroleum	tph, heavy oils		5.00E+02											
unavailable11	Petroleum	tph, mineral oils		5.00E+02											
unavailable25	Petroleum	tph: gasoline range organics, benzene present		8.00E+02											
unavailable08	Petroleum	tph: gasoline range organics, no detectable benzene		1.00E+03											
66841-25-6	Pesticides	tralomethrin			1.20E+02		2.60E+02								
2303-17-5	Pesticides	triallate			2.10E+02		4.60E+02								
82097-50-5	Pesticides	triasulfuron			1.60E+02		3.50E+02								
615-54-3	VOCs	tribromobenzene;1,2,4-			8.00E+01		1.80E+02								
688-73-3	Organotins	tributyltin													
56-35-9	Organotins	tributyltin oxide			4.80E+00		1.10E+01								
10025-85-1	Disinfectants	trichloramine	MCL FOR DISINFECTANTS						4.00E+03	4.00E+03	4.00E+03				
76-13-1	VOCs	trichloro-1,2,2-trifluoroethane;1,1,2-			2.40E+05		5.30E+05								
76-03-9	SVOCs	trichloroacetic acid			3.20E+02	1.30E+00	7.00E+02	1.30E+01	2.00E+01	6.00E+01	6.00E+01				
33663-50-2	SVOCs	trichloroaniline hydrochloride;2,4,6-				3.00E+00		3.00E+01							
634-93-5	SVOCs	trichloroaniline;2,4,6-			4.80E-01	1.30E+01	1.10E+00	1.30E+02							
120-82-1	VOCs	trichlorobenzene;1,2,4-			8.00E+01	1.50E+00	1.80E+02	1.50E+01	7.00E+01	7.00E+01	7.00E+01	2.30E+02	2.00E+00	5.70E+02	4.90E+01
71-55-6	VOCs	trichloroethane;1,1,1-		2.00E+02	1.60E+04		3.50E+04		2.00E+02	2.00E+02	2.00E+02	9.30E+05		2.30E+06	
79-00-5	VOCs	trichloroethane;1,1,2-			3.20E+01	7.70E-01	7.00E+01	7.70E+00	3.00E+00	5.00E+00	5.00E+00	2.30E+03	2.50E+01	5.80E+03	6.30E+02
79-01-6	VOCs	TRICHLOROETHYLENE (TCE)	TCE NOTES	5.00E+00	4.00E+00	5.40E-01	8.80E+00	9.40E+00	0.00E+00	5.00E+00	5.00E+00	1.20E+02	1.30E+01	2.90E+02	3.20E+02
75-69-4	VOCs	trichlorofluoromethane			2.40E+03		5.30E+03								
95-95-4	Phenols	TRICHLOROPHENOL;2,4,5-	pH-DEPENDENT		8.00E+02		1.80E+03								
88-06-2	Phenols	TRICHLOROPHENOL;2,4,6-	pH-DEPENDENT		8.00E+00	4.00E+00	1.80E+01	4.00E+01				1.70E+01	3.90E+00	4.30E+01	9.80E+01
93-76-5	Herbicides	trichlorophenoxyacetic acid;2,4,5-			1.60E+02		3.50E+02								
598-77-6	VOCs	trichloropropane;1,1,2-			4.00E+01		8.80E+01								
96-18-4	VOCs	trichloropropane;1,2,3-			3.20E+01	1.50E-03	7.00E+01	1.50E-02							
96-19-5	VOCs	trichloropropene;1,2,3-			2.40E+01		5.30E+01								
58138-08-2	Pesticides	tridiphane			4.80E+01		1.10E+02								
121-44-8	VOCs	triethylamine													
1582-09-8	Pesticides	trifluralin			1.20E+02	1.10E+01	2.60E+02	1.10E+02							
unavailable13	VOCs	trihalomethanes, (total) (TTHMs)	TTHM NOTES							8.00E+01	8.00E+01				
512-56-1	SVOCs	trimethyl phosphate			8.00E+01	2.20E+00	1.80E+02	2.20E+01							
526-73-8	VOCs	trimethylbenzene;1,2,3-			8.00E+01		1.80E+02								
95-63-6	VOCs	trimethylbenzene;1,2,4-			8.00E+01		1.80E+02								
108-67-8	VOCs	trimethylbenzene;1,3,5-			8.00E+01		1.80E+02								

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Ground Water Method A (µg/L)	Ground Water Method B Non cancer (µg/L)	Ground Water Method B Cancer (µg/L)	Ground Water Method C Non cancer (µg/L)	Ground Water Method C Cancer (µg/L)	Ground Water Maximum Contaminant Level Goal (µg/L)	Ground Water Federal Maximum Contaminant Level (µg/L)	Ground Water WA State Maximum Contaminant Level (µg/L)	Surface Water Method B Non cancer (µg/L)	Surface Water Method B Cancer (µg/L)	Surface Water Method C Non cancer (µg/L)	Surface Water Method C Cancer (µg/L)
99-35-4	Explosives	trinitrobenzene;1,3,5-			4.80E+02		1.10E+03								
479-45-8	Explosives	trinitrophenylmethylnitramine			1.60E+01		3.50E+01								
unavailable12	Radionuclides	uranium, soluble salts			4.80E+01		1.10E+02		0.00E+00	3.00E+01	3.00E+01				
7440-62-2	Metals	vanadium			8.00E+01		1.80E+02								
1314-62-1	Metals	vanadium pentoxide			1.40E+02		3.20E+02								
27774-13-6	Metals	vanadyl sulfate													
1929-77-7	Pesticides	vernam			8.00E+00		1.80E+01								
50471-44-8	Pesticides	vinclozolin			4.00E+02		8.80E+02								
108-05-4	VOCs	vinyl acetate			8.00E+03		1.80E+04								
75-01-4	VOCs	VINYL CHLORIDE	VINYL CHLORIDE NOTES	2.00E-01	2.40E+01	2.90E-02	5.30E+01	2.90E-01	0.00E+00	2.00E+00	2.00E+00	6.60E+03	3.70E+00	1.70E+04	9.20E+01
81-81-2	Pesticides	warfarin			2.40E+00		5.30E+00								
8012-95-1	Petroleum	white mineral oil			4.80E+04		1.10E+05								
108-38-3	VOCs	xylene;m-			1.60E+03		3.50E+03								
95-47-6	VOCs	xylene;o-			1.60E+03		3.50E+03								
106-42-3	VOCs	xylene;p-			1.60E+03		3.50E+03								
1330-20-7	VOCs	xylenes		1.00E+03	1.60E+03		3.50E+03		1.00E+04	1.00E+04	1.00E+04				
7440-66-6	Metals	ZINC	HARDNESS - DEPENDENT		4.80E+03		1.10E+04					1.70E+04		4.10E+04	
557-21-1	Cyanides	zinc cyanide			8.00E+02		1.80E+03								
1314-84-7	Metals	zinc phosphide			4.80E+00		1.10E+01								
12122-67-7	Pesticides	zineb			8.00E+02		1.80E+03								

Cleanup Levels and Risk Calculation (CLARC) Master Table - May 2019

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Surface Water Aquatic Life Fresh/Acute 173-201A WAC (µg/L)	Surface Water Aquatic Life Fresh/Acute CWA §304 (µg/L)	Surface Water Aquatic Life Fresh/Chronic 173-201A WAC (µg/L)	Surface Water Aquatic Life Fresh/Chronic CWA §304 (µg/L)	Surface Water Human Health Fresh Water 173-201A WAC (µg/L)	Surface Water Human Health Fresh Water 40 CFR 131.45 (µg/L)	Surface Water Human Health Fresh Water CWA §304 (µg/L)	Surface Water Aquatic Life Marine/Acute 173-201A WAC (µg/L)	Surface Water Aquatic Life Marine/Acute CWA §304 (µg/L)	Surface Water Aquatic Life Marine/Chronic 173-201A WAC (µg/L)	Surface Water Aquatic Life Marine/Chronic CWA §304 (µg/L)
83-32-9	PAHs	acenaphthene						1.10E+02	3.00E+01	7.00E+01				
208-96-8	PAHs	acenaphthylene												
30560-19-1	Pesticides	acephate												
75-07-0	VOCs	acetaldehyde												
34256-82-1	Pesticides	acetochlor												
67-64-1	VOCs	acetone												
75-86-5	VOCs	acetone cyanohydrin												
75-05-8	VOCs	acetonitrile												
98-86-2	SVOCs	acetophenone												
62476-59-9	Herbicides	acifluorfen, sodium												
107-02-8	VOCs	acrolein			3.00E+00		3.00E+00	1.00E+00		3.00E+00				
79-06-1	VOCs	acrylamide												
79-10-7	VOCs	acrylic acid												
107-13-1	VOCs	acrylonitrile						1.90E-02		6.10E-02				
15972-60-8	Pesticides	alachlor												
1596-84-5	Pesticides	alar												
116-06-3	Pesticides (Carbamate)	aldicarb												
1646-88-4	Pesticides (Carbamate)	aldicarb sulfone												
309-00-2	Pesticides	aldrin		2.50E+00	3.00E+00	1.90E-03		5.70E-06	4.10E-08	7.70E-07	7.10E-01	1.30E+00	1.90E-03	
74223-64-6	Pesticides	ally												
107-18-6	VOCs	allyl alcohol												
107-05-1	VOCs	allyl chloride												
7429-90-5	Metals	aluminum												
20859-73-8	Metals	aluminum phosphide												
67485-29-4	Pesticides	amdro												
834-12-8	Pesticides	ametryn												
591-27-5	Phenols	aminophenol;m-												
504-24-5	SVOCs	aminopyridine;4-												
33089-61-1	Pesticides	amitraz												
7664-41-7	Nutrients	AMMONIA	AMMONIA NOTES								2.30E+02		3.50E+01	
7790-98-9	Perchlorates	ammonium perchlorate												
7773-06-0	Pesticides	ammonium sulfamate												
62-53-3	SVOCs	aniline												
120-12-7	PAHs	anthracene						3.10E+03	1.00E+02	3.00E+02				
7440-36-0	Metals	antimony						1.20E+01	6.00E+00	5.60E+00				
1314-60-9	Metals	antimony pentoxide												
28300-74-5	Metals	antimony potassium tartrate												
1332-81-6	Metals	antimony tetroxide												
1309-64-4	Metals	antimony trioxide												
74115-24-5	Pesticides	apollo												
140-57-8	SVOCs	aramite												
12674-11-2	PCBs	aroclor 1016												
11097-69-1	PCBs	aroclor 1254												
11096-82-5	PCBs	aroclor 1260												
7440-38-2	Metals	arsenic, inorganic		3.60E+02	3.40E+02	1.90E+02	1.50E+02	1.00E+01	1.80E-02	1.80E-02	6.90E+01	6.90E+01	3.60E+01	3.60E+01
7784-42-1	Metals	arsine												
1332-21-4	Fibers	ASBESTOS	ASBESTOS NOTE					7.00E+06		7.00E+06				
76578-14-8	Pesticides	assure												
3337-71-1	Pesticides	asulam												
1912-24-9	Pesticides	atrazine												
65195-55-3	Pesticides	avermectin B1												
103-33-3	Pesticides	azobenzene												
7440-39-3	Metals	barium and compounds								1.00E+03				
542-62-1	Metals	barium cyanide												

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114-26-1	Pesticides	baygon												
43121-43-3	Pesticides	bayleton												
68359-37-5	Pesticides	baythroid												
1861-40-1	Pesticides	benefin												
17804-35-2	Pesticides	benomyl												
25057-89-0	Herbicides	bentazon												
100-52-7	SVOCs	benzaldehyde												
71-43-2	VOCs	BENZENE						4.40E-01		5.80E-01				
108-98-5	SVOCs	benzenethiol												
92-87-5	SVOCs	benzidine						2.00E-05		1.40E-04				
191-24-2	PAHs	benzo(g,h,i)perylene												
56-55-3	cPAHs	BENZO[a]ANTHRACENE	PAH NOTES					1.40E-02	1.60E-04	1.20E-03				
50-32-8	cPAHs	BENZO[a]PYRENE	PAH NOTES					1.40E-03	1.60E-05	1.20E-04				
205-99-2	cPAHs	BENZO[b]FLUORANTHENE	PAH NOTES					1.40E-02	1.60E-04	1.20E-03				
207-08-9	cPAHs	BENZO[k]FLUORANTHENE	PAH NOTES					1.40E-02	1.60E-03	1.20E-02				
65-85-0	SVOCs	BENZOIC ACID	pH-DEPENDENT											
98-07-7	VOCs	benzotrichloride												
100-51-6	SVOCs	benzyl alcohol												
100-44-7	VOCs	benzyl chloride												
7440-41-7	Metals	beryllium												
91-58-7	PAHs	beta-chloronaphthalene						1.70E+02	1.00E+02	8.00E+02				
141-66-2	SVOCs	bidrin												
82657-04-3	Pesticides	biphenthrin												
92-52-4	PAHs	biphenyl;1,1-												
108-60-1	VOCs	bis(2-chloro-1-methyl-ethyl)ether							4.00E+02	2.00E+02				
111-44-4	SVOCs	bis(2-chloroethyl)ether						2.00E-02		3.00E-02				
39638-32-9	VOCs	bis(2-chloroisopropyl) ether												
117-81-7	Phthalates	bis(2-ethylhexyl) phthalate						2.30E-01	4.50E-02	3.20E-01				
542-88-1	VOCs	bis(chloromethyl)ether								1.50E-04				
80-05-7	Phenols	bisphenol a												
7440-42-8	Metals	boron												
15541-45-4	Pesticides	bromate												
79-08-3	SVOCs	bromoacetic acid												
108-86-1	VOCs	bromobenzene												
75-27-4	VOCs	bromodichloromethane	TTHM NOTES					7.70E-01	7.30E-01	9.50E-01				
593-60-2	VOCs	bromoethene												
75-25-2	VOCs	bromoform	TTHM NOTES					5.80E+00	4.60E+00	7.00E+00				
74-83-9	VOCs	bromomethane						5.20E+02	3.00E+02	1.00E+02				
2104-96-3	Pesticides	bromophos												
1689-84-5	Herbicides	bromoxynil												
1689-99-2	Pesticides	bromoxynil octanoate												
106-99-0	VOCs	butadiene;1,3-												
71-36-3	VOCs	butanol;n-												
85-68-7	Phthalates	butyl benzyl phthalate						5.60E-01	1.30E-02	1.00E-01				
2008-41-5	Pesticides	butylate												
85-70-1	Phthalates	butylphthalyl butylglycolate												
94-81-5	SVOCs	butyric acid;4-(2-methyl-4-chlorophenoxy)-												
75-60-5	Pesticides	cacodylic acid												
7440-43-9	Metals	CADMIUM (POTABLE GROUNDWATER & SURFACE WATER)	CADMIUM NOTES	3.70E+00	1.80E+00	1.00E+00	7.20E-01				4.20E+01	3.30E+01	9.30E+00	7.90E+00
7440-43-9a	Metals	CADMIUM (SOIL & NONPOTABLE SURFACE WATER)	CADMIUM NOTES	3.70E+00	1.80E+00	1.00E+00	7.20E-01				4.20E+01	3.30E+01	9.30E+00	7.90E+00
592-01-8	Cyanides	calcium cyanide												
105-60-2	SVOCs	caprolactam												
2425-06-1	Pesticides	captafol												
133-06-2	Pesticides	captan												

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63-25-2	Pesticides (Carbamate)	carbaryl			2.10E+00		2.10E+00					1.60E+00		
86-74-8	PAHs	carbazole												
1563-66-2	Pesticides (Carbamate)	carbofuran												
75-15-0	VOCs	carbon disulfide												
56-23-5	VOCs	carbon tetrachloride						2.00E-01		4.00E-01				
786-19-6	Pesticides	carbophenothion												
55285-14-8	Pesticides	carbosulfan												
5234-68-4	Pesticides	carboxin												
1306-38-3	Metals	cerium oxide and cerium compounds												
75-87-6	VOCs	chloral												
302-17-0	VOCs	chloral hydrate												
133-90-4	Herbicides	chloramben												
118-75-2	Pesticides	chloranil												
12789-03-6	Pesticides	chlordane		2.40E+00	2.40E+00	4.30E-03	4.30E-03	9.30E-05	2.20E-05	3.10E-04	9.00E-02	9.00E-02	4.00E-03	4.00E-03
143-50-0	SVOCs	chlordecone (kepone)												
16887-00-6	Nutrients	chloride		8.60E+05	8.60E+05	2.30E+05	2.30E+05							
90982-32-4	Pesticides	chlorimuron-ethyl												
7782-50-5	Nutrients	chlorine	MCL FOR DISINFECTANTS	1.90E+01	1.90E+01	1.10E+01	1.10E+01				1.30E+01	1.30E+01	7.50E+00	7.50E+00
506-77-4	Cyanides	chlorine cyanide												
10049-04-4	VOCs	chlorine dioxide	MCL FOR DISINFECTANTS											
7758-19-2	Nutrients	chlorite												
75-68-3	VOCs	chloro-1,1-difluoroethane;1-												
126-99-8	VOCs	chloro-1,3-butadiene;2-												
3165-93-3	SVOCs	chloro-2-methylaniline hydrochloride;4-												
95-69-2	SVOCs	chloro-2-methylaniline;4-												
79-11-8	SVOCs	chloroacetic acid												
532-27-4	SVOCs	chloroacetophenone;2-												
106-47-8	SVOCs	chloroaniline;p-												
108-90-7	VOCs	chlorobenzene						3.80E+02	1.00E+02	1.00E+02				
510-15-6	Pesticides	chlorobenzilate												
74-11-3	Pesticides	chlorobenzoic acid;p-												
98-56-6	VOCs	chlorobenzotrifluoride;4-												
109-69-3	VOCs	chlorobutane;1-												
59-50-7	Phenols	chlorocresol						3.60E+01		5.00E+02				
75-45-6	VOCs	chlorodifluoromethane												
67-66-3	VOCs	chloroform	TTHM NOTES					2.60E+02	1.00E+02	6.00E+01				
74-87-3	VOCs	chloromethane												
107-30-2	VOCs	chloromethyl methyl ether												
88-73-3	Pesticides	chloronitrobenzene;o-												
100-00-5	Pesticides	chloronitrobenzene;p-												
95-57-8	Phenols	CHLOROPHENOL;2-	pH-DEPENDENT					1.50E+01		3.00E+01				
123-09-1	Pesticides	chlorophenyl methyl sulfide;p-												
98-57-7	SVOCs	chlorophenyl methyl sulfone;p-												
934-73-6	SVOCs	chlorophenyl methyl sulfoxide;p-												
75-29-6	VOCs	chloropropane;2-												
1897-45-6	Pesticides	chlorothalonil												
95-49-8	VOCs	chlorotoluene;o-												
101-21-3	Pesticides	chlorpropham												
2921-88-2	Pesticides	chlorpyrifos		8.30E-02	8.30E-02	4.10E-02	4.10E-02				1.10E-02	1.10E-02	5.60E-03	5.60E-03
5598-13-0	Pesticides	chlorpyrifos-methyl												
64902-72-3	Herbicides	chlorsulfuron												
60238-56-4	Pesticides	chlorthiophos												
7440-47-3	Metals	CHROMIUM (TOTAL)	CHROMIUM NOTES											
16065-83-1	Metals	CHROMIUM (III)	CHROMIUM NOTES	5.50E+02	5.70E+02	1.80E+02	7.40E+01							

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18540-29-9	Metals	CHROMIUM (VI)	CHROMIUM NOTES	1.50E+01	1.60E+01	1.00E+01	1.10E+01				1.10E+03	1.10E+03	5.00E+01	5.00E+01
218-01-9	cPAHs	CHRYSENE	PAH NOTES					1.40E+00	1.60E-02	1.20E-01				
8001-58-9	PAHs	coal tar creosote												
8007-45-2	VOCs	coke oven emissions												
7440-50-8	Metals	COPPER	HARDNESS - DEPENDENT	1.70E+01		1.10E+01		1.30E+03		1.30E+03	4.80E+00	4.80E+00	3.10E+00	3.10E+00
544-92-3	Cyanides	copper cyanide												
108-39-4	Phenols	cresol;m-												
95-48-7	Phenols	cresol;o-												
106-44-5	Phenols	cresol;p-												
4170-30-3	VOCs	crotonaldehyde												
98-82-8	VOCs	cumene												
21725-46-2	Pesticides	cyanazine												
57-12-5	Cyanides	CYANIDE	CYANIDE NOTES	2.20E+01	2.20E+01	5.20E+00	5.20E+00	1.90E+01	9.00E+00	4.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
460-19-5	Cyanides	cyanogen												
506-68-3	Cyanides	cyanogen bromide												
110-82-7	VOCs	cyclohexane												
108-94-1	VOCs	cyclohexanone												
108-91-8	SVOCs	cyclohexylamine												
542-92-7	SVOCs	cyclopentadiene												
68085-85-8	Pesticides	cyhalothrin/karate												
52315-07-8	Pesticides	cypermethrin												
66215-27-8	Pesticides	cyromazine												
1861-32-1	Herbicides	dacthal												
75-99-0	Herbicides	dalapon, sodium salt												
39515-41-8	Pesticides	danitol												
94-82-6	Herbicides	db;2,4-												
72-54-8	Pesticides	ddd						3.60E-05	7.90E-06	1.20E-04				
72-55-9	Pesticides	dde						5.10E-05	8.80E-07	1.80E-05				
50-29-3	Pesticides	ddt		1.10E+00	1.10E+00	1.00E-03	1.00E-03	2.50E-05	1.20E-06	3.00E-05	1.30E-01	1.30E-01	1.00E-03	1.00E-03
1163-19-5	PBDEs	decabromodiphenyl ether												
8065-48-3	Pesticides	demeton					1.00E-01							1.00E-01
103-23-1	Phthalates	di(2-ethylhexyl)adipate												
2303-16-4	Pesticides	diallate												
333-41-5	Pesticides	diazinon			1.70E-01		1.70E-01					8.20E-01		8.20E-01
53-70-3	cPAHs	DIBENZ[a,h]ANTHRACENE	PAH NOTES					1.40E-03	1.60E-05	1.20E-04				
132-64-9	PAHs	dibenzofuran												
96-12-8	Pesticides	dibromo-3-chloropropane;1,2-												
631-64-1	SVOCs	dibromoacetic acid												
106-37-6	Pesticides	dibromobenzene;1,4-												
124-48-1	VOCs	dibromochloromethane	TTHM NOTES					6.50E-01	6.00E-01	8.00E-01				
84-74-2	Phthalates	di-butyl phthalate						4.50E+02	8.00E+00	2.00E+01				
1918-00-9	Herbicides	dicamba												
3400-09-7	Disinfectants	dichloramine	MCL FOR DISINFECTANTS											
764-41-0	VOCs	dichloro-2-butene;1,4-												
79-43-6	SVOCs	dichloroacetic acid												
95-50-1	VOCs	dichlorobenzene;1,2-						2.00E+03	7.00E+02	1.00E+03				
541-73-1	VOCs	dichlorobenzene;1,3-						1.30E+01	2.00E+00	7.00E+00				
106-46-7	VOCs	dichlorobenzene;1,4-						4.60E+02	2.00E+02	3.00E+02				
91-94-1	SVOCs	dichlorobenzidine;3,3'-						3.10E-03		4.90E-02				
75-71-8	VOCs	dichlorodifluoromethane												
75-34-3	VOCs	dichloroethane;1,1-												
107-06-2	VOCs	dichloroethane;1,2-						9.30E+00	8.90E+00	9.90E+00				
540-59-0	VOCs	dichloroethylene,1,2- (mixed isomers)												
75-35-4	VOCs	dichloroethylene;1,1-						1.20E+03	7.00E+02	3.00E+02				
156-59-2	VOCs	dichloroethylene;1,2-,cis												
156-60-5	VOCs	dichloroethylene;1,2-,trans						6.00E+02	2.00E+02	1.00E+02				
120-83-2	Phenols	DICHLOROPHENOL;2,4-	pH-DEPENDENT					2.50E+01	1.00E+01	1.00E+01				

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94-75-7	Herbicides	dichlorophenoxyacetic acid;2,4-								1.30E+03				
78-87-5	VOCs	dichloropropane;1,2-						7.10E-01		9.00E-01				
616-23-9	SVOCs	dichloropropanol;2,3-												
542-75-6	VOCs	dichloropropene;1,3-						2.40E-01	2.20E-01	2.70E-01				
62-73-7	Pesticides	dichlorvos												
115-32-2	Pesticides	dicofol												
77-73-6	VOCs	dicyclopentadiene												
60-57-1	Pesticides	dieldrin		2.50E+00	2.40E-01	1.90E-03	5.60E-02	6.10E-06	7.00E-08	1.20E-06	7.10E-01	7.10E-01	1.90E-03	1.90E-03
84-66-2	Phthalates	diethyl phthalate						4.20E+03	2.00E+02	6.00E+02				
111-46-6	Glycols	diethylene glycol												
693-21-0	Glycols	diethylene glycol dinitrate												
112-34-5	Glycols	diethylene glycol monobutyl ether												
111-90-0	Glycols	diethylene glycol monoethyl ether												
617-84-5	SVOCs	diethylformamide												
311-45-5	Pesticides	diethyl-p-nitrophenylphosphate												
56-53-1	SVOCs	diethylstilbesterol												
43222-48-6	Pesticides	difenzoquat												
35367-38-5	Pesticides	diflubenzuron												
75-37-6	VOCs	difluoroethane;1,1-												
1445-75-6	SVOCs	diisopropyl methylphosphonate												
55290-64-7	Pesticides	dimethipin												
60-51-5	Pesticides	dimethoate												
119-90-4	SVOCs	dimethoxybenzidine;3,3'-												
131-11-3	Phthalates	dimethyl phthalate						9.20E+04	6.00E+02	2.00E+03				
120-61-6	Phthalates	dimethyl terephthalate												
124-40-3	VOCs	dimethylamine												
21436-96-4	SVOCs	dimethylaniline hydrochloride;2,4-												
95-68-1	SVOCs	dimethylaniline;2,4-												
121-69-7	SVOCs	dimethylaniline;N,N-												
119-93-7	SVOCs	dimethylbenzidine;3,3'-												
68-12-2	VOCs	dimethylformamide;N,N-												
57-14-7	VOCs	dimethylhydrazine;1,1-												
540-73-8	VOCs	dimethylhydrazine;1,2-												
105-67-9	Phenols	dimethylphenol;2,4-						8.50E+01		1.00E+02				
576-26-1	Phenols	dimethylphenol;2,6-												
95-65-8	Phenols	dimethylphenol;3,4-												
99-65-0	Explosives	dinitrobenzene;m-												
528-29-0	SVOCs	dinitrobenzene;o-												
100-25-4	SVOCs	dinitrobenzene;p-												
131-89-5	Phenols	dinitro-o-cyclohexyl phenol;4,6-												
51-28-5	Phenols	DINITROPHENOL;2,4-	pH-DEPENDENT					6.00E+01	3.00E+01	1.00E+01				
25550-58-7	Phenols	dinitrophenols								1.00E+01				
25321-14-6	SVOCs	dinitrotoluene mixture; 2,4-/2,6-												
121-14-2	Explosives	dinitrotoluene;2,4-						3.90E-02		4.90E-02				
606-20-2	Explosives	dinitrotoluene;2,6-												
117-84-0	Phthalates	di-n-octyl phthalate												
88-85-7	Herbicides	dinoseb												
123-91-1	VOCs	dioxane;1,4-												
957-51-7	Pesticides	diphenamid												
122-39-4	SVOCs	diphenylamine												
122-66-7	SVOCs	diphenylhydrazine;1,2-						1.50E-02	1.00E-02	3.00E-02				
85-00-7	Pesticides	diquat												
1937-37-7	Dyes	direct black 38												
2602-46-2	Dyes	direct blue 6												

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16071-86-6	Dyes	direct brown 95												
2610-05-1	Dyes	direct sky blue												
298-04-4	Pesticides	disulfoton												
505-29-3	SVOCs	dithiane;1,4-												
330-54-1	Pesticides (Carbamate)	diuron												
534-52-1	Phenols	DNOC						7.10E+00	3.00E+00	2.00E+00				
2439-10-3	Pesticides	dodine												
115-29-7	Pesticides	endosulfan		2.20E-01		5.60E-02					3.40E-02		8.70E-03	
1031-07-8	Pesticides	endosulfan sulfate						9.70E+00	9.00E+00	2.00E+01				
959-98-8	Pesticides	endosulfan;alpha			2.20E-01		5.60E-02	9.70E+00	6.00E+00	2.00E+01		3.40E-02		8.70E-03
33213-65-9	Pesticides	endosulfan;beta			2.20E-01		5.60E-02	9.70E+00		2.00E+01		3.40E-02		8.70E-03
145-73-3	Herbicides	endothall												
72-20-8	Pesticides	endrin		1.80E-01	8.60E-02	2.30E-03	3.60E-02	3.40E-02	2.00E-03	3.00E-02	3.70E-02	3.70E-02	2.30E-03	2.30E-03
7421-93-4	Pesticides	endrin aldehyde						3.40E-02		1.00E+00				
106-89-8	VOCs	epichlorohydrin												
106-88-7	VOCs	epoxybutane												
16672-87-0	Pesticides	ethephon												
563-12-2	Pesticides	ethion												
111-15-9	VOCs	ethoxyethanol acetate;2-												
110-80-5	VOCs	ethoxyethanol;2-												
141-78-6	VOCs	ethyl acetate												
140-88-5	VOCs	ethyl acrylate												
75-00-3	VOCs	ethyl chloride												
759-94-4	Pesticides	ethyl dipropylthiocarbamate;S-												
60-29-7	VOCs	ethyl ether												
97-63-2	VOCs	ethyl methacrylate												
2104-64-5	Pesticides	ethyl p-nitrophenyl phenylphosphorothioate												
100-41-4	VOCs	ethylbenzene						2.00E+02	2.90E+01	6.80E+01				
109-78-4	SVOCs	ethylene cyanohydrin												
107-15-3	SVOCs	ethylene diamine												
106-93-4	VOCs	ethylene dibromide (EDB)												
107-21-1	VOCs	ethylene glycol												
111-76-2	Glycols	ethylene glycol monobutyl ether (EGBE)												
75-21-8	VOCs	ethylene oxide												
96-45-7	SVOCs	ethylene thiourea												
84-72-0	Phthalates	ethylphthalyl ethylglycolate												
101200-48-0	Pesticides	express												
22224-92-6	Pesticides	fenamiphos												
115-90-2	Pesticides	fensulfothion												
2164-17-2	Pesticides	fluometuron												
206-44-0	PAHs	fluoranthene						1.60E+01	6.00E+00	2.00E+01				
86-73-7	PAHs	fluorene						4.20E+02	1.00E+01	5.00E+01				
16984-48-8	Nutrients	FLUORIDE	FLUORIDE NOTES											
59756-60-4	Pesticides	fluridone												
56425-91-3	Pesticides	flurprimidol												
66332-96-5	Pesticides	flutolanil												
69409-94-5	Pesticides	fluvalinate												
133-07-3	Pesticides	folpet												
72178-02-0	Pesticides	fomesafen												
944-22-9	Pesticides	fonofos												
50-00-0	VOCs	formaldehyde												
64-18-6	VOCs	formic acid												
39148-24-8	Pesticides	fosetyl-al												
110-00-9	Furans	furan												

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67-45-8	SVOCs	furazolidone												
98-01-1	VOCs	furfural												
531-82-8	SVOCs	furium												
60568-05-0	Pesticides	furmecyclox												
77182-82-2	SVOCs	glufosinate-ammonium												
765-34-4	VOCs	glycidaldehyde												
1071-83-6	SVOCs	glyphosate												
unavailable20	Radionuclides	gross alpha particle activity	ALPHA PARTICLE NOTE											
unavailable21	Radionuclides	gross beta particle activity	BETA PARTICLE NOTE											
86-50-0	Pesticides	guthion					1.00E-02							1.00E-02
69806-40-2	Pesticides	haloxyfop-methyl												
79277-27-3	Pesticides	harmony												
76-44-8	Pesticides	heptachlor		5.20E-01	5.20E-01	3.80E-03	3.80E-03	9.90E-06	3.40E-07	5.90E-06	5.30E-02	5.30E-02	3.60E-03	3.60E-03
1024-57-3	Pesticides	heptachlor epoxide			5.20E-01		3.80E-03	7.40E-06	2.40E-06	3.20E-05		5.30E-02		3.60E-03
142-82-5	VOCs	heptane;n-												
87-82-1	SVOCs	hexabromobenzene												
68631-49-2	PBDEs	hexabromodiphenyl ether; 2,2',4,4',5,5'-												
118-74-1	Pesticides	hexachlorobenzene						5.10E-05	5.00E-06	7.90E-05				
87-68-3	VOCs	hexachlorobutadiene						6.90E-01	1.00E-02	1.00E-02				
319-84-6	Pesticides	hexachlorocyclohexane;alpha						5.00E-04	4.80E-05	3.60E-04				
319-85-7	Pesticides	hexachlorocyclohexane;beta-						1.80E-03	1.30E-03	8.00E-03				
319-86-8	Pesticides	hexachlorocyclohexane;delta-												
608-73-1	SVOCs	hexachlorocyclohexane;technical								6.60E-03				
77-47-4	Pesticides	hexachlorocyclopentadiene						1.50E+02	1.00E+00	4.00E+00				
19408-74-3	Dioxins	hexachlorodibenzo-p-dioxin, mixture												
67-72-1	VOCs	hexachloroethane						1.10E-01	2.00E-02	1.00E-01				
70-30-4	SVOCs	hexachlorophene												
822-06-0	VOCs	hexamethylene diisocyanate;1,6-												
110-54-3	VOCs	hexane;n-												
591-78-6	VOCs	hexanone;2-												
51235-04-2	Pesticides	hexazinone												
302-01-2	VOCs	hydrazine												
10034-93-2	SVOCs	hydrazine sulfate												
7647-01-0	VOCs	hydrogen chloride												
74-90-8	Cyanides	hydrogen cyanide												
7783-06-4	VOCs	hydrogen sulfide					2.00E+00							2.00E+00
123-31-9	SVOCs	hydroquinone												
35554-44-0	Pesticides	imazalil												
81335-37-7	Pesticides	imazaquin												
193-39-5	cPAHs	INDENO[1,2,3-cd]PYRENE	PAH NOTES					1.40E-02	1.60E-04	1.20E-03				
36734-19-7	Pesticides	iprodione												
7439-89-6	Metals	iron					1.00E+03							
78-83-1	VOCs	isobutyl alcohol												
78-59-1	SVOCs	isophorone						2.70E+01		3.40E+01				
33820-53-0	Pesticides	isopropalin												
1832-54-8	SVOCs	isopropyl methyl phosphonic acid												
82558-50-7	Pesticides	isoxaben												
77501-63-4	Pesticides	lactofen												
7439-92-1	Metals	LEAD	LEAD NOTES	6.50E+01	6.50E+01	2.50E+00	2.50E+00				2.10E+02	2.10E+02	8.10E+00	8.10E+00
unavailable02	Metals	lead alkyls												
58-89-9	Pesticides	lindane		2.00E+00	9.50E-01	8.00E-02		1.50E+01	4.30E-01	4.20E+00	1.60E-01	1.60E-01		
330-55-2	Pesticides (Carbamate)	linuron												
7791-03-9	Perchlorates	lithium perchlorate												
83055-99-6	Pesticides	londax												

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121-75-5	Pesticides	malathion					1.00E-01							1.00E-01
108-31-6	SVOCs	maleic anhydride												
123-33-1	SVOCs	maleic hydrazide												
109-77-3	VOCs	malononitrile												
8018-01-7	Pesticides	mancozeb												
12427-38-2	Pesticides	maneb												
7439-96-5	Metals	MANGANESE (Diet)	MANGANESE NOTES							5.00E+01				
7439-96-5a	Metals	MANGANESE (Non-Diet)	MANGANESE NOTES							5.00E+01				
950-10-7	Pesticides	mephosfolan												
24307-26-4	Pesticides	mepiquat chloride												
7487-94-7	Metals	mercuric chloride												
7439-97-6	Metals	mercury		2.10E+00	1.40E+00	1.20E-02	7.70E-01				1.80E+00	1.80E+00	2.50E-02	9.40E-01
150-50-5	Pesticides	merphos												
57837-19-1	Pesticides	metalaxyl												
126-98-7	VOCs	methacrylonitrile												
10265-92-6	Pesticides	methamidosphos												
67-56-1	VOCs	methanol												
950-37-8	Pesticides	methidathion												
16752-77-5	Pesticides (Carbamate)	methomyl												
99-59-2	SVOCs	methoxy-5-nitroaniline;2-												
72-43-5	Pesticides	methoxychlor					3.00E-02			2.00E-02				3.00E-02
110-49-6	VOCs	methoxyethanol acetate;2-												
109-86-4	VOCs	methoxyethanol;2-												
79-20-9	VOCs	methyl acetate												
96-33-3	VOCs	methyl acrylate												
78-93-3	VOCs	methyl ethyl ketone												
108-10-1	VOCs	methyl isobutyl ketone												
22967-92-6	Metals (organometallic)	METHYL MERCURY	METHYL MERCURY NOTES											
80-62-6	VOCs	methyl methacrylate												
90-12-0	PAHs	methyl naphthalene;1-												
91-57-6	PAHs	methyl naphthalene;2-												
298-00-0	Pesticides	methyl parathion												
25013-15-4	VOCs	methyl styrene												
98-83-9	SVOCs	methyl styrene, alpha												
1634-04-4	VOCs	methyl tert-butyl ether												
94-74-6	Herbicides	methyl-4-chlorophenoxy-acetic acid;2-												
99-55-8	SVOCs	methyl-5-nitroaniline;2-												
636-21-5	SVOCs	methylaniline hydrochloride;2-												
95-53-4	VOCs	methylaniline;2-												
108-87-2	VOCs	methylcyclohexane												
101-14-4	SVOCs	methylene bis(2-chloroaniline);4,4'-												
101-61-1	SVOCs	methylene bis(n,n'-dimethyl)aniline;4,4'-												
74-95-3	VOCs	methylene bromide												
75-09-2	VOCs	methylene chloride						1.60E+01	1.00E+01	2.00E+01				
101-68-8	SVOCs	methylene diphenyl diisocyanate (MDI)												
9016-87-9	SVOCs	methylene diphenyl diisocyanate (PMDI)												
101-77-9	SVOCs	methylenebisbenzenamine;4,4-												
60-34-4	VOCs	methylhydrazine												
51218-45-2	Pesticides	metolachlor												
21087-64-9	Pesticides	metribuzin												
7786-34-7	Pesticides	mevinphos												
2385-85-5	Pesticides	mirex					1.00E-03							1.00E-03
2212-67-1	Pesticides	molinate												
7439-98-7	Metals	molybdenum												

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10599-90-3	Disinfectants	monochloramine	MCL FOR DISINFECTANTS											
unavailable03	SVOCs	monochlorobutanes (not in HSDB)												
300-76-5	Pesticides	naled												
91-20-3	PAHs	naphthalene												
15299-99-7	Pesticides	napropamide												
104-51-8	VOCs	n-butylbenzene												
2429-74-5	Dyes	niagara blue 4B												
unavailable04	Metals	nickel refinery dust												
7440-02-0	Metals	NICKEL SOLUBLE SALTS	HARDNESS - DEPENDENT	1.40E+03	4.70E+02	1.60E+02	5.20E+01	1.50E+02	8.00E+01	6.10E+02	7.40E+01	7.40E+01	8.20E+00	8.20E+00
12035-72-2	Metals	nickel subsulfide												
14797-55-8	Nutrients	nitrate								1.00E+04				
10102-43-9	Gases	nitric oxide												
14797-65-0	Nutrients	nitrite												
88-74-4	SVOCs	nitroaniline, 2-												
100-01-6	SVOCs	nitroaniline, 4-												
98-95-3	Explosives	nitrobenzene						5.50E+01	3.00E+01	1.00E+01				
67-20-9	SVOCs	nitrofurantoin												
59-87-0	SVOCs	nitrofurazone												
10102-44-0	Gases	nitrogen dioxide												
556-88-7	SVOCs	nitroguanidine												
79-46-9	VOCs	nitropropane;2-												
1116-54-7	SVOCs	nitrosodiethanolamine;N-												
55-18-5	SVOCs	nitrosodiethylamine;N-								8.00E-04				
62-75-9	SVOCs	nitrosodimethylamine;N-						6.50E-04		6.90E-04				
924-16-3	VOCs	nitroso-di-n-butylamine;N-								6.30E-03				
621-64-7	SVOCs	nitroso-di-n-propylamine;N-						4.40E-03		5.00E-03				
86-30-6	SVOCs	nitrosodiphenylamine;N-						6.20E-01		3.30E+00				
4549-40-0	SVOCs	nitrosomethylvinylamine,n-												
759-73-9	SVOCs	nitroso-n-ethylurea;n-												
10595-95-6	SVOCs	nitroso-N-methylethylamine;N-												
684-93-5	SVOCs	nitroso-n-methylurea,n-												
930-55-2	SVOCs	nitrosopyrrolidine;N-								1.60E-02				
99-08-1	Explosives	nitrotoluene, m-												
88-72-2	Explosives	nitrotoluene, o-												
99-99-0	Explosives	nitrotoluene, p-												
1321-12-6	Explosives	nitrotoluenes;o-,m-,p-												
84852-15-3	Phenols	nonylphenol			2.80E+01		6.60E+00					7.00E+00		1.70E+00
27314-13-2	Pesticides	norflurazon												
85509-19-9	Herbicides	nustar												
32536-52-0	PBDEs	octabromodiphenyl ether												
2691-41-0	Explosives	octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine												
152-16-9	SVOCs	octamethylpyrophosphoramide												
19044-88-3	Pesticides	oryzalin												
19666-30-9	Pesticides	oxadiazon												
23135-22-0	Pesticides (Carbamate)	oxamyl												
42874-03-3	Pesticides	oxyfluorfen												
76738-62-0	Herbicides	paclobutrazol												
unavailable05	PAHs	PAHs	PAH NOTES											
4685-14-7	Pesticides	paraquat												
56-38-2	Pesticides	parathion		6.50E-02	6.50E-02	1.30E-02	1.30E-02							
1114-71-2	Pesticides	pebulate												
40487-42-1	Pesticides	pendimethalin												
87-84-3	SVOCs	pentabromo-6-chloro-cyclohexane;1,2,3,4,5-												
60348-60-9	PBDEs	pentabromodiphenyl ether; 2,2',4,4',5-												

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32534-81-9	PBDEs	pentabromodiphenyl ethers												
608-93-5	SVOCs	pentachlorobenzene								1.00E-01				
82-68-8	Pesticides	pentachloronitrobenzene												
87-86-5	Herbicides	PENTACHLOROPHENOL	pH-DEPENDENT	2.00E+01	1.90E+01	1.30E+01	1.50E+01	4.60E-02	2.00E-03	3.00E-02	1.30E+01	1.30E+01	7.90E+00	7.90E+00
14797-73-0	Perchlorates	perchlorate and perchlorate salts												
52645-53-1	Pesticides	permethrin												
72-56-0	Pesticides	perthane												
unavailable19	General Chemistry	pH	pH NOTES				6.5 – 9			5 – 9				6.5 – 8.5
85-01-8	PAHs	phenanthrene												
13684-63-4	Pesticides	phenmedipham												
108-95-2	Phenols	phenol						1.80E+04	9.00E+03	4.00E+03				
106-50-3	SVOCs	phenylenediamine, p-												
108-45-2	SVOCs	phenylenediamine;m-												
95-54-5	SVOCs	phenylenediamine;o-												
62-38-4	Metals (organometallic)	phenylmercuric acetate												
90-43-7	Phenols	phenylphenol;2-												
298-02-2	Pesticides	phorate												
75-44-5	VOCs	phosgene												
732-11-6	Pesticides	phosmet												
7803-51-2	Gases	phosphine												
7664-38-2	SVOCs	phosphoric acid												
7723-14-0	Metals	phosphorus												
100-21-0	Phthalates	phthalic acid;p-												
85-44-9	Phthalates	phthalic anhydride												
1918-02-1	Herbicides	picloram												
29232-93-7	Pesticides	pirimiphos-methyl												
59536-65-1	PBBs	polybrominated biphenyls												
1336-36-3	PCBs	polychlorinated biphenyls (PCBs)		2.00E+00		1.40E-02	1.40E-02	1.70E-04	7.00E-06	6.40E-05	1.00E+01		3.00E-02	3.00E-02
151-50-8	Cyanides	potassium cyanide												
7778-74-7	Perchlorates	potassium perchlorate												
506-61-6	Cyanides	potassium silver cyanide												
67747-09-5	Pesticides	prochloraz (not in HSDB)												
26399-36-0	Pesticides	profluralin												
1610-18-0	Pesticides	prometon												
7287-19-6	Pesticides	prometryn												
23950-58-5	Pesticides	pronamide												
1918-16-7	Pesticides	propachlor												
709-98-8	Pesticides	propanil												
2312-35-8	Pesticides	propargite												
107-19-7	VOCs	propargyl alcohol												
139-40-2	Pesticides	propazine												
122-42-9	Pesticides	propham												
60207-90-1	Pesticides	propiconazole												
123-38-6	VOCs	propionaldehyde												
93-65-2	Herbicides	propionic acid;(2-methyl-4-chlorophenoxy)2-												
103-65-1	VOCs	propylbenzene;n-												
57-55-6	Glycols	propylene glycol												
6423-43-4	Glycols	propylene glycol dinitrate;1,2-												
52125-53-8	Glycols	propylene glycol monoethyl ether												
107-98-2	Glycols	propylene glycol monomethyl ether												
75-56-9	VOCs	propylene oxide												
81335-77-5	Pesticides	pursuit												
51630-58-1	Pesticides	pydrin												
129-00-0	PAHs	pyrene						3.10E+02	8.00E+00	2.00E+01				

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110-86-1	VOCs	pyridine												
13593-03-8	Pesticides	quinalphos												
91-22-5	SVOCs	quinoline												
13982-63-3	Radionuclides	radium 226	RADIUM 226 NOTE											
unavailable23	Radionuclides	radium 226 and 228	RADIUM 226 & 228 NOTES											
121-82-4	Explosives	rdx												
unavailable07	Fibers	REFRACTORY CERAMIC FIBERS	REFRACTORY FIBER NOTE											
10453-86-8	Pesticides	resmethrin												
299-84-3	Pesticides	ronnel												
83-79-4	Pesticides	rotenone												
78-48-8	Pesticides	s,s;s-tributylphosphorotrithioate												
78587-05-0	Pesticides	savey												
135-98-8	VOCs	sec-butylbenzene												
7783-00-8	Metals	selenious acid												
7782-49-2	Metals	selenium and compounds		2.00E+01		5.00E+00		1.20E+02	6.00E+01	1.70E+02	2.90E+02	2.90E+02	7.10E+01	7.10E+01
630-10-4	Metals (organometallic)	selenourea												
74051-80-2	Pesticides	sethoxydim												
7440-22-4	Metals	SILVER	HARDNESS - DEPENDENT	3.40E+00	3.20E+00						1.90E+00	1.90E+00		
506-64-9	Cyanides	silver cyanide												
122-34-9	Pesticides	simazine												
26628-22-8	Metals	sodium azide												
143-33-9	Cyanides	sodium cyanide												
148-18-5	Metals (organometallic)	sodium diethyldithiocarbamate												
62-74-8	Metals (organometallic)	sodium fluoroacetate												
13718-26-8	Metals	sodium metavanadate												
7601-89-0	Perchlorates	sodium perchlorate												
7440-24-6	Metals	strontium												
57-24-9	SVOCs	strychnine												
100-42-5	VOCs	styrene												
unavailable17	Metals	sulfate												
88671-89-0	Pesticides	systhane												
1746-01-6	Dioxins	TCDD;2,3,7,8- (LOW ORGANIC) (DIOXIN)	TEF NOTES					6.40E-08	1.30E-08	5.00E-09				
34014-18-1	Pesticides	tebuthiuron												
3383-96-8	Pesticides	temephos												
5902-51-2	Pesticides	terbacil												
13071-79-9	SVOCs	terbufos												
886-50-0	Pesticides	terbutryn												
98-06-6	VOCs	tert-butylbenzene												
5436-43-1	PBDEs	tetrabromodiphenyl ether 2,2',4,4'												
95-94-3	SVOCs	tetrachlorobenzene;1,2,4,5-								3.00E-02				
630-20-6	VOCs	tetrachloroethane;1,1,1,2-												
79-34-5	VOCs	tetrachloroethane;1,1,2,2-						1.20E-01	1.00E-01	2.00E-01				
127-18-4	VOCs	TETRACHLOROETHYLENE (PCE)	PCE NOTES					4.90E+00	2.40E+00	1.00E+01				
58-90-2	Phenols	TETRACHLOROPHENOL;2,3,4,6-	pH-DEPENDENT											
5216-25-1	VOCs	tetrachlorotoluene;p,a,a,a,-												
961-11-5	Pesticides	tetrachlorvinphos												
3689-24-5	Pesticides	tetraethyl dithiopyrophosphate												
78-00-2	Metals (organometallic)	tetraethyl lead												
811-97-2	VOCs	tetrafluoroethane;1,1,1,2-												
109-99-9	Furans	tetrahydrofuran												
1314-32-5	Metals	thallic oxide												
563-68-8	Metals	thallium acetate												
6533-73-9	Metals	thallium carbonate												
7791-12-0	Metals	thallium chloride												

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10102-45-1	Metals	thallium nitrate												
12039-52-0	Metals	thallium selenite												
7446-18-6	Metals	thallium(I) sulfate												
7440-28-0	Metals	thallium, soluble salts						2.40E-01	1.70E+00	2.40E-01				
28249-77-6	Pesticides	thiobencarb												
21564-17-0	SVOCs	thiocyanomethylthiobenzothiazole;2-												
39196-18-4	Pesticides	thiofanox												
23564-05-8	Pesticides	thiophanate-methyl												
137-26-8	Pesticides	thiram												
7440-31-5	Metals	tin												
118-96-7	Explosives	tnt												
108-88-3	VOCs	toluene						1.80E+02	7.20E+01	5.70E+01				
26471-62-5	VOCs	toluene diisocyanate mixture;2,4-/2,6-												
584-84-9	VOCs	toluene-2,4-diisocyanate												
91-08-7	VOCs	toluene-2,6-diisocyanate												
95-80-7	SVOCs	toluenediamine;2,4-												
95-70-5	SVOCs	toluenediamine;2,5-												
823-40-5	SVOCs	toluenediamine;2,6-												
106-49-0	SVOCs	toluidine;p-												
unavailable18	General Chemistry	total dissolved solids												
8001-35-2	Pesticides	toxaphene		7.30E-01	7.30E-01	2.00E-04	2.00E-04	3.20E-05		7.00E-04	2.10E-01	2.10E-01	2.00E-04	2.00E-04
93-72-1	Herbicides	tp;2,4,5-								1.00E+02				
unavailable09	Petroleum	tph, diesel range organics												
unavailable10	Petroleum	tph, heavy oils												
unavailable11	Petroleum	tph, mineral oils												
unavailable25	Petroleum	tph: gasoline range organics, benzene present												
unavailable08	Petroleum	tph: gasoline range organics, no detectable benzene												
66841-25-6	Pesticides	tralomethrin												
2303-17-5	Pesticides	triallate												
82097-50-5	Pesticides	triasulfuron												
615-54-3	VOCs	tribromobenzene;1,2,4-												
688-73-3	Organotins	tributyltin			4.60E-01		7.20E-02					4.20E-01		7.40E-03
56-35-9	Organotins	tributyltin oxide												
10025-85-1	Disinfectants	trichloramine	MCL FOR DISINFECTANTS											
76-13-1	VOCs	trichloro-1,2,2-trifluoroethane;1,1,2-												
76-03-9	SVOCs	trichloroacetic acid												
33663-50-2	SVOCs	trichloroaniline hydrochloride;2,4,6-												
634-93-5	SVOCs	trichloroaniline;2,4,6-												
120-82-1	VOCs	trichlorobenzene;1,2,4-						1.20E-01	3.60E-02	7.10E-02				
71-55-6	VOCs	trichloroethane;1,1,1-						4.70E+04	2.00E+04	1.00E+04				
79-00-5	VOCs	trichloroethane;1,1,2-						4.40E-01	3.50E-01	5.50E-01				
79-01-6	VOCs	TRICHLOROETHYLENE (TCE)	TCE NOTES					3.80E-01	3.00E-01	6.00E-01				
75-69-4	VOCs	trichlorofluoromethane												
95-95-4	Phenols	TRICHLOROPHENOL;2,4,5-	pH-DEPENDENT							3.00E+02				
88-06-2	Phenols	TRICHLOROPHENOL;2,4,6-	pH-DEPENDENT					2.50E-01		1.50E+00				
93-76-5	Herbicides	trichlorophenoxyacetic acid;2,4,5-												
598-77-6	VOCs	trichloropropane;1,1,2-												
96-18-4	VOCs	trichloropropane;1,2,3-												
96-19-5	VOCs	trichloropropene;1,2,3-												
58138-08-2	Pesticides	tridiphane												
121-44-8	VOCs	triethylamine												
1582-09-8	Pesticides	trifluralin												
unavailable13	VOCs	trihalomethanes, (total) (TTHMs)	TTHM NOTES											
512-56-1	SVOCs	trimethyl phosphate												
526-73-8	VOCs	trimethylbenzene;1,2,3-												
95-63-6	VOCs	trimethylbenzene;1,2,4-												
108-67-8	VOCs	trimethylbenzene;1,3,5-												

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99-35-4	Explosives	trinitrobenzene;1,3,5-												
479-45-8	Explosives	trinitrophenylmethylnitramine												
unavailable12	Radionuclides	uranium, soluble salts												
7440-62-2	Metals	vanadium												
1314-62-1	Metals	vanadium pentoxide												
27774-13-6	Metals	vanadyl sulfate												
1929-77-7	Pesticides	vernam												
50471-44-8	Pesticides	vinclozolin												
108-05-4	VOCs	vinyl acetate												
75-01-4	VOCs	VINYL CHLORIDE	VINYL CHLORIDE NOTES					2.00E-02		2.20E-02				
81-81-2	Pesticides	warfarin												
8012-95-1	Petroleum	white mineral oil												
108-38-3	VOCs	xylene;m-												
95-47-6	VOCs	xylene;o-												
106-42-3	VOCs	xylene;p-												
1330-20-7	VOCs	xylenes												
7440-66-6	Metals	ZINC	HARDNESS - DEPENDENT	1.10E+02	1.20E+02	1.00E+02	1.20E+02	2.30E+03	1.00E+03	7.40E+03	9.00E+01	9.00E+01	8.10E+01	8.10E+01
557-21-1	Cyanides	zinc cyanide												
1314-84-7	Metals	zinc phosphide												
12122-67-7	Pesticides	zineb												

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83-32-9	PAHs	acenaphthene		1.10E+02	3.00E+01	9.00E+01				
208-96-8	PAHs	acenaphthylene								
30560-19-1	Pesticides	acephate								
75-07-0	VOCs	acetaldehyde					4.10E+00	1.10E+00	9.00E+00	1.10E+01
34256-82-1	Pesticides	acetochlor								
67-64-1	VOCs	acetone					1.40E+04		3.10E+04	
75-86-5	VOCs	acetone cyanohydrin					9.10E-01		2.00E+00	
75-05-8	VOCs	acetonitrile					2.70E+01		6.00E+01	
98-86-2	SVOCs	acetophenone								
62476-59-9	Herbicides	acifluorfen, sodium								
107-02-8	VOCs	acrolein		1.10E+00		4.00E+02	9.10E-03		2.00E-02	
79-06-1	VOCs	acrylamide					2.70E+00	2.50E-02	6.00E+00	2.50E-01
79-10-7	VOCs	acrylic acid					4.60E-01		1.00E+00	
107-13-1	VOCs	acrylonitrile		2.80E-02		7.00E+00	9.10E-01	3.70E-02	2.00E+00	3.70E-01
15972-60-8	Pesticides	alachlor								
1596-84-5	Pesticides	alar						4.90E-01		4.90E+00
116-06-3	Pesticides (Carbamate)	aldicarb								
1646-88-4	Pesticides (Carbamate)	aldicarb sulfone								
309-00-2	Pesticides	aldrin		5.80E-06	4.10E-08	7.70E-07		5.10E-04		5.10E-03
74223-64-6	Pesticides	ally								
107-18-6	VOCs	allyl alcohol					4.60E-02		1.00E-01	
107-05-1	VOCs	allyl chloride					4.60E-01	4.20E-01	1.00E+00	4.20E+00
7429-90-5	Metals	aluminum					2.30E+00		5.00E+00	
20859-73-8	Metals	aluminum phosphide								
67485-29-4	Pesticides	amdro								
834-12-8	Pesticides	ametryn								
591-27-5	Phenols	aminophenol;m-								
504-24-5	SVOCs	aminopyridine;4-								
33089-61-1	Pesticides	amitraz								
7664-41-7	Nutrients	AMMONIA	AMMONIA NOTES				2.20E+02		4.90E+02	
7790-98-9	Perchlorates	ammonium perchlorate								
7773-06-0	Pesticides	ammonium sulfamate								
62-53-3	SVOCs	aniline					4.60E-01	1.60E+00	1.00E+00	1.60E+01
120-12-7	PAHs	anthracene		4.60E+03	1.00E+02	4.00E+02				
7440-36-0	Metals	antimony		1.80E+02	9.00E+01	6.40E+02				
1314-60-9	Metals	antimony pentoxide								
28300-74-5	Metals	antimony potassium tartrate								
1332-81-6	Metals	antimony tetroxide								
1309-64-4	Metals	antimony trioxide					9.10E-02		2.00E-01	
74115-24-5	Pesticides	apollo								
140-57-8	SVOCs	aramite						3.50E-01		3.50E+00
12674-11-2	PCBs	aroclor 1016						1.30E-01		1.30E+00
11097-69-1	PCBs	aroclor 1254						4.40E-03		4.40E-02
11096-82-5	PCBs	aroclor 1260						4.40E-03		4.40E-02
7440-38-2	Metals	arsenic, inorganic		1.00E+01	1.40E-01	1.40E-01	6.90E-03	5.80E-04	1.50E-02	5.80E-03
7784-42-1	Metals	arsine					2.30E-02		5.00E-02	
1332-21-4	Fibers	ASBESTOS	ASBESTOS NOTE							
76578-14-8	Pesticides	assure								
3337-71-1	Pesticides	asulam								
1912-24-9	Pesticides	atrazine								
65195-55-3	Pesticides	avermectin B1								
103-33-3	Pesticides	azobenzene						8.10E-02		8.10E-01
7440-39-3	Metals	barium and compounds					2.30E-01		5.00E-01	
542-62-1	Metals	barium cyanide								

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Surface Water Human Health Marine Waters 173-201A WAC (µg/L)	Surface Water Human Health Marine Waters 40 CFR 131.45 (µg/L)	Surface Water Human Health Marine Waters CWA §304 (µg/L)	Air Method B Non cancer (µg/m³)	Air Method B Cancer (µg/m³)	Air Method C Non cancer (µg/m³)	Air Method C Cancer (µg/m³)
114-26-1	Pesticides	baygon								
43121-43-3	Pesticides	bayleton								
68359-37-5	Pesticides	baythroid								
1861-40-1	Pesticides	benefin								
17804-35-2	Pesticides	benomyl								
25057-89-0	Herbicides	bentazon								
100-52-7	SVOCs	benzaldehyde								
71-43-2	VOCs	BENZENE		1.60E+00		1.60E+01	1.40E+01	3.20E-01	3.00E+01	3.20E+00
108-98-5	SVOCs	benzenethiol								
92-87-5	SVOCs	benzidine		2.30E-05		1.10E-02		3.70E-05		3.70E-04
191-24-2	PAHs	benzo(g,h,i)perylene								
56-55-3	cPAHs	BENZO[a]ANTHRACENE	PAH NOTES	2.10E-02	1.60E-04	1.30E-03		2.30E-02		2.30E-01
50-32-8	cPAHs	BENZO[a]PYRENE	PAH NOTES	2.10E-03	1.60E-05	1.30E-04	9.10E-04	1.10E-03	2.00E-03	1.10E-02
205-99-2	cPAHs	BENZO[b]FLUORANTHENE	PAH NOTES	2.10E-02	1.60E-04	1.30E-03		2.30E-02		2.30E-01
207-08-9	cPAHs	BENZO[k]FLUORANTHENE	PAH NOTES	2.10E-01	1.60E-03	1.30E-02		2.30E-02		2.30E-01
65-85-0	SVOCs	BENZOIC ACID	pH-DEPENDENT							
98-07-7	VOCs	benzotrichloride								
100-51-6	SVOCs	benzyl alcohol								
100-44-7	VOCs	benzyl chloride					4.60E-01	5.10E-02	1.00E+00	5.10E-01
7440-41-7	Metals	beryllium					9.10E-03	1.00E-03	2.00E-02	1.00E-02
91-58-7	PAHs	beta-chloronaphthalene		1.80E+02	1.00E+02	1.00E+03				
141-66-2	SVOCs	bidrin								
82657-04-3	Pesticides	biphenthrin								
92-52-4	PAHs	biphenyl;1,1-					1.80E-01		4.00E-01	
108-60-1	VOCs	bis(2-chloro-1-methyl-ethyl)ether			9.00E+02	4.00E+03		2.50E-01		2.50E+00
111-44-4	SVOCs	bis(2-chloroethyl)ether		6.00E-02		2.20E+00		7.60E-03		7.60E-02
39638-32-9	VOCs	bis(2-chloroisopropyl) ether								
117-81-7	Phthalates	bis(2-ethylhexyl) phthalate		2.50E-01	4.60E-02	3.70E-01		1.00E+00		1.00E+01
542-88-1	VOCs	bis(chloromethyl)ether				1.70E-02		4.00E-05		4.00E-04
80-05-7	Phenols	bisphenol a								
7440-42-8	Metals	boron					9.10E+00		2.00E+01	
15541-45-4	Pesticides	bromate								
79-08-3	SVOCs	bromoacetic acid								
108-86-1	VOCs	bromobenzene					2.70E+01		6.00E+01	
75-27-4	VOCs	bromodichloromethane	TTHM NOTES	3.60E+00	2.80E+00	2.70E+01		6.80E-02		6.80E-01
593-60-2	VOCs	bromoethene					1.40E+00	7.80E-02	3.00E+00	7.80E-01
75-25-2	VOCs	bromoform	TTHM NOTES	2.70E+01	1.20E+01	1.20E+02		2.30E+00		2.30E+01
74-83-9	VOCs	bromomethane		2.40E+03		1.00E+04	2.30E+00		5.00E+00	
2104-96-3	Pesticides	bromophos								
1689-84-5	Herbicides	bromoxynil								
1689-99-2	Pesticides	bromoxynil octanoate								
106-99-0	VOCs	butadiene;1,3-					9.10E-01	8.30E-02	2.00E+00	8.30E-01
71-36-3	VOCs	butanol;n-								
85-68-7	Phthalates	butyl benzyl phthalate		5.80E-01	1.30E-02	1.00E-01				
2008-41-5	Pesticides	butylate								
85-70-1	Phthalates	butylphthalyl butylglycolate								
94-81-5	SVOCs	butyric acid;4-(2-methyl-4-chlorophenoxy)-								
75-60-5	Pesticides	cacodylic acid								
7440-43-9	Metals	CADMIUM (POTABLE GROUNDWATER & SURFACE WATER)	CADMIUM NOTES				4.60E-03	1.40E-03	1.00E-02	1.40E-02
7440-43-9a	Metals	CADMIUM (SOIL & NONPOTABLE SURFACE WATER)	CADMIUM NOTES				4.60E-03	1.40E-03	1.00E-02	1.40E-02
592-01-8	Cyanides	calcium cyanide								
105-60-2	SVOCs	caprolactam					1.00E+00		2.20E+00	
2425-06-1	Pesticides	captafol						5.80E-02		5.80E-01
133-06-2	Pesticides	captan						3.80E+00		3.80E+01

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63-25-2	Pesticides (Carbamate)	carbaryl								
86-74-8	PAHs	carbazole								
1563-66-2	Pesticides (Carbamate)	carbofuran								
75-15-0	VOCs	carbon disulfide					3.20E+02		7.00E+02	
56-23-5	VOCs	carbon tetrachloride		3.50E-01		5.00E+00	4.60E+01	4.20E-01	1.00E+02	4.20E+00
786-19-6	Pesticides	carbophenothion								
55285-14-8	Pesticides	carbosulfan								
5234-68-4	Pesticides	carboxin								
1306-38-3	Metals	cerium oxide and cerium compounds					4.20E-01		9.10E-01	
75-87-6	VOCs	chloral								
302-17-0	VOCs	chloral hydrate								
133-90-4	Herbicides	chloramben								
118-75-2	Pesticides	chloranil								
12789-03-6	Pesticides	chlordane		9.30E-05	2.20E-05	3.20E-04	3.20E-01	2.50E-02	7.00E-01	2.50E-01
143-50-0	SVOCs	chlordecone (kepone)						5.40E-04		5.40E-03
16887-00-6	Nutrients	chloride								
90982-32-4	Pesticides	chlorimuron-ethyl								
7782-50-5	Nutrients	chlorine	MCL FOR DISINFECTANTS				6.90E-02		1.50E-01	
506-77-4	Cyanides	chlorine cyanide								
10049-04-4	VOCs	chlorine dioxide	MCL FOR DISINFECTANTS				9.10E-02		2.00E-01	
7758-19-2	Nutrients	chlorite								
75-68-3	VOCs	chloro-1,1-difluoroethane;1-					2.30E+04		5.00E+04	
126-99-8	VOCs	chloro-1,3-butadiene;2-					9.10E+00	8.30E-03	2.00E+01	8.30E-02
3165-93-3	SVOCs	chloro-2-methylaniline hydrochloride;4-								
95-69-2	SVOCs	chloro-2-methylaniline;4-						3.20E-02		3.20E-01
79-11-8	SVOCs	chloroacetic acid								
532-27-4	SVOCs	chloroacetophenone;2-					1.40E-02		3.00E-02	
106-47-8	SVOCs	chloroaniline;p-								
108-90-7	VOCs	chlorobenzene		8.90E+02	2.00E+02	8.00E+02	2.30E+01		5.00E+01	
510-15-6	Pesticides	chlorobenzilate						8.10E-02		8.10E-01
74-11-3	Pesticides	chlorobenzoic acid;p-								
98-56-6	VOCs	chlorobenzotrifluoride;4-					1.40E+02		3.00E+02	
109-69-3	VOCs	chlorobutane;1-								
59-50-7	Phenols	chlorocresol		3.60E+01		2.00E+03				
75-45-6	VOCs	chlorodifluoromethane					2.30E+04		5.00E+04	
67-66-3	VOCs	chloroform	TTHM NOTES	1.20E+03	6.00E+02	2.00E+03	4.50E+01	1.10E-01	9.80E+01	1.10E+00
74-87-3	VOCs	chloromethane					4.10E+01		9.00E+01	
107-30-2	VOCs	chloromethyl methyl ether						3.60E-03		3.60E-02
88-73-3	Pesticides	chloronitrobenzene;o-					4.60E-03		1.00E-02	
100-00-5	Pesticides	chloronitrobenzene;p-					9.10E-01		2.00E+00	
95-57-8	Phenols	CHLOROPHENOL;2-	pH-DEPENDENT	1.70E+01		8.00E+02				
123-09-1	Pesticides	chlorophenyl methyl sulfide;p-								
98-57-7	SVOCs	chlorophenyl methyl sulfone;p-								
934-73-6	SVOCs	chlorophenyl methyl sulfoxide;p-								
75-29-6	VOCs	chloropropane;2-								
1897-45-6	Pesticides	chlorothalonil						2.80E+00		2.80E+01
95-49-8	VOCs	chlorotoluene;o-								
101-21-3	Pesticides	chlorpropham								
2921-88-2	Pesticides	chlorpyrifos								
5598-13-0	Pesticides	chlorpyrifos-methyl								
64902-72-3	Herbicides	chlorsulfuron								
60238-56-4	Pesticides	chlorthiophos								
7440-47-3	Metals	CHROMIUM (TOTAL)	CHROMIUM NOTES							
16065-83-1	Metals	CHROMIUM (III)	CHROMIUM NOTES							

Cleanup Levels and Risk Calculation (CLARC) Master Table - May 2019

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18540-29-9	Metals	CHROMIUM (VI)	CHROMIUM NOTES				4.60E-02	3.00E-05	1.00E-01	3.00E-04
218-01-9	cPAHs	CHRYSENE	PAH NOTES	2.10E+00	1.60E-02	1.30E-01		2.30E-01		2.30E+00
8001-58-9	PAHs	coal tar creosote								
8007-45-2	VOCs	coke oven emissions						4.00E-03		4.00E-02
7440-50-8	Metals	COPPER	HARDNESS - DEPENDENT							
544-92-3	Cyanides	copper cyanide								
108-39-4	Phenols	cresol;m-					2.70E+02		6.00E+02	
95-48-7	Phenols	cresol;o-					2.70E+02		6.00E+02	
106-44-5	Phenols	cresol;p-					2.70E+02		6.00E+02	
4170-30-3	VOCs	crotonaldehyde								
98-82-8	VOCs	cumene					1.80E+02		4.00E+02	
21725-46-2	Pesticides	cyanazine								
57-12-5	Cyanides	CYANIDE	CYANIDE NOTES	2.70E+02	1.00E+02	4.00E+02	3.70E-01		8.00E-01	
460-19-5	Cyanides	cyanogen								
506-68-3	Cyanides	cyanogen bromide								
110-82-7	VOCs	cyclohexane					2.70E+03		6.00E+03	
108-94-1	VOCs	cyclohexanone					3.20E+02		7.00E+02	
108-91-8	SVOCs	cyclohexylamine								
542-92-7	SVOCs	cyclopentadiene								
68085-85-8	Pesticides	cyhalothrin/karate								
52315-07-8	Pesticides	cypermethrin								
66215-27-8	Pesticides	cyromazine								
1861-32-1	Herbicides	dacthal								
75-99-0	Herbicides	dalapon, sodium salt								
39515-41-8	Pesticides	danitol								
94-82-6	Herbicides	db;2,4-								
72-54-8	Pesticides	ddd		3.60E-05	7.90E-06	1.20E-04		3.60E-02		3.60E-01
72-55-9	Pesticides	dde		5.10E-05	8.80E-07	1.80E-05		2.60E-02		2.60E-01
50-29-3	Pesticides	ddt		2.50E-05	1.20E-06	3.00E-05		2.60E-02		2.60E-01
1163-19-5	PBDEs	decabromodiphenyl ether								
8065-48-3	Pesticides	demeton								
103-23-1	Phthalates	di(2-ethylhexyl)adipate								
2303-16-4	Pesticides	diallate								
333-41-5	Pesticides	diazinon								
53-70-3	cPAHs	DIBENZ[a,h]ANTHRACENE	PAH NOTES	2.10E-03	1.60E-05	1.30E-04		2.10E-03		2.10E-02
132-64-9	PAHs	dibenzofuran								
96-12-8	Pesticides	dibromo-3-chloropropane;1,2-					9.10E-02	4.20E-04	2.00E-01	4.20E-03
631-64-1	SVOCs	dibromoacetic acid								
106-37-6	Pesticides	dibromobenzene;1,4-								
124-48-1	VOCs	dibromochloromethane	TTHM NOTES	3.00E+00	2.20E+00	2.10E+01				
84-74-2	Phthalates	di-butyl phthalate		5.10E+02	8.00E+00	3.00E+01				
1918-00-9	Herbicides	dicamba								
3400-09-7	Disinfectants	dichloramine	MCL FOR DISINFECTANTS							
764-41-0	VOCs	dichloro-2-butene;1,4-						6.00E-04		6.00E-03
79-43-6	SVOCs	dichloroacetic acid								
95-50-1	VOCs	dichlorobenzene;1,2-		2.50E+03	8.00E+02	3.00E+03	9.10E+01		2.00E+02	
541-73-1	VOCs	dichlorobenzene;1,3-		1.60E+01	2.00E+00	1.00E+01				
106-46-7	VOCs	dichlorobenzene;1,4-		5.80E+02	2.00E+02	9.00E+02	3.70E+02	2.30E-01	8.00E+02	2.30E+00
91-94-1	SVOCs	dichlorobenzidine;3,3'-		3.30E-03		1.50E-01		7.40E-03		7.40E-02
75-71-8	VOCs	dichlorodifluoromethane					4.60E+01		1.00E+02	
75-34-3	VOCs	dichloroethane;1,1-						1.60E+00		1.60E+01
107-06-2	VOCs	dichloroethane;1,2-		1.20E+02	7.30E+01	6.50E+02	3.20E+00	9.60E-02	7.00E+00	9.60E-01
540-59-0	VOCs	dichloroethylene,1,2- (mixed isomers)								
75-35-4	VOCs	dichloroethylene;1,1-		4.10E+03	4.00E+03	2.00E+04	9.10E+01		2.00E+02	
156-59-2	VOCs	dichloroethylene;1,2-,cis								
156-60-5	VOCs	dichloroethylene;1,2-,trans		5.80E+03	1.00E+03	4.00E+03				
120-83-2	Phenols	DICHLOROPHENOL;2,4-	pH-DEPENDENT	3.40E+01	1.00E+01	6.00E+01				

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94-75-7	Herbicides	dichlorophenoxyacetic acid;2,4-				1.20E+04				
78-87-5	VOCs	dichloropropane;1,2-		3.10E+00		3.10E+01	1.80E+00	6.80E-01	4.00E+00	6.80E+00
616-23-9	SVOCs	dichloropropanol;2,3-								
542-75-6	VOCs	dichloropropene;1,3-		2.00E+00	1.20E+00	1.20E+01	9.10E+00	6.30E-01	2.00E+01	6.30E+00
62-73-7	Pesticides	dichlorvos					2.30E-01	3.00E-02	5.00E-01	3.00E-01
115-32-2	Pesticides	dicofol								
77-73-6	VOCs	dicyclopentadiene					1.40E-01		3.00E-01	
60-57-1	Pesticides	dieldrin		6.10E-06	7.00E-08	1.20E-06		5.40E-04		5.40E-03
84-66-2	Phthalates	diethyl phthalate		5.00E+03	2.00E+02	6.00E+02				
111-46-6	Glycols	diethylene glycol								
693-21-0	Glycols	diethylene glycol dinitrate								
112-34-5	Glycols	diethylene glycol monobutyl ether					4.60E-02		1.00E-01	
111-90-0	Glycols	diethylene glycol monoethyl ether					1.40E-01		3.00E-01	
617-84-5	SVOCs	diethylformamide								
311-45-5	Pesticides	diethyl-p-nitrophenylphosphate								
56-53-1	SVOCs	diethylstilbesterol						2.50E-05		2.50E-04
43222-48-6	Pesticides	difenzoquat								
35367-38-5	Pesticides	diflubenzuron								
75-37-6	VOCs	difluoroethane;1,1-					1.80E+04		4.00E+04	
1445-75-6	SVOCs	diisopropyl methylphosphonate								
55290-64-7	Pesticides	dimethipin								
60-51-5	Pesticides	dimethoate								
119-90-4	SVOCs	dimethoxybenzidine;3,3'-								
131-11-3	Phthalates	dimethyl phthalate		1.30E+05	6.00E+02	2.00E+03				
120-61-6	Phthalates	dimethyl terephthalate								
124-40-3	VOCs	dimethylamine								
21436-96-4	SVOCs	dimethylaniline hydrochloride;2,4-								
95-68-1	SVOCs	dimethylaniline;2,4-								
121-69-7	SVOCs	dimethylaniline;N,N-								
119-93-7	SVOCs	dimethylbenzidine;3,3'-								
68-12-2	VOCs	dimethylformamide;N,N-					1.40E+01		3.00E+01	
57-14-7	VOCs	dimethylhydrazine;1,1-					9.10E-04		2.00E-03	
540-73-8	VOCs	dimethylhydrazine;1,2-						1.60E-05		1.60E-04
105-67-9	Phenols	dimethylphenol;2,4-		9.70E+01		3.00E+03				
576-26-1	Phenols	dimethylphenol;2,6-								
95-65-8	Phenols	dimethylphenol;3,4-								
99-65-0	Explosives	dinitrobenzene;m-								
528-29-0	SVOCs	dinitrobenzene;o-								
100-25-4	SVOCs	dinitrobenzene;p-								
131-89-5	Phenols	dinitro-o-cyclohexyl phenol;4,6-								
51-28-5	Phenols	DINITROPHENOL;2,4-	pH-DEPENDENT	6.10E+02	1.00E+02	3.00E+02				
25550-58-7	Phenols	dinitrophenols				1.00E+03				
25321-14-6	SVOCs	dinitrotoluene mixture; 2,4-/2,6-								
121-14-2	Explosives	dinitrotoluene;2,4-		1.80E-01		1.70E+00		2.80E-02		2.80E-01
606-20-2	Explosives	dinitrotoluene;2,6-								
117-84-0	Phthalates	di-n-octyl phthalate								
88-85-7	Herbicides	dinoseb								
123-91-1	VOCs	dioxane;1,4-					1.40E+01	5.00E-01	3.00E+01	5.00E+00
957-51-7	Pesticides	diphenamid								
122-39-4	SVOCs	diphenylamine								
122-66-7	SVOCs	diphenylhydrazine;1,2-		2.30E-02	2.00E-02	2.00E-01		1.10E-02		1.10E-01
85-00-7	Pesticides	diquat								
1937-37-7	Dyes	direct black 38						1.80E-05		1.80E-04
2602-46-2	Dyes	direct blue 6						1.80E-05		1.80E-04

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16071-86-6	Dyes	direct brown 95						1.80E-05		1.80E-04
2610-05-1	Dyes	direct sky blue								
298-04-4	Pesticides	disulfoton								
505-29-3	SVOCs	dithiane;1,4-								
330-54-1	Pesticides (Carbamate)	diuron								
534-52-1	Phenols	DNOC		2.50E+01	7.00E+00	3.00E+01				
2439-10-3	Pesticides	dodine								
115-29-7	Pesticides	endosulfan								
1031-07-8	Pesticides	endosulfan sulfate		1.00E+01		4.00E+01				
959-98-8	Pesticides	endosulfan;alpha		1.00E+01	7.00E+00	3.00E+01				
33213-65-9	Pesticides	endosulfan;beta		1.00E+01		4.00E+01				
145-73-3	Herbicides	endothall								
72-20-8	Pesticides	endrin		3.50E-02	2.00E-03	3.00E-02				
7421-93-4	Pesticides	endrin aldehyde		3.50E-02		1.00E+00				
106-89-8	VOCs	epichlorohydrin					4.60E-01	2.10E+00	1.00E+00	2.10E+01
106-88-7	VOCs	epoxybutane					9.10E+00		2.00E+01	
16672-87-0	Pesticides	ethephon								
563-12-2	Pesticides	ethion								
111-15-9	VOCs	ethoxyethanol acetate;2-					2.70E+01		6.00E+01	
110-80-5	VOCs	ethoxyethanol;2-					9.10E+01		2.00E+02	
141-78-6	VOCs	ethyl acetate					3.20E+01		7.00E+01	
140-88-5	VOCs	ethyl acrylate					3.70E+00		8.10E+00	
75-00-3	VOCs	ethyl chloride					4.60E+03		1.00E+04	
759-94-4	Pesticides	ethyl dipropylthiocarbamate;S-								
60-29-7	VOCs	ethyl ether								
97-63-2	VOCs	ethyl methacrylate					1.40E+02		3.00E+02	
2104-64-5	Pesticides	ethyl p-nitrophenyl phenylphosphorothioate								
100-41-4	VOCs	ethylbenzene		2.70E+02	3.10E+01	1.30E+02	4.60E+02		1.00E+03	
109-78-4	SVOCs	ethylene cyanohydrin								
107-15-3	SVOCs	ethylene diamine								
106-93-4	VOCs	ethylene dibromide (EDB)					4.10E+00	4.20E-03	9.00E+00	4.20E-02
107-21-1	VOCs	ethylene glycol					1.80E+02		4.00E+02	
111-76-2	Glycols	ethylene glycol monobutyl ether (EGBE)					7.30E+02		1.60E+03	
75-21-8	VOCs	ethylene oxide					1.40E+01	8.30E-04	3.00E+01	8.30E-03
96-45-7	SVOCs	ethylene thiourea						1.90E-01		1.90E+00
84-72-0	Phthalates	ethylphthalyl ethylglycolate								
101200-48-0	Pesticides	express								
22224-92-6	Pesticides	fenamiphos								
115-90-2	Pesticides	fensulfothion								
2164-17-2	Pesticides	fluometuron								
206-44-0	PAHs	fluoranthene		1.60E+01	6.00E+00	2.00E+01				
86-73-7	PAHs	fluorene		6.10E+02	1.00E+01	7.00E+01				
16984-48-8	Nutrients	FLUORIDE	FLUORIDE NOTES				5.90E+00		1.30E+01	
59756-60-4	Pesticides	fluridone								
56425-91-3	Pesticides	flurprimidol								
66332-96-5	Pesticides	flutolanil								
69409-94-5	Pesticides	fluvalinate								
133-07-3	Pesticides	folpet								
72178-02-0	Pesticides	fomesafen								
944-22-9	Pesticides	fonofos								
50-00-0	VOCs	formaldehyde					4.50E+00	1.90E-01	9.80E+00	1.90E+00
64-18-6	VOCs	formic acid					1.40E-01		3.00E-01	
39148-24-8	Pesticides	fosetyl-al								
110-00-9	Furans	furan								

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	**Surface Water** Human Health Marine Waters 173-201A WAC (µg/L)	**Surface Water** Human Health Marine Waters 40 CFR 131.45 (µg/L)	**Surface Water** Human Health Marine Waters CWA §304 (µg/L)		**Air** Method B Non cancer (µg/m³)	**Air** Method B Cancer (µg/m³)	**Air** Method C Non cancer (µg/m³)	**Air** Method C Cancer (µg/m³)
67-45-8	SVOCs	furazolidone									
98-01-1	VOCs	furfural						2.30E+01		5.00E+01	
531-82-8	SVOCs	furium							5.80E-03		5.80E-02
60568-05-0	Pesticides	furmecyclox							2.90E-01		2.90E+00
77182-82-2	SVOCs	glufosinate-ammonium									
765-34-4	VOCs	glycidaldehyde						4.60E-01		1.00E+00	
1071-83-6	SVOCs	glyphosate									
unavailable20	Radionuclides	gross alpha particle activity	ALPHA PARTICLE NOTE								
unavailable21	Radionuclides	gross beta particle activity	BETA PARTICLE NOTE								
86-50-0	Pesticides	guthion						4.60E+00		1.00E+01	
69806-40-2	Pesticides	haloxyfop-methyl									
79277-27-3	Pesticides	harmony									
76-44-8	Pesticides	heptachlor		1.00E-05	3.40E-07	5.90E-06			1.90E-03		1.90E-02
1024-57-3	Pesticides	heptachlor epoxide		7.40E-06	2.40E-06	3.20E-05			9.60E-04		9.60E-03
142-82-5	VOCs	heptane;n-						1.80E+02		3.90E+02	
87-82-1	SVOCs	hexabromobenzene									
68631-49-2	PBDEs	hexabromodiphenyl ether; 2,2',4,4',5,5'-									
118-74-1	Pesticides	hexachlorobenzene		5.20E-05	5.00E-06	7.90E-05			5.40E-03		5.40E-02
87-68-3	VOCs	hexachlorobutadiene		4.10E+00	1.00E-02	1.00E-02			1.10E-01		1.10E+00
319-84-6	Pesticides	hexachlorocyclohexane;alpha		5.60E-04	4.80E-05	3.90E-04			1.40E-03		1.40E-02
319-85-7	Pesticides	hexachlorocyclohexane;beta-		2.00E-03	1.40E-03	1.40E-02			4.70E-03		4.70E-02
319-86-8	Pesticides	hexachlorocyclohexane;delta-									
608-73-1	SVOCs	hexachlorocyclohexane;technical				1.00E-02			4.90E-03		4.90E-02
77-47-4	Pesticides	hexachlorocyclopentadiene		6.30E+02	1.00E+00	4.00E+00		9.10E-02		2.00E-01	
19408-74-3	Dioxins	hexachlorodibenzo-p-dioxin, mixture							1.90E-06		1.90E-05
67-72-1	VOCs	hexachloroethane		1.30E-01	2.00E-02	1.00E-01		1.40E+01	2.30E-01	3.00E+01	2.30E+00
70-30-4	SVOCs	hexachlorophene									
822-06-0	VOCs	hexamethylene diisocyanate;1,6-						4.60E-03		1.00E-02	
110-54-3	VOCs	hexane;n-						3.20E+02		7.00E+02	
591-78-6	VOCs	hexanone;2-						1.40E+01		3.00E+01	
51235-04-2	Pesticides	hexazinone									
302-01-2	VOCs	hydrazine						1.40E-02	5.10E-04	3.00E-02	5.10E-03
10034-93-2	SVOCs	hydrazine sulfate							5.10E-04		5.10E-03
7647-01-0	VOCs	hydrogen chloride						9.10E+00		2.00E+01	
74-90-8	Cyanides	hydrogen cyanide						3.70E-01		8.00E-01	
7783-06-4	VOCs	hydrogen sulfide						9.10E-01		2.00E+00	
123-31-9	SVOCs	hydroquinone									
35554-44-0	Pesticides	imazalil									
81335-37-7	Pesticides	imazaquin									
193-39-5	cPAHs	INDENO[1,2,3-cd]PYRENE	PAH NOTES	2.10E-02	1.60E-04	1.30E-03			2.30E-02		2.30E-01
36734-19-7	Pesticides	iprodione									
7439-89-6	Metals	iron									
78-83-1	VOCs	isobutyl alcohol									
78-59-1	SVOCs	isophorone		1.10E+02		1.80E+03		9.10E+02		2.00E+03	
33820-53-0	Pesticides	isopropalin									
1832-54-8	SVOCs	isopropyl methyl phosphonic acid									
82558-50-7	Pesticides	isoxaben									
77501-63-4	Pesticides	lactofen									
7439-92-1	Metals	LEAD	LEAD NOTES								
unavailable02	Metals	lead alkyls									
58-89-9	Pesticides	lindane		1.70E+01	4.30E-01	4.40E+00			8.10E-03		8.10E-02
330-55-2	Pesticides (Carbamate)	linuron									
7791-03-9	Perchlorates	lithium perchlorate									
83055-99-6	Pesticides	londax									

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121-75-5	Pesticides	malathion								
108-31-6	SVOCs	maleic anhydride					3.20E-01		7.00E-01	
123-33-1	SVOCs	maleic hydrazide								
109-77-3	VOCs	malononitrile								
8018-01-7	Pesticides	mancozeb								
12427-38-2	Pesticides	maneb								
7439-96-5	Metals	MANGANESE (Diet)	MANGANESE NOTES			1.00E+02	2.30E-02		5.00E-02	
7439-96-5a	Metals	MANGANESE (Non-Diet)	MANGANESE NOTES			1.00E+02	2.30E-02		5.00E-02	
950-10-7	Pesticides	mephosfolan								
24307-26-4	Pesticides	mepiquat chloride								
7487-94-7	Metals	mercuric chloride					1.40E-01		3.00E-01	
7439-97-6	Metals	mercury					1.40E-01		3.00E-01	
150-50-5	Pesticides	merphos								
57837-19-1	Pesticides	metalaxyl								
126-98-7	VOCs	methacrylonitrile					1.40E+01		3.00E+01	
10265-92-6	Pesticides	methamidosphos								
67-56-1	VOCs	methanol					9.10E+03		2.00E+04	
950-37-8	Pesticides	methidathion								
16752-77-5	Pesticides (Carbamate)	methomyl								
99-59-2	SVOCs	methoxy-5-nitroaniline;2-						1.80E-01		1.80E+00
72-43-5	Pesticides	methoxychlor				2.00E-02				
110-49-6	VOCs	methoxyethanol acetate;2-					4.60E-01		1.00E+00	
109-86-4	VOCs	methoxyethanol;2-					9.10E+00		2.00E+01	
79-20-9	VOCs	methyl acetate								
96-33-3	VOCs	methyl acrylate					9.10E+00		2.00E+01	
78-93-3	VOCs	methyl ethyl ketone					2.30E+03		5.00E+03	
108-10-1	VOCs	methyl isobutyl ketone					1.40E+03		3.00E+03	
22967-92-6	Metals (organometallic)	METHYL MERCURY	METHYL MERCURY NOTES	1.00E+00	3.00E-02	3.00E-01				
80-62-6	VOCs	methyl methacrylate					3.20E+02		7.00E+02	
90-12-0	PAHs	methyl naphthalene;1-								
91-57-6	PAHs	methyl naphthalene;2-								
298-00-0	Pesticides	methyl parathion								
25013-15-4	VOCs	methyl styrene					1.80E+01		4.00E+01	
98-83-9	SVOCs	methyl styrene, alpha								
1634-04-4	VOCs	methyl tert-butyl ether					1.40E+03	9.60E+00	3.00E+03	9.60E+01
94-74-6	Herbicides	methyl-4-chlorophenoxy-acetic acid;2-								
99-55-8	SVOCs	methyl-5-nitroaniline;2-								
636-21-5	SVOCs	methylaniline hydrochloride;2-						6.80E-02		6.80E-01
95-53-4	VOCs	methylaniline;2-						4.90E-02		4.90E-01
108-87-2	VOCs	methylcyclohexane								
101-14-4	SVOCs	methylene bis(2-chloroaniline);4,4'-						5.80E-03		5.80E-02
101-61-1	SVOCs	methylene bis(n,n'-dimethyl)aniline;4,4'-						1.90E-01		1.90E+00
74-95-3	VOCs	methylene bromide					1.80E+00		4.00E+00	
75-09-2	VOCs	methylene chloride		2.50E+02	1.00E+02	1.00E+03	2.70E+02	2.50E+02	6.00E+02	2.50E+03
101-68-8	SVOCs	methylene diphenyl diisocyanate (MDI)					2.70E-01		6.00E-01	
9016-87-9	SVOCs	methylene diphenyl diisocyanate (PMDI)					2.70E-01		6.00E-01	
101-77-9	SVOCs	methylenebisbenzenamine;4,4-					9.10E+00	5.40E-03	2.00E+01	5.40E-02
60-34-4	VOCs	methylhydrazine					9.10E-03	2.50E-03	2.00E-02	2.50E-02
51218-45-2	Pesticides	metolachlor								
21087-64-9	Pesticides	metribuzin								
7786-34-7	Pesticides	mevinphos								
2385-85-5	Pesticides	mirex						4.90E-04		4.90E-03
2212-67-1	Pesticides	molinate								
7439-98-7	Metals	molybdenum								

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10599-90-3	Disinfectants	monochloramine	MCL FOR DISINFECTANTS							
unavailable03	SVOCs	monochlorobutanes (not in HSDB)								
300-76-5	Pesticides	naled								
91-20-3	PAHs	naphthalene					1.40E+00	7.40E-02	3.00E+00	7.40E-01
15299-99-7	Pesticides	napropamide								
104-51-8	VOCs	n-butylbenzene								
2429-74-5	Dyes	niagara blue 4B								
unavailable04	Metals	nickel refinery dust					6.40E-03	1.00E-02	1.40E-02	1.00E-01
7440-02-0	Metals	NICKEL SOLUBLE SALTS	HARDNESS - DEPENDENT	1.90E+02	1.00E+02	4.60E+03	4.10E-02	9.60E-03	9.00E-02	9.60E-02
12035-72-2	Metals	nickel subsulfide					6.40E-03	5.20E-03	1.40E-02	5.20E-02
14797-55-8	Nutrients	nitrate								
10102-43-9	Gases	nitric oxide								
14797-65-0	Nutrients	nitrite								
88-74-4	SVOCs	nitroaniline, 2-					2.30E-02		5.00E-02	
100-01-6	SVOCs	nitroaniline, 4-					2.70E+00		6.00E+00	
98-95-3	Explosives	nitrobenzene		3.20E+02	1.00E+02	6.00E+02	4.10E+00	6.30E-02	9.00E+00	6.30E-01
67-20-9	SVOCs	nitrofurantoin								
59-87-0	SVOCs	nitrofurazone						6.80E-03		6.80E-02
10102-44-0	Gases	nitrogen dioxide								
556-88-7	SVOCs	nitroguanidine								
79-46-9	VOCs	nitropropane;2-					9.10E+00	9.30E-04	2.00E+01	9.30E-03
1116-54-7	SVOCs	nitrosodiethanolamine;N-						3.10E-03		3.10E-02
55-18-5	SVOCs	nitrosodiethylamine;N-				1.20E+00		5.80E-05		5.80E-04
62-75-9	SVOCs	nitrosodimethylamine;N-		3.40E-01		3.00E+00	1.80E-02	1.80E-04	4.00E-02	1.80E-03
924-16-3	VOCs	nitroso-di-n-butylamine;N-				2.20E-01		1.60E-03		1.60E-02
621-64-7	SVOCs	nitroso-di-n-propylamine;N-		5.80E-02		5.10E-01		1.30E-03		1.30E-02
86-30-6	SVOCs	nitrosodiphenylamine;N-		6.90E-01		6.00E+00		9.60E-01		9.60E+00
4549-40-0	SVOCs	nitrosomethylvinylamine,n-								
759-73-9	SVOCs	nitroso-n-ethylurea;n-						3.20E-04		3.20E-03
10595-95-6	SVOCs	nitroso-N-methylethylamine;N-						4.00E-04		4.00E-03
684-93-5	SVOCs	nitroso-n-methylurea,n-						7.40E-05		7.40E-04
930-55-2	SVOCs	nitrosopyrrolidine;N-				3.40E+01		4.10E-03		4.10E-02
99-08-1	Explosives	nitrotoluene, m-								
88-72-2	Explosives	nitrotoluene, o-								
99-99-0	Explosives	nitrotoluene, p-								
1321-12-6	Explosives	nitrotoluenes;o-,m-,p-								
84852-15-3	Phenols	nonylphenol								
27314-13-2	Pesticides	norflurazon								
85509-19-9	Herbicides	nustar								
32536-52-0	PBDEs	octabromodiphenyl ether								
2691-41-0	Explosives	octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine								
152-16-9	SVOCs	octamethylpyrophosphoramide								
19044-88-3	Pesticides	oryzalin								
19666-30-9	Pesticides	oxadiazon								
23135-22-0	Pesticides (Carbamate)	oxamyl								
42874-03-3	Pesticides	oxyfluorfen								
76738-62-0	Herbicides	paclobutrazol								
unavailable05	PAHs	PAHs	PAH NOTES							
4685-14-7	Pesticides	paraquat								
56-38-2	Pesticides	parathion								
1114-71-2	Pesticides	pebulate								
40487-42-1	Pesticides	pendimethalin								
87-84-3	SVOCs	pentabromo-6-chloro-cyclohexane;1,2,3,4,5-								
60348-60-9	PBDEs	pentabromodiphenyl ether; 2,2',4,4',5-								

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32534-81-9	PBDEs	pentabromodiphenyl ethers								
608-93-5	SVOCs	pentachlorobenzene				1.00E-01				
82-68-8	Pesticides	pentachloronitrobenzene								
87-86-5	Herbicides	PENTACHLOROPHENOL	pH-DEPENDENT	1.00E-01	2.00E-03	4.00E-02		4.90E-01		4.90E+00
14797-73-0	Perchlorates	perchlorate and perchlorate salts								
52645-53-1	Pesticides	permethrin								
72-56-0	Pesticides	perthane								
unavailable19	General Chemistry	pH	pH NOTES							
85-01-8	PAHs	phenanthrene								
13684-63-4	Pesticides	phenmedipham								
108-95-2	Phenols	phenol		2.00E+05	7.00E+04	3.00E+05	9.10E+01		2.00E+02	
106-50-3	SVOCs	phenylenediamine, p-								
108-45-2	SVOCs	phenylenediamine;m-								
95-54-5	SVOCs	phenylenediamine;o-								
62-38-4	Metals (organometallic)	phenylmercuric acetate								
90-43-7	Phenols	phenylphenol;2-								
298-02-2	Pesticides	phorate								
75-44-5	VOCs	phosgene					1.40E-01		3.00E-01	
732-11-6	Pesticides	phosmet								
7803-51-2	Gases	phosphine					1.40E-01		3.00E-01	
7664-38-2	SVOCs	phosphoric acid					4.60E+00		1.00E+01	
7723-14-0	Metals	phosphorus								
100-21-0	Phthalates	phthalic acid;p-								
85-44-9	Phthalates	phthalic anhydride					9.10E+00		2.00E+01	
1918-02-1	Herbicides	picloram								
29232-93-7	Pesticides	pirimiphos-methyl								
59536-65-1	PBBs	polybrominated biphenyls						2.90E-04		2.90E-03
1336-36-3	PCBs	polychlorinated biphenyls (PCBs)		1.70E-04	7.00E-06	6.40E-05		4.40E-03		4.40E-02
151-50-8	Cyanides	potassium cyanide								
7778-74-7	Perchlorates	potassium perchlorate								
506-61-6	Cyanides	potassium silver cyanide								
67747-09-5	Pesticides	prochloraz (not in HSDB)								
26399-36-0	Pesticides	profluralin								
1610-18-0	Pesticides	prometon								
7287-19-6	Pesticides	prometryn								
23950-58-5	Pesticides	pronamide								
1918-16-7	Pesticides	propachlor								
709-98-8	Pesticides	propanil								
2312-35-8	Pesticides	propargite								
107-19-7	VOCs	propargyl alcohol								
139-40-2	Pesticides	propazine								
122-42-9	Pesticides	propham								
60207-90-1	Pesticides	propiconazole								
123-38-6	VOCs	propionaldehyde					3.70E+00		8.10E+00	
93-65-2	Herbicides	propionic acid;(2-methyl-4-chlorophenoxy)2-								
103-65-1	VOCs	propylbenzene;n-					4.60E+02		1.00E+03	
57-55-6	Glycols	propylene glycol								
6423-43-4	Glycols	propylene glycol dinitrate;1,2-					1.20E-01		2.70E-01	
52125-53-8	Glycols	propylene glycol monoethyl ether								
107-98-2	Glycols	propylene glycol monomethyl ether					9.10E+02		2.00E+03	
75-56-9	VOCs	propylene oxide					1.40E+01	6.80E-01	3.00E+01	6.80E+00
81335-77-5	Pesticides	pursuit								
51630-58-1	Pesticides	pydrin								
129-00-0	PAHs	pyrene		4.60E+02	8.00E+00	3.00E+01				

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110-86-1	VOCs	pyridine								
13593-03-8	Pesticides	quinalphos								
91-22-5	SVOCs	quinoline								
13982-63-3	Radionuclides	radium 226	RADIUM 226 NOTE							
unavailable23	Radionuclides	radium 226 and 228	RADIUM 226 & 228 NOTES							
121-82-4	Explosives	rdx								
unavailable07	Fibers	REFRACTORY CERAMIC FIBERS	REFRACTORY FIBER NOTE				4.80E+01		1.10E+02	
10453-86-8	Pesticides	resmethrin								
299-84-3	Pesticides	ronnel								
83-79-4	Pesticides	rotenone								
78-48-8	Pesticides	s,s;s-tributylphosphorotrithioate								
78587-05-0	Pesticides	savey								
135-98-8	VOCs	sec-butylbenzene								
7783-00-8	Metals	selenious acid								
7782-49-2	Metals	selenium and compounds		4.80E+02	2.00E+02	4.20E+03	9.10E+00		2.00E+01	
630-10-4	Metals (organometallic)	selenourea								
74051-80-2	Pesticides	sethoxydim								
7440-22-4	Metals	SILVER	HARDNESS - DEPENDENT							
506-64-9	Cyanides	silver cyanide								
122-34-9	Pesticides	simazine								
26628-22-8	Metals	sodium azide								
143-33-9	Cyanides	sodium cyanide								
148-18-5	Metals (organometallic)	sodium diethyldithiocarbamate								
62-74-8	Metals (organometallic)	sodium fluoroacetate								
13718-26-8	Metals	sodium metavanadate								
7601-89-0	Perchlorates	sodium perchlorate								
7440-24-6	Metals	strontium								
57-24-9	SVOCs	strychnine								
100-42-5	VOCs	styrene					4.60E+02		1.00E+03	
unavailable17	Metals	sulfate								
88671-89-0	Pesticides	systhane								
1746-01-6	Dioxins	TCDD;2,3,7,8- (LOW ORGANIC) (DIOXIN)	TEF NOTES	6.40E-08	1.40E-08	5.10E-09	1.80E-05	6.60E-08	4.00E-05	6.60E-07
34014-18-1	Pesticides	tebuthiuron								
3383-96-8	Pesticides	temephos								
5902-51-2	Pesticides	terbacil								
13071-79-9	SVOCs	terbufos								
886-50-0	Pesticides	terbutryn								
98-06-6	VOCs	tert-butylbenzene								
5436-43-1	PBDEs	tetrabromodiphenyl ether 2,2',4,4'								
95-94-3	SVOCs	tetrachlorobenzene;1,2,4,5-				3.00E-02				
630-20-6	VOCs	tetrachloroethane;1,1,1,2-						3.40E-01		3.40E+00
79-34-5	VOCs	tetrachloroethane;1,1,2,2-		4.60E-01	3.00E-01	3.00E+00		4.30E-02		4.30E-01
127-18-4	VOCs	TETRACHLOROETHYLENE (PCE)	PCE NOTES	7.10E+00	2.90E+00	2.90E+01	1.80E+01	9.60E+00	4.00E+01	9.60E+01
58-90-2	Phenols	TETRACHLOROPHENOL;2,3,4,6-	pH-DEPENDENT							
5216-25-1	VOCs	tetrachlorotoluene;p,a,a,a,-								
961-11-5	Pesticides	tetrachlorvinphos								
3689-24-5	Pesticides	tetraethyl dithiopyrophosphate								
78-00-2	Metals (organometallic)	tetraethyl lead								
811-97-2	VOCs	tetrafluoroethane;1,1,1,2-					3.70E+04		8.00E+04	
109-99-9	Furans	tetrahydrofuran					9.10E+02		2.00E+03	
1314-32-5	Metals	thallic oxide								
563-68-8	Metals	thallium acetate								
6533-73-9	Metals	thallium carbonate								
7791-12-0	Metals	thallium chloride								

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Surface Water Human Health Marine Waters 173-201A WAC (µg/L)	Surface Water Human Health Marine Waters 40 CFR 131.45 (µg/L)	Surface Water Human Health Marine Waters CWA §304 (µg/L)	Air Method B Non cancer (µg/m^3)	Air Method B Cancer (µg/m^3)	Air Method C Non cancer (µg/m^3)	Air Method C Cancer (µg/m^3)
10102-45-1	Metals	thallium nitrate								
12039-52-0	Metals	thallium selenite								
7446-18-6	Metals	thallium(I) sulfate								
7440-28-0	Metals	thallium, soluble salts		2.70E-01	6.30E+00	4.70E-01				
28249-77-6	Pesticides	thiobencarb								
21564-17-0	SVOCs	thiocyanomethylthiobenzothiazole;2-								
39196-18-4	Pesticides	thiofanox								
23564-05-8	Pesticides	thiophanate-methyl								
137-26-8	Pesticides	thiram								
7440-31-5	Metals	tin								
118-96-7	Explosives	tnt								
108-88-3	VOCs	toluene		4.10E+02	1.30E+02	5.20E+02	2.30E+03		5.00E+03	
26471-62-5	VOCs	toluene diisocyanate mixture;2,4-/2,6-						2.30E-01		2.30E+00
584-84-9	VOCs	toluene-2,4-diisocyanate					3.70E-03	2.30E-01	8.00E-03	2.30E+00
91-08-7	VOCs	toluene-2,6-diisocyanate					3.70E-03	2.30E-01	8.00E-03	2.30E+00
95-80-7	SVOCs	toluenediamine;2,4-								
95-70-5	SVOCs	toluenediamine;2,5-								
823-40-5	SVOCs	toluenediamine;2,6-								
106-49-0	SVOCs	toluidine;p-								
unavailable18	General Chemistry	total dissolved solids								
8001-35-2	Pesticides	toxaphene		3.20E-05		7.10E-04		7.80E-03		7.80E-02
93-72-1	Herbicides	tp;2,4,5-				4.00E+02				
unavailable09	Petroleum	tph, diesel range organics								
unavailable10	Petroleum	tph, heavy oils								
unavailable11	Petroleum	tph, mineral oils								
unavailable25	Petroleum	tph: gasoline range organics, benzene present								
unavailable08	Petroleum	tph: gasoline range organics, no detectable benzene								
66841-25-6	Pesticides	tralomethrin								
2303-17-5	Pesticides	triallate								
82097-50-5	Pesticides	triasulfuron								
615-54-3	VOCs	tribromobenzene;1,2,4-								
688-73-3	Organotins	tributyltin								
56-35-9	Organotins	tributyltin oxide								
10025-85-1	Disinfectants	trichloramine	MCL FOR DISINFECTANTS							
76-13-1	VOCs	trichloro-1,2,2-trifluoroethane;1,1,2-					2.30E+03		5.00E+03	
76-03-9	SVOCs	trichloroacetic acid								
33663-50-2	SVOCs	trichloroaniline hydrochloride;2,4,6-								
634-93-5	SVOCs	trichloroaniline;2,4,6-								
120-82-1	VOCs	trichlorobenzene;1,2,4-		1.40E-01	3.70E-02	7.60E-02	9.10E-01		2.00E+00	
71-55-6	VOCs	trichloroethane;1,1,1-		1.60E+05	5.00E+04	2.00E+05	2.30E+03		5.00E+03	
79-00-5	VOCs	trichloroethane;1,1,2-		1.80E+00	9.00E-01	8.90E+00	9.10E-02	1.60E-01	2.00E-01	1.60E+00
79-01-6	VOCs	TRICHLOROETHYLENE (TCE)	TCE NOTES	8.60E-01	7.00E-01	7.00E+00	9.10E-01	3.70E-01	2.00E+00	6.30E+00
75-69-4	VOCs	trichlorofluoromethane					3.20E+02		7.00E+02	
95-95-4	Phenols	TRICHLOROPHENOL;2,4,5-	pH-DEPENDENT			6.00E+02				
88-06-2	Phenols	TRICHLOROPHENOL;2,4,6-	pH-DEPENDENT	2.80E-01		2.80E+00		8.10E-01		8.10E+00
93-76-5	Herbicides	trichlorophenoxyacetic acid;2,4,5-								
598-77-6	VOCs	trichloropropane;1,1,2-								
96-18-4	VOCs	trichloropropane;1,2,3-					1.40E-01		3.00E-01	
96-19-5	VOCs	trichloropropene;1,2,3-					1.40E-01		3.00E-01	
58138-08-2	Pesticides	tridiphane								
121-44-8	VOCs	triethylamine					3.20E+00		7.00E+00	
1582-09-8	Pesticides	trifluralin								
unavailable13	VOCs	trihalomethanes, (total) (TTHMs)	TTHM NOTES							
512-56-1	SVOCs	trimethyl phosphate								
526-73-8	VOCs	trimethylbenzene;1,2,3-					2.70E+01		6.00E+01	
95-63-6	VOCs	trimethylbenzene;1,2,4-					2.70E+01		6.00E+01	
108-67-8	VOCs	trimethylbenzene;1,3,5-					2.70E+01		6.00E+01	

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Surface Water Human Health Marine Waters 173-201A WAC (µg/L)	Surface Water Human Health Marine Waters 40 CFR 131.45 (µg/L)	Surface Water Human Health Marine Waters CWA §304 (µg/L)	Air Method B Non cancer (µg/m³)	Air Method B Cancer (µg/m³)	Air Method C Non cancer (µg/m³)	Air Method C Cancer (µg/m³)
99-35-4	Explosives	trinitrobenzene;1,3,5-								
479-45-8	Explosives	trinitrophenylmethylnitramine								
unavailable12	Radionuclides	uranium, soluble salts					1.80E-02		4.00E-02	
7440-62-2	Metals	vanadium					4.60E-02		1.00E-01	
1314-62-1	Metals	vanadium pentoxide					3.20E-03	3.00E-04	7.00E-03	3.00E-03
27774-13-6	Metals	vanadyl sulfate								
1929-77-7	Pesticides	vernam								
50471-44-8	Pesticides	vinclozolin								
108-05-4	VOCs	vinyl acetate					9.10E+01		2.00E+02	
75-01-4	VOCs	VINYL CHLORIDE	VINYL CHLORIDE NOTES	2.60E-01	1.80E-01	1.60E+00	4.60E+01	2.80E-01	1.00E+02	2.80E+00
81-81-2	Pesticides	warfarin								
8012-95-1	Petroleum	white mineral oil								
108-38-3	VOCs	xylene;m-					4.60E+01		1.00E+02	
95-47-6	VOCs	xylene;o-					4.60E+01		1.00E+02	
106-42-3	VOCs	xylene;p-					4.60E+01		1.00E+02	
1330-20-7	VOCs	xylenes					4.60E+01		1.00E+02	
7440-66-6	Metals	ZINC	HARDNESS - DEPENDENT	2.90E+03	1.00E+03	2.60E+04				
557-21-1	Cyanides	zinc cyanide								
1314-84-7	Metals	zinc phosphide								
12122-67-7	Pesticides	zineb								

Cleanup Levels and Risk Calculation (CLARC) Master Table - May 2019

CAS #	**Chemical Data Group**	**Chemical Name**	**Links to Important Notes**	**S** (Aqueous Solubility) (mg/L)	**BCF** (Bioconcen-tration Factor) (L/kg)	**Hcc** (Henry's Law Constant) 25 degrees C (unitless)	**Hcc** (Henry's Law Constant @ 13 degrees C) (unitless)	**INH** (Inhalation Correction Factor) (unitless)	**Kd** (Distribution Factor for metals) (L/kg)	**Koc** (Soil Organic Carbon-Water Partitioning Coefficient) (L/kg)	**Kd** (Distribution Factor for metals and non-ionizing organics) (L/kg)	**GI** Absorption Fraction (unitless)	**Ground Water** Target Cleanup Level for Soil to Groundwater Pathway see guidance (µg/L)	**Ground Water** Target Criterion see guidance
83-32-9	PAHs	acenaphthene		4.24E+00	2.42E+02	6.36E-03	2.11E-03	1		4.90E+03	4.90E+00	1	9.60E+02	N
208-96-8	PAHs	acenaphthylene						1				1		
30560-19-1	Pesticides	acephate						1				1		
75-07-0	VOCs	acetaldehyde					2.15E-03	2				1		
34256-82-1	Pesticides	acetochlor						1				1		
67-64-1	VOCs	acetone		1.00E+06		1.59E-03	9.68E-04	2		5.75E-01	5.75E-04	1	7.20E+03	N
75-86-5	VOCs	acetone cyanohydrin						2				1		
75-05-8	VOCs	acetonitrile					8.37E-04	2				1		
98-86-2	SVOCs	acetophenone					1.61E-04	2				1		
62476-59-9	Herbicides	acifluorfen, sodium						2				1		
107-02-8	VOCs	acrolein					3.11E-03	2				1		
79-06-1	VOCs	acrylamide						2				1		
79-10-7	VOCs	acrylic acid						2				1		
107-13-1	VOCs	acrylonitrile			3.00E+01		2.34E-03	2				1		
15972-60-8	Pesticides	alachlor						1				1		
1596-84-5	Pesticides	alar						1				1		
116-06-3	Pesticides (Carbamate)	aldicarb						1				1		
1646-88-4	Pesticides (Carbamate)	aldicarb sulfone						1				1		
309-00-2	Pesticides	aldrin		1.80E-01	4.67E+03	6.97E-03	1.60E-03	2		4.87E+04	4.87E+01	1	2.60E-03	C
74223-64-6	Pesticides	ally						1				1		
107-18-6	VOCs	allyl alcohol						2				1		
107-05-1	VOCs	allyl chloride						2				1		
7429-90-5	Metals	aluminum				0.00E+00	0.00E+00	1				1		
20859-73-8	Metals	aluminum phosphide						1				1		
67485-29-4	Pesticides	amdro						1				1		
834-12-8	Pesticides	ametryn						1				1		
591-27-5	Phenols	aminophenol;m-						1				1		
504-24-5	SVOCs	aminopyridine;4-						1				1		
33089-61-1	Pesticides	amitraz						1				1		
7664-41-7	Nutrients	AMMONIA	AMMONIA NOTES					2				1		
7790-98-9	Perchlorates	ammonium perchlorate						1				1		
7773-06-0	Pesticides	ammonium sulfamate						1				1		
62-53-3	SVOCs	aniline						2				1		
120-12-7	PAHs	anthracene		4.34E-02	3.00E+01	2.67E-03	7.56E-04	1		2.35E+04	2.35E+01	1	4.80E+03	N
7440-36-0	Metals	antimony			1.00E+00	0.00E+00	0.00E+00	1	4.50E+01		4.50E+01	1	6.00E+00	MCL
1314-60-9	Metals	antimony pentoxide						1				1		
28300-74-5	Metals	antimony potassium tartrate						1				1		
1332-81-6	Metals	antimony tetroxide						1				1		
1309-64-4	Metals	antimony trioxide						1				1		
74115-24-5	Pesticides	apollo						1				1		
140-57-8	SVOCs	aramite						1				1		
12674-11-2	PCBs	aroclor 1016			3.12E+04			1		1.07E+05	1.07E+02	1		
11097-69-1	PCBs	aroclor 1254			3.12E+04			1				1		
11096-82-5	PCBs	aroclor 1260						1		8.22E+05	8.22E+02	1		
7440-38-2	Metals	arsenic, inorganic			4.40E+01	0.00E+00	0.00E+00	1	2.90E+01		2.90E+01	1	5.00E+00	Background
7784-42-1	Metals	arsine						2				1		
1332-21-4	Fibers	ASBESTOS	ASBESTOS NOTE					1				1		
76578-14-8	Pesticides	assure						1				1		
3337-71-1	Pesticides	asulam						1				1		
1912-24-9	Pesticides	atrazine						1				1		
65195-55-3	Pesticides	avermectin B1						1				1		
103-33-3	Pesticides	azobenzene						1				1		
7440-39-3	Metals	barium and compounds				0.00E+00	0.00E+00	1	4.10E+01		4.10E+01	1	2.00E+03	MCL
542-62-1	Metals	barium cyanide						1				1		

Cleanup Levels and Risk Calculation (CLARC) Master Table - May 2019

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	S (Aqueous Solubility) (mg/L)	BCF (Bioconcentration Factor) (L/kg)	Hcc (Henry's Law Constant) 25 degrees C (unitless)	Hcc (Henry's Law Constant @ 13 degrees C) (unitless)	INH (Inhalation Correction Factor) (unitless)	Kd (Distribution Factor for metals) (L/kg)	Koc (Soil Organic Carbon-Water Partitioning Coefficient) (L/kg)	Kd (Distribution Factor for metals and non-ionizing organics) (L/kg)	GI Absorption Fraction (unitless)	Ground Water Target Cleanup Level for Soil to Groundwater Pathway see guidance (µg/L)	Ground Water Target Criterion see guidance
114-26-1	Pesticides	baygon						1				1		
43121-43-3	Pesticides	bayleton						1				1		
68359-37-5	Pesticides	baythroid						1				1		
1861-40-1	Pesticides	benefin						2				1		
17804-35-2	Pesticides	benomyl						1				1		
25057-89-0	Herbicides	bentazon						1				1		
100-52-7	SVOCs	benzaldehyde					3.72E-04	2				1		
71-43-2	VOCs	BENZENE		1.75E+03	5.20E+00	2.28E-01	1.33E-01	2		6.20E+01	6.20E-02	1	5.00E+00	MCL
108-98-5	SVOCs	benzenethiol						2				1		
92-87-5	SVOCs	benzidine			8.75E+01			1				1		
191-24-2	PAHs	benzo(g,h,i)perylene						1				1		
56-55-3	cPAHs	BENZO[a]ANTHRACENE	PAH NOTES	9.40E-03	3.00E+01	1.37E-04	2.79E-05	1		3.58E+05	3.58E+02	1		
50-32-8	cPAHs	BENZO[a]PYRENE	PAH NOTES	1.62E-03	3.00E+01	4.63E-05	6.39E-06	1		9.69E+05	9.69E+02	1	2.00E-01	MCL
205-99-2	cPAHs	BENZO[b]FLUORANTHENE	PAH NOTES	1.50E-03	3.00E+01	4.55E-03	7.73E-04	1		1.23E+06	1.23E+03	1		
207-08-9	cPAHs	BENZO[k]FLUORANTHENE	PAH NOTES	8.00E-04	3.00E+01	3.40E-05	5.13E-06	1		1.23E+06	1.23E+03	1		
65-85-0	SVOCs	BENZOIC ACID	pH-DEPENDENT	3.50E+03		6.31E-05	4.88E-06	1		6.00E-01	6.00E-04	1	6.40E+04	N
98-07-7	VOCs	benzotrichloride						2				1		
100-51-6	SVOCs	benzyl alcohol						2				1		
100-44-7	VOCs	benzyl chloride					8.25E-03	2				1		
7440-41-7	Metals	beryllium			1.90E+01	0.00E+00	0.00E+00	1	7.90E+02		7.90E+02	1	4.00E+00	MCL
91-58-7	PAHs	beta-chloronaphthalene			2.02E+02			2				1		
141-66-2	SVOCs	bidrin						1				1		
82657-04-3	Pesticides	biphenthrin						1				1		
92-52-4	PAHs	biphenyl;1,1-					4.73E-03	2				1		
108-60-1	VOCs	bis(2-chloro-1-methyl-ethyl)ether			2.47E+00			2				1		
111-44-4	SVOCs	bis(2-chloroethyl)ether		1.72E+04	6.90E+00	7.38E-04	2.93E-04	2		7.60E+01	7.60E-02	1	4.00E-02	C
39638-32-9	VOCs	bis(2-chloroisopropyl) ether			2.47E+00			2				1		
117-81-7	Phthalates	bis(2-ethylhexyl) phthalate		3.40E-01	1.30E+02	4.18E-06	6.56E-07	1		1.11E+05	1.11E+02	1	6.00E+00	MCL
542-88-1	VOCs	bis(chloromethyl)ether						2				1		
80-05-7	Phenols	bisphenol a						1				1		
7440-42-8	Metals	boron				0.00E+00	0.00E+00	1				1		
15541-45-4	Pesticides	bromate						1				1		
79-08-3	SVOCs	bromoacetic acid						1				1		
108-86-1	VOCs	bromobenzene		4.46E+02		1.01E-01	4.33E-02	2		2.34E+02	2.34E-01	1	6.40E+01	N
75-27-4	VOCs	bromodichloromethane	TTHM NOTES	6.74E+03	3.75E+00	6.56E-02	3.69E-02	2		5.50E+01	5.50E-02	1	7.10E+00	MCL C ADJ
593-60-2	VOCs	bromoethene						2				1		
75-25-2	VOCs	bromoform	TTHM NOTES	3.10E+03	3.75E+00	2.19E-02	1.16E-02	2		1.26E+02	1.26E-01	1	5.50E+01	MCL C ADJ
74-83-9	VOCs	bromomethane		1.52E+04	3.75E+00	2.56E-01	1.78E-01	2		9.00E+00	9.00E-03	1	1.10E+01	N
2104-96-3	Pesticides	bromophos						1				1		
1689-84-5	Herbicides	bromoxynil						1				1		
1689-99-2	Pesticides	bromoxynil octanoate						1				1		
106-99-0	VOCs	butadiene;1,3-					2.17E+00	2				1		
71-36-3	VOCs	butanol;n-		7.40E+04		3.61E-04	1.55E-04	2		6.92E+00	6.92E-03	1	8.00E+02	N
85-68-7	Phthalates	butyl benzyl phthalate		2.69E+00	4.14E+02	5.17E-05	1.11E-05	1		1.37E+04	1.37E+01	1	4.60E+01	C
2008-41-5	Pesticides	butylate						2				1		
85-70-1	Phthalates	butylphthalyl butylglycolate						1				1		
94-81-5	SVOCs	butyric acid;4-(2-methyl-4-chlorophenoxy)-						1				1		
75-60-5	Pesticides	cacodylic acid						1				1		
7440-43-9	Metals	CADMIUM (POTABLE GROUNDWATER & SURFACE WATER)	CADMIUM NOTES		6.40E+01	0.00E+00	0.00E+00	1	6.70E+00		6.70E+00	1	5.00E+00	MCL
7440-43-9a	Metals	CADMIUM (SOIL & NONPOTABLE SURFACE WATER)	CADMIUM NOTES		6.40E+01	0.00E+00	0.00E+00	1				1		
592-01-8	Cyanides	calcium cyanide						1				1		
105-60-2	SVOCs	caprolactam						1				1		
2425-06-1	Pesticides	captafol						1				1		
133-06-2	Pesticides	captan						1				1		

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63-25-2	Pesticides (Carbamate)	carbaryl						1				1		
86-74-8	PAHs	carbazole		7.48E+00		6.26E-07	1.63E-07	1		3.39E+03	3.39E+00	1		
1563-66-2	Pesticides (Carbamate)	carbofuran						1				1		
75-15-0	VOCs	carbon disulfide		1.19E+03		1.24E+00	8.03E-01	2		4.57E+01	4.57E-02	1	8.00E+02	N
56-23-5	VOCs	carbon tetrachloride		7.93E+02	1.88E+01	1.25E+00	7.42E-01	2		1.52E+02	1.52E-01	1	5.00E+00	MCL
786-19-6	Pesticides	carbophenothion						1				1		
55285-14-8	Pesticides	carbosulfan						1				1		
5234-68-4	Pesticides	carboxin						1				1		
1306-38-3	Metals	cerium oxide and cerium compounds						1				1		
75-87-6	VOCs	chloral						2				1		
302-17-0	VOCs	chloral hydrate						2				1		
133-90-4	Herbicides	chloramben						1				1		
118-75-2	Pesticides	chloranil						1				1		
12789-03-6	Pesticides	chlordane		5.60E-02	1.41E+04	1.99E-03	5.15E-04	1		5.13E+04	5.13E+01	1	2.00E+00	MCL
143-50-0	SVOCs	chlordecone (kepone)						1				1		
16887-00-6	Nutrients	chloride						1				1		
90982-32-4	Pesticides	chlorimuron-ethyl						1				1		
7782-50-5	Nutrients	chlorine	MCL FOR DISINFECTANTS					2				1		
506-77-4	Cyanides	chlorine cyanide						2				1		
10049-04-4	VOCs	chlorine dioxide	MCL FOR DISINFECTANTS					2				1		
7758-19-2	Nutrients	chlorite						1				1		
75-68-3	VOCs	chloro-1,1-difluoroethane;1-						2				1		
126-99-8	VOCs	chloro-1,3-butadiene;2-					2.75E-01	2				1		
3165-93-3	SVOCs	chloro-2-methylaniline hydrochloride;4-						1				1		
95-69-2	SVOCs	chloro-2-methylaniline;4-						1				1		
79-11-8	SVOCs	chloroacetic acid						1				1		
532-27-4	SVOCs	chloroacetophenone;2-						1				1		
106-47-8	SVOCs	chloroaniline;p-		5.30E+03		1.36E-05	4.85E-06	2		6.61E+01	6.61E-02	1	2.20E-01	C
108-90-7	VOCs	chlorobenzene		4.72E+02	1.03E+01	1.52E-01	7.87E-02	2		2.24E+02	2.24E-01	1	1.00E+02	MCL
510-15-6	Pesticides	chlorobenzilate						1				1		
74-11-3	Pesticides	chlorobenzoic acid;p-						1				1		
98-56-6	VOCs	chlorobenzotrifluoride;4-						2				1		
109-69-3	VOCs	chlorobutane;1-					4.06E-01	2				1		
59-50-7	Phenols	chlorocresol						1				1		
75-45-6	VOCs	chlorodifluoromethane					8.61E-01	2				1		
67-66-3	VOCs	chloroform	TTHM NOTES	7.92E+03	3.75E+00	1.50E-01	9.15E-02	2		5.30E+01	5.30E-02	1	1.40E+01	MCL C ADJ
74-87-3	VOCs	chloromethane			3.75E+00		2.68E-01	2		6.00E+00	6.00E-03	1		
107-30-2	VOCs	chloromethyl methyl ether						2				1		
88-73-3	Pesticides	chloronitrobenzene;o-						1				1		
100-00-5	Pesticides	chloronitrobenzene;p-						2				1		
95-57-8	Phenols	CHLOROPHENOL;2-	pH-DEPENDENT	2.20E+04	1.34E+02	1.60E-02	7.25E-03	2		3.88E+02	3.88E-01	1	4.00E+01	N
123-09-1	Pesticides	chlorophenyl methyl sulfide;p-						1				1		
98-57-7	SVOCs	chlorophenyl methyl sulfone;p-						1				1		
934-73-6	SVOCs	chlorophenyl methyl sulfoxide;p-						1				1		
75-29-6	VOCs	chloropropane;2-					3.87E-01	2				1		
1897-45-6	Pesticides	chlorothalonil						1				1		
95-49-8	VOCs	chlorotoluene;o-						2				1		
101-21-3	Pesticides	chlorpropham						1				1		
2921-88-2	Pesticides	chlorpyrifos						1				1		
5598-13-0	Pesticides	chlorpyrifos-methyl						1				1		
64902-72-3	Herbicides	chlorsulfuron						1				1		
60238-56-4	Pesticides	chlorthiophos						1				1		
7440-47-3	Metals	CHROMIUM (TOTAL)	CHROMIUM NOTES					1				1		
16065-83-1	Metals	CHROMIUM (III)	CHROMIUM NOTES		1.60E+01	0.00E+00	0.00E+00	1	1.00E+03		1.00E+03	1	2.40E+04	N

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18540-29-9	Metals	CHROMIUM (VI)	CHROMIUM NOTES		1.60E+01	0.00E+00	0.00E+00	1	1.90E+01		1.90E+01	1	4.80E+01	N
218-01-9	cPAHs	CHRYSENE	PAH NOTES	1.60E-03	3.00E+01	3.88E-03	7.13E-04	1		3.98E+05	3.98E+02	1		
8001-58-9	PAHs	coal tar creosote						1				1		
8007-45-2	VOCs	coke oven emissions						2				1		
7440-50-8	Metals	COPPER	HARDNESS - DEPENDENT		3.60E+01	0.00E+00	0.00E+00	1	2.20E+01		2.20E+01	1	6.40E+02	N
544-92-3	Cyanides	copper cyanide						1				1		
108-39-4	Phenols	cresol;m-						2				1		
95-48-7	Phenols	cresol;o-		2.60E+04		4.92E-05	1.95E-05	2		9.12E+01	9.12E-02	1	4.00E+02	N
106-44-5	Phenols	cresol;p-						2				1		
4170-30-3	VOCs	crotonaldehyde					4.37E-04	2				1		
98-82-8	VOCs	cumene					2.55E-01	2				1		
21725-46-2	Pesticides	cyanazine						1				1		
57-12-5	Cyanides	CYANIDE	CYANIDE NOTES		1.00E+00			1				1		
460-19-5	Cyanides	cyanogen						2				1		
506-68-3	Cyanides	cyanogen bromide						2				1		
110-82-7	VOCs	cyclohexane						1				1		
108-94-1	VOCs	cyclohexanone						2				1		
108-91-8	SVOCs	cyclohexylamine						2				1		
542-92-7	SVOCs	cyclopentadiene						2				1		
68085-85-8	Pesticides	cyhalothrin/karate						1				1		
52315-07-8	Pesticides	cypermethrin						1				1		
66215-27-8	Pesticides	cyromazine						1				1		
1861-32-1	Herbicides	dacthal						1				1		
75-99-0	Herbicides	dalapon, sodium salt						2				1		
39515-41-8	Pesticides	danitol						1				1		
94-82-6	Herbicides	db;2,4-						1				1		
72-54-8	Pesticides	ddd		9.00E-02	5.36E+04	1.64E-04	2.89E-05	1		4.58E+04	4.58E+01	1	3.60E-01	C
72-55-9	Pesticides	dde		1.20E-01	5.36E+04	8.61E-04	1.87E-04	1		8.64E+04	8.64E+01	1	2.60E-01	C
50-29-3	Pesticides	ddt		2.50E-02	5.36E+04	3.32E-04	3.83E-05	1		6.78E+05	6.78E+02	1	2.60E-01	C
1163-19-5	PBDEs	decabromodiphenyl ether			3.20E+00			1				1		
8065-48-3	Pesticides	demeton						1				1		
103-23-1	Phthalates	di(2-ethylhexyl)adipate						1				1		
2303-16-4	Pesticides	diallate						1				1		
333-41-5	Pesticides	diazinon						1				1		
53-70-3	cPAHs	DIBENZ[a,h]ANTHRACENE	PAH NOTES	2.49E-03	3.00E+01	6.03E-07	6.03E-07	1		1.79E+06	1.79E+03	1		
132-64-9	PAHs	dibenzofuran					1.71E-04	1				1		
96-12-8	Pesticides	dibromo-3-chloropropane;1,2-						2				1		
631-64-1	SVOCs	dibromoacetic acid						1				1		
106-37-6	Pesticides	dibromobenzene;1,4-						2				1		
124-48-1	VOCs	dibromochloromethane	TTHM NOTES	2.60E+03	3.75E+00	3.21E-02	2.06E-02	2		6.31E+01	6.31E-02	1	5.20E+00	MCL C ADJ
84-74-2	Phthalates	di-butyl phthalate		1.12E+01	8.90E+01	3.85E-08	8.16E-09	1		1.57E+03	1.57E+00	1	1.60E+03	N
1918-00-9	Herbicides	dicamba						1				1		
3400-09-7	Disinfectants	dichloramine	MCL FOR DISINFECTANTS					1				1		
764-41-0	VOCs	dichloro-2-butene;1,4-						2				1		
79-43-6	SVOCs	dichloroacetic acid						1				1		
95-50-1	VOCs	dichlorobenzene;1,2-		1.56E+02	5.56E+01	7.79E-02	3.54E-02	2		3.79E+02	3.79E-01	1	6.00E+02	MCL
541-73-1	VOCs	dichlorobenzene;1,3-					5.98E-02	2				1		
106-46-7	VOCs	dichlorobenzene;1,4-		7.38E+01	5.56E+01	9.96E-02	4.61E-02	2		6.16E+02	6.16E-01	1	7.50E+01	MCL
91-94-1	SVOCs	dichlorobenzidine;3,3'-		3.11E+00	3.12E+02	1.64E-07	2.23E-08	1		7.24E+02	7.24E-01	1	1.90E-01	C
75-71-8	VOCs	dichlorodifluoromethane					8.10E+00	2				1		
75-34-3	VOCs	dichloroethane;1,1-		5.06E+03		2.30E-01	1.41E-01	2		5.30E+01	5.30E-02	1	7.70E+00	C
107-06-2	VOCs	dichloroethane;1,2-		8.52E+03	1.20E+00	4.01E-02	2.28E-02	2		3.80E+01	3.80E-02	1	4.80E+00	MCL C ADJ
540-59-0	VOCs	dichloroethylene,1,2- (mixed isomers)						2				1		
75-35-4	VOCs	dichloroethylene;1,1-		2.25E+03	5.60E+00	1.07E+00	7.06E-01	2		6.50E+01	6.50E-02	1	7.00E+00	MCL
156-59-2	VOCs	dichloroethylene;1,2-,cis		3.50E+03		1.67E-01	1.00E-01	2		3.55E+01	3.55E-02	1	1.60E+01	N
156-60-5	VOCs	dichloroethylene;1,2-,trans		6.30E+03	1.58E+00	3.85E-01	2.41E-01	2		3.80E+01	3.80E-02	1	1.00E+02	MCL
120-83-2	Phenols	DICHLOROPHENOL;2,4-	pH-DEPENDENT	4.50E+03	4.07E+01	1.30E-04	3.43E-05	2		1.47E+02	1.47E-01	1	2.40E+01	N

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94-75-7	Herbicides	dichlorophenoxyacetic acid;2,4-						1				1		
78-87-5	VOCs	dichloropropane;1,2-		2.80E+03	4.11E+00	1.15E-01	6.47E-02	2		4.70E+01	4.70E-02	1	5.00E+00	MCL
616-23-9	SVOCs	dichloropropanol;2,3-						2				1		
542-75-6	VOCs	dichloropropene;1,3-		2.80E+03	1.91E+00	7.26E-01	3.96E-01	2		2.70E+01	2.70E-02	1	4.40E-01	C
62-73-7	Pesticides	dichlorvos						2				1		
115-32-2	Pesticides	dicofol						1				1		
77-73-6	VOCs	dicyclopentadiene						2				1		
60-57-1	Pesticides	dieldrin		1.95E-01	4.67E+03	6.19E-04	1.13E-04	1		2.55E+04	2.55E+01	1	5.50E-03	C
84-66-2	Phthalates	diethyl phthalate		1.08E+03	7.30E+01	1.85E-05	4.70E-06	1		8.20E+01	8.20E-02	1	1.30E+04	N
111-46-6	Glycols	diethylene glycol						1				1		
693-21-0	Glycols	diethylene glycol dinitrate						1				1		
112-34-5	Glycols	diethylene glycol monobutyl ether						2				1		
111-90-0	Glycols	diethylene glycol monoethyl ether						2				1		
617-84-5	SVOCs	diethylformamide						1				1		
311-45-5	Pesticides	diethyl-p-nitrophenylphosphate						1				1		
56-53-1	SVOCs	diethylstilbesterol						1				1		
43222-48-6	Pesticides	difenzoquat						1				1		
35367-38-5	Pesticides	diflubenzuron						1				1		
75-37-6	VOCs	difluoroethane;1,1-						2				1		
1445-75-6	SVOCs	diisopropyl methylphosphonate						2				1		
55290-64-7	Pesticides	dimethipin						1				1		
60-51-5	Pesticides	dimethoate						1				1		
119-90-4	SVOCs	dimethoxybenzidine;3,3'-						1				1		
131-11-3	Phthalates	dimethyl phthalate			3.60E+01			1				1		
120-61-6	Phthalates	dimethyl terephthalate						2				1		
124-40-3	VOCs	dimethylamine						2				1		
21436-96-4	SVOCs	dimethylaniline hydrochloride;2,4-						1				1		
95-68-1	SVOCs	dimethylaniline;2,4-						2				1		
121-69-7	SVOCs	dimethylaniline;N,N-						2				1		
119-93-7	SVOCs	dimethylbenzidine;3,3'-						1				1		
68-12-2	VOCs	dimethylformamide;N,N-						2				1		
57-14-7	VOCs	dimethylhydrazine;1,1-						2				1		
540-73-8	VOCs	dimethylhydrazine;1,2-						2				1		
105-67-9	Phenols	dimethylphenol;2,4-		7.87E+03	9.38E+01	8.20E-05	3.02E-05	2		2.09E+02	2.09E-01	1	1.60E+02	N
576-26-1	Phenols	dimethylphenol;2,6-						2				1		
95-65-8	Phenols	dimethylphenol;3,4-						2				1		
99-65-0	Explosives	dinitrobenzene;m-						1				1		
528-29-0	SVOCs	dinitrobenzene;o-						1				1		
100-25-4	SVOCs	dinitrobenzene;p-						1				1		
131-89-5	Phenols	dinitro-o-cyclohexyl phenol;4,6-						1				1		
51-28-5	Phenols	DINITROPHENOL;2,4-	pH-DEPENDENT	2.79E+03	1.50E+00	1.82E-05	1.48E-06	1		1.00E-02	1.00E-05	1	3.20E+01	N
25550-58-7	Phenols	dinitrophenols						1				1		
25321-14-6	SVOCs	dinitrotoluene mixture; 2,4-/2,6-						1				1		
121-14-2	Explosives	dinitrotoluene;2,4-		2.70E+02	3.80E+00	3.80E-06	1.02E-06	1		9.55E+01	9.55E-02	1	2.80E-01	C
606-20-2	Explosives	dinitrotoluene;2,6-		1.82E+02		3.06E-05	8.83E-06	1		6.92E+01	6.92E-02	1	5.80E-02	C
117-84-0	Phthalates	di-n-octyl phthalate		2.00E-02		2.74E-03	5.20E-04	1		8.32E+07	8.32E+04	1	1.60E+02	N
88-85-7	Herbicides	dinoseb						1				1		
123-91-1	VOCs	dioxane;1,4-						2				1		
957-51-7	Pesticides	diphenamid						1				1		
122-39-4	SVOCs	diphenylamine			3.00E+01			1				1		
122-66-7	SVOCs	diphenylhydrazine;1,2-			2.49E+01			1				1		
85-00-7	Pesticides	diquat						1				1		
1937-37-7	Dyes	direct black 38						1				1		
2602-46-2	Dyes	direct blue 6						1				1		

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16071-86-6	Dyes	direct brown 95						1				1		
2610-05-1	Dyes	direct sky blue						1				1		
298-04-4	Pesticides	disulfoton						1				1		
505-29-3	SVOCs	dithiane;1,4-						1				1		
330-54-1	Pesticides (Carbamate)	diuron						1				1		
534-52-1	Phenols	DNOC						1				1		
2439-10-3	Pesticides	dodine						1				1		
115-29-7	Pesticides	endosulfan		5.10E-01	2.70E+02	4.59E-04	1.14E-04	1		2.04E+03	2.04E+00	1	9.60E+01	N
1031-07-8	Pesticides	endosulfan sulfate						1				1		
959-98-8	Pesticides	endosulfan;alpha						1				1		
33213-65-9	Pesticides	endosulfan;beta						1				1		
145-73-3	Herbicides	endothall						1				1		
72-20-8	Pesticides	endrin		2.50E-01	3.97E+03	3.08E-04	6.63E-05	1		1.08E+04	1.08E+01	1	2.00E+00	MCL
7421-93-4	Pesticides	endrin aldehyde						1				1		
106-89-8	VOCs	epichlorohydrin						2				1		
106-88-7	VOCs	epoxybutane						2				1		
16672-87-0	Pesticides	ethephon						1				1		
563-12-2	Pesticides	ethion						1				1		
111-15-9	VOCs	ethoxyethanol acetate;2-						2				1		
110-80-5	VOCs	ethoxyethanol;2-						2				1		
141-78-6	VOCs	ethyl acetate					3.19E-03	2				1		
140-88-5	VOCs	ethyl acrylate						2				1		
75-00-3	VOCs	ethyl chloride					2.47E-01	2				1		
759-94-4	Pesticides	ethyl dipropylthiocarbamate;S-						2				1		
60-29-7	VOCs	ethyl ether					8.76E-01	2				1		
97-63-2	VOCs	ethyl methacrylate					1.42E-02	2				1		
2104-64-5	Pesticides	ethyl p-nitrophenyl phenylphosphorothioate						1				1		
100-41-4	VOCs	ethylbenzene		1.69E+02	3.75E+01	3.23E-01	1.62E-01	2		2.04E+02	2.04E-01	1	7.00E+02	MCL
109-78-4	SVOCs	ethylene cyanohydrin						2				1		
107-15-3	SVOCs	ethylene diamine						2				1		
106-93-4	VOCs	ethylene dibromide (EDB)					1.54E-02	2		6.60E+01	6.60E-02	1		
107-21-1	VOCs	ethylene glycol						2				1		
111-76-2	Glycols	ethylene glycol monobutyl ether (EGBE)						2				1		
75-21-8	VOCs	ethylene oxide					1.54E-02	2				1		
96-45-7	SVOCs	ethylene thiourea						1				1		
84-72-0	Phthalates	ethylphthalyl ethylglycolate						1				1		
101200-48-0	Pesticides	express						1				1		
22224-92-6	Pesticides	fenamiphos						1				1		
115-90-2	Pesticides	fensulfothion						1				1		
2164-17-2	Pesticides	fluometuron						1				1		
206-44-0	PAHs	fluoranthene		2.06E-01	1.15E+03	6.60E-04	1.66E-04	1		4.91E+04	4.91E+01	1	6.40E+02	N
86-73-7	PAHs	fluorene		1.98E+00	3.00E+01	2.61E-03	8.58E-04	1		7.71E+03	7.71E+00	1	6.40E+02	N
16984-48-8	Nutrients	FLUORIDE	FLUORIDE NOTES					1				1		
59756-60-4	Pesticides	fluridone						1				1		
56425-91-3	Pesticides	flurprimidol						1				1		
66332-96-5	Pesticides	flutolanil						1				1		
69409-94-5	Pesticides	fluvalinate						1				1		
133-07-3	Pesticides	folpet						1				1		
72178-02-0	Pesticides	fomesafen						1				1		
944-22-9	Pesticides	fonofos						1				1		
50-00-0	VOCs	formaldehyde						2				1		
64-18-6	VOCs	formic acid						2				1		
39148-24-8	Pesticides	fosetyl-al						1				1		
110-00-9	Furans	furan					1.43E-01	2				1		

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	S (Aqueous Solubility) (mg/L)	BCF (Bioconcen-tration Factor) (L/kg)	Hcc (Henry's Law Constant) 25 degrees C (unitless)	Hcc (Henry's Law Constant @ 13 degrees C) (unitless)	INH (Inhalation Correction Factor) (unitless)	Kd (Distribution Factor for metals) (L/kg)	Koc (Soil Organic Carbon-Water Partitioning Coefficient) (L/kg)	Kd (Distribution Factor for metals and non-ionizing organics) (L/kg)	GI Absorption Fraction (unitless)	Ground Water Target Cleanup Level for Soil to Groundwater Pathway see guidance (µg/L)	Ground Water Target Criterion see guidance
67-45-8	SVOCs	furazolidone						1				1		
98-01-1	VOCs	furfural						2				1		
531-82-8	SVOCs	furium						1				1		
60568-05-0	Pesticides	furmecyclox						1				1		
77182-82-2	SVOCs	glufosinate-ammonium						1				1		
765-34-4	VOCs	glycidaldehyde						2				1		
1071-83-6	SVOCs	glyphosate						1				1		
unavailable20	Radionuclides	gross alpha particle activity	ALPHA PARTICLE NOTE					1				1		
unavailable21	Radionuclides	gross beta particle activity	BETA PARTICLE NOTE					1				1		
86-50-0	Pesticides	guthion						1				1		
69806-40-2	Pesticides	haloxyfop-methyl						1				1		
79277-27-3	Pesticides	harmony						1				1		
76-44-8	Pesticides	heptachlor		1.80E-01	1.12E+04	4.47E-02	1.27E-02	1		9.53E+03	9.53E+00	1	1.90E-01	MCL C ADJ
1024-57-3	Pesticides	heptachlor epoxide		2.00E-01	1.12E+04	3.90E-04	8.01E-05	2		8.32E+04	8.32E+01	1	4.80E-02	MCL C ADJ
142-82-5	VOCs	heptane;n-						2				1		
87-82-1	SVOCs	hexabromobenzene						1				1		
68631-49-2	PBDEs	hexabromodiphenyl ether; 2,2',4,4',5,5'-						1				1		
118-74-1	Pesticides	hexachlorobenzene		6.20E+00	8.69E+03	5.41E-02	1.36E-02	1		8.00E+04	8.00E+01	1	5.50E-01	MCL C ADJ
87-68-3	VOCs	hexachlorobutadiene		3.23E+00	2.78E+00	3.34E-01	1.41E-01	2		5.37E+04	5.37E+01	1	5.60E-01	C
319-84-6	Pesticides	hexachlorocyclohexane;alpha		2.00E+00	1.30E+02	4.35E-04	1.02E-04	1		1.76E+03	1.76E+00	1	1.40E-02	C
319-85-7	Pesticides	hexachlorocyclohexane;beta-		2.40E-01	1.30E+02	3.05E-05	4.81E-06	1		2.14E+03	2.14E+00	1	4.90E-02	C
319-86-8	Pesticides	hexachlorocyclohexane;delta-						1				1		
608-73-1	SVOCs	hexachlorocyclohexane;technical						1				1		
77-47-4	Pesticides	hexachlorocyclopentadiene		1.80E+00	4.34E+00	1.11E+00	4.18E-01	2		2.00E+05	2.00E+02	1	4.80E+01	N
19408-74-3	Dioxins	hexachlorodibenzo-p-dioxin, mixture						1				1		
67-72-1	VOCs	hexachloroethane		5.00E+01	8.69E+01	1.59E-01	7.24E-02	2		1.78E+03	1.78E+00	1	1.10E+00	C
70-30-4	SVOCs	hexachlorophene						1				1		
822-06-0	VOCs	hexamethylene diisocyanate;1,6-						2				1		
110-54-3	VOCs	hexane;n-		9.50E+00		7.40E+01	4.11E+01	2		3.41E+03	3.41E+00	1	4.80E+02	N
591-78-6	VOCs	hexanone;2-						2				1		
51235-04-2	Pesticides	hexazinone						1				1		
302-01-2	VOCs	hydrazine						2				1		
10034-93-2	SVOCs	hydrazine sulfate						1				1		
7647-01-0	VOCs	hydrogen chloride						2				1		
74-90-8	Cyanides	hydrogen cyanide					3.47E-03	2				1		
7783-06-4	VOCs	hydrogen sulfide						2				1		
123-31-9	SVOCs	hydroquinone						1				1		
35554-44-0	Pesticides	imazalil						1				1		
81335-37-7	Pesticides	imazaquin						1				1		
193-39-5	cPAHs	INDENO[1,2,3-cd]PYRENE	PAH NOTES	2.20E-05	3.00E+01	6.56E-05	8.40E-06	1		3.47E+06	3.47E+03	1		
36734-19-7	Pesticides	iprodione						1				1		
7439-89-6	Metals	iron				0.00E+00	0.00E+00	1				1		
78-83-1	VOCs	isobutyl alcohol					1.98E-04	2				1		
78-59-1	SVOCs	isophorone		1.20E+04	4.38E+00	2.72E-04	1.10E-04	2		4.68E+01	4.68E-02	1	4.60E+01	C
33820-53-0	Pesticides	isopropalin						1				1		
1832-54-8	SVOCs	isopropyl methyl phosphonic acid						1				1		
82558-50-7	Pesticides	isoxaben						1				1		
77501-63-4	Pesticides	lactofen						1				1		
7439-92-1	Metals	LEAD	LEAD NOTES			0.00E+00	0.00E+00	1	1.00E+04		1.00E+04	1	1.50E+01	MCL
unavailable02	Metals	lead alkyls						1				1		
58-89-9	Pesticides	lindane		6.80E+00	1.30E+02	5.74E-04	1.34E-04	1		1.35E+03	1.35E+00	1	2.00E-01	MCL
330-55-2	Pesticides (Carbamate)	linuron						1				1		
7791-03-9	Perchlorates	lithium perchlorate						1				1		
83055-99-6	Pesticides	londax						1				1		

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121-75-5	Pesticides	malathion						1				1		
108-31-6	SVOCs	maleic anhydride						2				1		
123-33-1	SVOCs	maleic hydrazide						1				1		
109-77-3	VOCs	malononitrile						2				1		
8018-01-7	Pesticides	mancozeb						1				1		
12427-38-2	Pesticides	maneb						1				1		
7439-96-5	Metals	MANGANESE (Diet)	MANGANESE NOTES			0.00E+00	0.00E+00	1				1		
7439-96-5a	Metals	MANGANESE (Non-Diet)	MANGANESE NOTES											
950-10-7	Pesticides	mephosfolan						1				1		
24307-26-4	Pesticides	mepiquat chloride						1				1		
7487-94-7	Metals	mercuric chloride						1				1		
7439-97-6	Metals	mercury				4.70E-01	4.70E-01	1	5.20E+01		5.20E+01	1	2.00E+00	MCL
150-50-5	Pesticides	merphos						1				1		
57837-19-1	Pesticides	metalaxyl						1				1		
126-98-7	VOCs	methacrylonitrile					5.70E-03	2				1		
10265-92-6	Pesticides	methamidosphos						1				1		
67-56-1	VOCs	methanol						2				1		
950-37-8	Pesticides	methidathion						1				1		
16752-77-5	Pesticides (Carbamate)	methomyl						1				1		
99-59-2	SVOCs	methoxy-5-nitroaniline;2-						1				1		
72-43-5	Pesticides	methoxychlor		4.50E-02	1.55E+03	6.48E-04	1.18E-04	1		8.00E+04	8.00E+01	1	4.00E+01	MCL
110-49-6	VOCs	methoxyethanol acetate;2-						2				1		
109-86-4	VOCs	methoxyethanol;2-						2				1		
79-20-9	VOCs	methyl acetate					2.88E-03	2				1		
96-33-3	VOCs	methyl acrylate					4.30E-03	2				1		
78-93-3	VOCs	methyl ethyl ketone					1.31E-03	2				1		
108-10-1	VOCs	methyl isobutyl ketone					2.92E-03	2				1		
22967-92-6	Metals (organometallic)	METHYL MERCURY	METHYL MERCURY NOTES					1				1		
80-62-6	VOCs	methyl methacrylate					6.90E-03	2				1		
90-12-0	PAHs	methyl naphthalene;1-					1.59E-02	2				1		
91-57-6	PAHs	methyl naphthalene;2-					6.99E-03	2				1		
298-00-0	Pesticides	methyl parathion						1				1		
25013-15-4	VOCs	methyl styrene						2				1		
98-83-9	SVOCs	methyl styrene, alpha						2				1		
1634-04-4	VOCs	methyl tert-butyl ether		5.00E+04		1.80E-02	1.59E-02	2		1.09E+01	1.09E-02	1	2.40E+01	C
94-74-6	Herbicides	methyl-4-chlorophenoxy-acetic acid;2-						1				1		
99-55-8	SVOCs	methyl-5-nitroaniline;2-						1				1		
636-21-5	SVOCs	methylaniline hydrochloride;2-						1				1		
95-53-4	VOCs	methylaniline;2-						2				1		
108-87-2	VOCs	methylcyclohexane					2.39E+00	2				1		
101-14-4	SVOCs	methylene bis(2-chloroaniline);4,4'-						1				1		
101-61-1	SVOCs	methylene bis(n,n'-dimethyl)aniline;4,4'-						1				1		
74-95-3	VOCs	methylene bromide					1.96E-02	2				1		
75-09-2	VOCs	methylene chloride		1.30E+04	9.00E-01	8.98E-02	5.67E-02	2		1.00E+01	1.00E-02	1	5.00E+00	MCL
101-68-8	SVOCs	methylene diphenyl diisocyanate (MDI)						1				1		
9016-87-9	SVOCs	methylene diphenyl diisocyanate (PMDI)						1				1		
101-77-9	SVOCs	methylenebisbenzenamine;4,4-						1				1		
60-34-4	VOCs	methylhydrazine						2				1		
51218-45-2	Pesticides	metolachlor						1				1		
21087-64-9	Pesticides	metribuzin						1				1		
7786-34-7	Pesticides	mevinphos						1				1		
2385-85-5	Pesticides	mirex						1				1		
2212-67-1	Pesticides	molinate						1				1		
7439-98-7	Metals	molybdenum				0.00E+00	0.00E+00	1				1		

Cleanup Levels and Risk Calculation (CLARC) Master Table - May 2019

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10599-90-3	Disinfectants	monochloramine	MCL FOR DISINFECTANTS					1				1		
unavailable03	SVOCs	monochlorobutanes (not in HSDB)						1				1		
300-76-5	Pesticides	naled						1				1		
91-20-3	PAHs	naphthalene		3.10E+01	1.05E+01	1.98E-02	8.24E-03	2		1.19E+03	1.19E+00	1	1.60E+02	N
15299-99-7	Pesticides	napropamide						1				1		
104-51-8	VOCs	n-butylbenzene					2.42E-01	2				1		
2429-74-5	Dyes	niagara blue 4B						1				1		
unavailable04	Metals	nickel refinery dust				0.00E+00	0.00E+00	1				1		
7440-02-0	Metals	NICKEL SOLUBLE SALTS	HARDNESS - DEPENDENT		4.70E+01	0.00E+00	0.00E+00	1	6.50E+01		6.50E+01	1	1.00E+02	MCL
12035-72-2	Metals	nickel subsulfide						1				1		
14797-55-8	Nutrients	nitrate						1				1		
10102-43-9	Gases	nitric oxide						2				1		
14797-65-0	Nutrients	nitrite						1				1		
88-74-4	SVOCs	nitroaniline, 2-						1				1		
100-01-6	SVOCs	nitroaniline, 4-						1				1		
98-95-3	Explosives	nitrobenzene		2.90E+03	2.89E+00	9.84E-04	3.96E-04	2		1.19E+02	1.19E-01	1	1.60E+01	N
67-20-9	SVOCs	nitrofurantoin						1				1		
59-87-0	SVOCs	nitrofurazone						1				1		
10102-44-0	Gases	nitrogen dioxide						2				1		
556-88-7	SVOCs	nitroguanidine						1				1		
79-46-9	VOCs	nitropropane;2-					2.60E-03	2				1		
1116-54-7	SVOCs	nitrosodiethanolamine;N-						1				1		
55-18-5	SVOCs	nitrosodiethylamine;N-						2				1		
62-75-9	SVOCs	nitrosodimethylamine;N-			2.60E-02			2				1		
924-16-3	VOCs	nitroso-di-n-butylamine;N-						2				1		
621-64-7	SVOCs	nitroso-di-n-propylamine;N-		9.89E+03	1.13E+00	9.23E-05	5.44E-05	1		2.40E+01	2.40E-02	1	1.30E-02	C
86-30-6	SVOCs	nitrosodiphenylamine;N-		3.51E+01	1.36E+02	2.05E-04	1.02E-04	1		1.29E+03	1.29E+00	1	1.80E+01	C
4549-40-0	SVOCs	nitrosomethylvinylamine,n-						1				1		
759-73-9	SVOCs	nitroso-n-ethylurea;n-						1				1		
10595-95-6	SVOCs	nitroso-N-methylethylamine;N-						1				1		
684-93-5	SVOCs	nitroso-n-methylurea,n-						1				1		
930-55-2	SVOCs	nitrosopyrrolidine;N-						2				1		
99-08-1	Explosives	nitrotoluene, m-						2				1		
88-72-2	Explosives	nitrotoluene, o-					1.73E-04	2				1		
99-99-0	Explosives	nitrotoluene, p-						2				1		
1321-12-6	Explosives	nitrotoluenes;o-,m-,p-						2				1		
84852-15-3	Phenols	nonylphenol						1				1		
27314-13-2	Pesticides	norflurazon						1				1		
85509-19-9	Herbicides	nustar						1				1		
32536-52-0	PBDEs	octabromodiphenyl ether			3.20E+00			1				1		
2691-41-0	Explosives	octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine						1				1		
152-16-9	SVOCs	octamethylpyrophosphoramide						1				1		
19044-88-3	Pesticides	oryzalin						1				1		
19666-30-9	Pesticides	oxadiazon						1				1		
23135-22-0	Pesticides (Carbamate)	oxamyl						1				1		
42874-03-3	Pesticides	oxyfluorfen						1				1		
76738-62-0	Herbicides	paclobutrazol						1				1		
unavailable05	PAHs	PAHs	PAH NOTES					1				1		
4685-14-7	Pesticides	paraquat						1				1		
56-38-2	Pesticides	parathion						1				1		
1114-71-2	Pesticides	pebulate						2				1		
40487-42-1	Pesticides	pendimethalin						1				1		
87-84-3	SVOCs	pentabromo-6-chloro-cyclohexane;1,2,3,4,5-						1				1		
60348-60-9	PBDEs	pentabromodiphenyl ether; 2,2',4,4',5-			8.10E+03			1				1		

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32534-81-9	PBDEs	pentabromodiphenyl ethers						1				1		
608-93-5	SVOCs	pentachlorobenzene						1		3.21E+04	3.21E+01	1		
82-68-8	Pesticides	pentachloronitrobenzene						1				1		
87-86-5	Herbicides	PENTACHLOROPHENOL	pH-DEPENDENT	1.95E+03	1.10E+01	1.00E-06	2.10E-07	1		5.92E+02	5.92E-01	1	1.00E+00	MCL
14797-73-0	Perchlorates	perchlorate and perchlorate salts						1				1		
52645-53-1	Pesticides	permethrin						1				1		
72-56-0	Pesticides	perthane						1				1		
unavailable19	General Chemistry	pH	pH NOTES					1				1		
85-01-8	PAHs	phenanthrene						1				1		
13684-63-4	Pesticides	phenmedipham						1				1		
108-95-2	Phenols	phenol		8.28E+04	1.40E+00	1.63E-05	6.49E-06	2		2.88E+01	2.88E-02	1	2.40E+03	N
106-50-3	SVOCs	phenylenediamine, p-						1				1		
108-45-2	SVOCs	phenylenediamine;m-						1				1		
95-54-5	SVOCs	phenylenediamine;o-						1				1		
62-38-4	Metals (organometallic)	phenylmercuric acetate						1				1		
90-43-7	Phenols	phenylphenol;2-						1				1		
298-02-2	Pesticides	phorate						1				1		
75-44-5	VOCs	phosgene						2				1		
732-11-6	Pesticides	phosmet						1				1		
7803-51-2	Gases	phosphine						2				1		
7664-38-2	SVOCs	phosphoric acid						2				1		
7723-14-0	Metals	phosphorus						2				1		
100-21-0	Phthalates	phthalic acid;p-						1				1		
85-44-9	Phthalates	phthalic anhydride						1				1		
1918-02-1	Herbicides	picloram						1				1		
29232-93-7	Pesticides	pirimiphos-methyl						1				1		
59536-65-1	PBBs	polybrominated biphenyls						1				1		
1336-36-3	PCBs	polychlorinated biphenyls (PCBs)		7.00E-01	3.12E+04			1		3.09E+05		1		
151-50-8	Cyanides	potassium cyanide						1				1		
7778-74-7	Perchlorates	potassium perchlorate						1				1		
506-61-6	Cyanides	potassium silver cyanide						1				1		
67747-09-5	Pesticides	prochloraz (not in HSDB)						1				1		
26399-36-0	Pesticides	profluralin						1				1		
1610-18-0	Pesticides	prometon						1				1		
7287-19-6	Pesticides	prometryn						1				1		
23950-58-5	Pesticides	pronamide						1				1		
1918-16-7	Pesticides	propachlor						1				1		
709-98-8	Pesticides	propanil						1				1		
2312-35-8	Pesticides	propargite						2				1		
107-19-7	VOCs	propargyl alcohol						2				1		
139-40-2	Pesticides	propazine						1				1		
122-42-9	Pesticides	propham						1				1		
60207-90-1	Pesticides	propiconazole						1				1		
123-38-6	VOCs	propionaldehyde						2				1		
93-65-2	Herbicides	propionic acid;(2-methyl-4-chlorophenoxy)2-						1				1		
103-65-1	VOCs	propylbenzene;n-					2.03E-01	2				1		
57-55-6	Glycols	propylene glycol						2				1		
6423-43-4	Glycols	propylene glycol dinitrate;1,2-						2				1		
52125-53-8	Glycols	propylene glycol monoethyl ether						2				1		
107-98-2	Glycols	propylene glycol monomethyl ether						2				1		
75-56-9	VOCs	propylene oxide						2				1		
81335-77-5	Pesticides	pursuit						1				1		
51630-58-1	Pesticides	pydrin						1				1		
129-00-0	PAHs	pyrene		1.35E-01	3.00E+01	4.51E-04	1.08E-04	1		6.80E+04	6.80E+01	1	4.80E+02	N

Cleanup Levels and Risk Calculation (CLARC) Master Table - May 2019

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	S (Aqueous Solubility) (mg/L)	BCF (Bioconcentration Factor) (L/kg)	Hcc (Henry's Law Constant) 25 degrees C (unitless)	Hcc (Henry's Law Constant @ 13 degrees C) (unitless)	INH (Inhalation Correction Factor) (unitless)	Kd (Distribution Factor for metals) (L/kg)	Koc (Soil Organic Carbon-Water Partitioning Coefficient) (L/kg)	Kd (Distribution Factor for metals and non-ionizing organics) (L/kg)	GI Absorption Fraction (unitless)	Ground Water Target Cleanup Level for Soil to Groundwater Pathway see guidance (µg/L)	Ground Water Target Criterion see guidance
110-86-1	VOCs	pyridine						2				1		
13593-03-8	Pesticides	quinalphos						1				1		
91-22-5	SVOCs	quinoline						2				1		
13982-63-3	Radionuclides	radium 226	RADIUM 226 NOTE			0.00E+00	0.00E+00	1				1		
unavailable23	Radionuclides	radium 226 and 228	RADIUM 226 & 228 NOTES			0.00E+00	0.00E+00	1				1		
121-82-4	Explosives	rdx						1				1		
unavailable07	Fibers	REFRACTORY CERAMIC FIBERS	REFRACTORY FIBER NOTE					1				1		
10453-86-8	Pesticides	resmethrin						1				1		
299-84-3	Pesticides	ronnel						1				1		
83-79-4	Pesticides	rotenone						1				1		
78-48-8	Pesticides	s,s;s-tributylphosphorotrithioate						1				1		
78587-05-0	Pesticides	savey						1				1		
135-98-8	VOCs	sec-butylbenzene					2.65E-01	2				1		
7783-00-8	Metals	selenious acid						1				1		
7782-49-2	Metals	selenium and compounds			4.80E+00	0.00E+00	0.00E+00	1	5.00E+00		5.00E+00	1	5.00E+01	MCL
630-10-4	Metals (organometallic)	selenourea						1				1		
74051-80-2	Pesticides	sethoxydim						1				1		
7440-22-4	Metals	SILVER	HARDNESS - DEPENDENT		5.00E-01	0.00E+00	0.00E+00	1	8.30E+00		8.30E+00	1	8.00E+01	N
506-64-9	Cyanides	silver cyanide						1				1		
122-34-9	Pesticides	simazine						1				1		
26628-22-8	Metals	sodium azide						2				1		
143-33-9	Cyanides	sodium cyanide						1				1		
148-18-5	Metals (organometallic)	sodium diethyldithiocarbamate						1				1		
62-74-8	Metals (organometallic)	sodium fluoroacetate						1				1		
13718-26-8	Metals	sodium metavanadate						1				1		
7601-89-0	Perchlorates	sodium perchlorate						1				1		
7440-24-6	Metals	strontium				0.00E+00	0.00E+00	1				1		
57-24-9	SVOCs	strychnine						1				1		
100-42-5	VOCs	styrene		3.10E+02		1.13E-01	5.59E-02	2		9.12E+02	9.12E-01	1	1.00E+02	MCL
unavailable17	Metals	sulfate						1				1		
88671-89-0	Pesticides	systhane						1				1		
1746-01-6	Dioxins	TCDD;2,3,7,8- (LOW ORGANIC) (DIOXIN)	TEF NOTES		5.00E+03			1				0.6		
34014-18-1	Pesticides	tebuthiuron						1				1		
3383-96-8	Pesticides	temephos						1				1		
5902-51-2	Pesticides	terbacil						1				1		
13071-79-9	SVOCs	terbufos						1				1		
886-50-0	Pesticides	terbutryn						1				1		
98-06-6	VOCs	tert-butylbenzene					2.58E-01	2				1		
5436-43-1	PBDEs	tetrabromodiphenyl ether 2,2',4,4'						1				1		
95-94-3	SVOCs	tetrachlorobenzene;1,2,4,5-						1				1		
630-20-6	VOCs	tetrachloroethane;1,1,1,2-					4.59E-02	2				1		
79-34-5	VOCs	tetrachloroethane;1,1,2,2-		2.97E+03	5.00E+00	1.41E-02	6.96E-03	2		7.90E+01	7.90E-02	1	2.20E-01	C
127-18-4	VOCs	TETRACHLOROETHYLENE (PCE)	PCE NOTES	2.00E+02	3.10E+01	7.54E-01	3.98E-01	2		2.65E+02	2.65E-01	1	5.00E+00	MCL
58-90-2	Phenols	TETRACHLOROPHENOL;2,3,4,6-	pH-DEPENDENT					1		2.80E+02	2.80E-01	1		
5216-25-1	VOCs	tetrachlorotoluene;p,a,a,a,-						1				1		
961-11-5	Pesticides	tetrachlorvinphos						1				1		
3689-24-5	Pesticides	tetraethyl dithiopyrophosphate						1				1		
78-00-2	Metals (organometallic)	tetraethyl lead						2				1		
811-97-2	VOCs	tetrafluoroethane;1,1,1,2-						2				1		
109-99-9	Furans	tetrahydrofuran						2				1		
1314-32-5	Metals	thallic oxide						1				1		
563-68-8	Metals	thallium acetate						1				1		
6533-73-9	Metals	thallium carbonate						1				1		
7791-12-0	Metals	thallium chloride						1				1		

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10102-45-1	Metals	thallium nitrate						1				1		
12039-52-0	Metals	thallium selenite						1				1		
7446-18-6	Metals	thallium(I) sulfate						1				1		
7440-28-0	Metals	thallium, soluble salts			1.16E+02	0.00E+00	0.00E+00	1	7.10E+01		7.10E+01	1	1.60E-01	N
28249-77-6	Pesticides	thiobencarb						1				1		
21564-17-0	SVOCs	thiocyanomethylthiobenzothiazole;2-						1				1		
39196-18-4	Pesticides	thiofanox						1				1		
23564-05-8	Pesticides	thiophanate-methyl						1				1		
137-26-8	Pesticides	thiram						2				1		
7440-31-5	Metals	tin				0.00E+00	0.00E+00	1				1		
118-96-7	Explosives	tnt						1				1		
108-88-3	VOCs	toluene		5.26E+02	1.07E+01	2.72E-01	1.48E-01	2		1.40E+02	1.40E-01	1	6.40E+02	N
26471-62-5	VOCs	toluene diisocyanate mixture;2,4-/2,6-						2				1		
584-84-9	VOCs	toluene-2,4-diisocyanate						2				1		
91-08-7	VOCs	toluene-2,6-diisocyanate						2				1		
95-80-7	SVOCs	toluenediamine;2,4-						1				1		
95-70-5	SVOCs	toluenediamine;2,5-						1				1		
823-40-5	SVOCs	toluenediamine;2,6-						1				1		
106-49-0	SVOCs	toluidine;p-						2				1		
unavailable18	General Chemistry	total dissolved solids						1				1		
8001-35-2	Pesticides	toxaphene		7.40E-01	1.31E+04	2.46E-04	5.16E-05	1		9.58E+04	9.58E+01	1	8.00E-01	MCL C ADJ
93-72-1	Herbicides	tp;2,4,5-						1				1		
unavailable09	Petroleum	tph, diesel range organics						1				1		
unavailable10	Petroleum	tph, heavy oils						1				1		
unavailable11	Petroleum	tph, mineral oils						1				1		
unavailable25	Petroleum	tph: gasoline range organics, benzene present						1				1		
unavailable08	Petroleum	tph: gasoline range organics, no detectable benzene						1				1		
66841-25-6	Pesticides	tralomethrin						1				1		
2303-17-5	Pesticides	triallate						1				1		
82097-50-5	Pesticides	triasulfuron						1				1		
615-54-3	VOCs	tribromobenzene;1,2,4-						1				1		
688-73-3	Organotins	tributyltin						1				1		
56-35-9	Organotins	tributyltin oxide						1				1		
10025-85-1	Disinfectants	trichloramine	MCL FOR DISINFECTANTS					1				1		
76-13-1	VOCs	trichloro-1,2,2-trifluoroethane;1,1,2-					1.25E+01	2				1		
76-03-9	SVOCs	trichloroacetic acid						1				1		
33663-50-2	SVOCs	trichloroaniline hydrochloride;2,4,6-						1				1		
634-93-5	SVOCs	trichloroaniline;2,4,6-						1				1		
120-82-1	VOCs	trichlorobenzene;1,2,4-		3.00E+02	1.14E+02	5.82E-02	2.37E-02	2		1.66E+03	1.66E+00	1	1.50E+01	MCL C ADJ
71-55-6	VOCs	trichloroethane;1,1,1-		1.33E+03	5.60E+00	7.05E-01	4.19E-01	2		1.35E+02	1.35E-01	1	2.00E+02	MCL
79-00-5	VOCs	trichloroethane;1,1,2-		4.42E+03	4.50E+00	3.74E-02	1.97E-02	2		7.50E+01	7.50E-02	1	5.00E+00	MCL
79-01-6	VOCs	TRICHLOROETHYLENE (TCE)	TCE NOTES	1.10E+03	1.10E+01	4.22E-01	2.39E-01	2		9.40E+01	9.40E-02	1	4.00E+00	N
75-69-4	VOCs	trichlorofluoromethane					2.67E+00	2				1		
95-95-4	Phenols	TRICHLOROPHENOL;2,4,5-	pH-DEPENDENT	1.20E+03		1.78E-04	6.53E-05	2		1.60E+03	1.60E+00	1	8.00E+02	N
88-06-2	Phenols	TRICHLOROPHENOL;2,4,6-	pH-DEPENDENT	8.00E+02	1.50E+02	3.19E-04	1.07E-04	2		3.81E+02	3.81E-01	1	4.00E+00	C
93-76-5	Herbicides	trichlorophenoxyacetic acid;2,4,5-						1				1		
598-77-6	VOCs	trichloropropane;1,1,2-						2				1		
96-18-4	VOCs	trichloropropane;1,2,3-					7.94E-03	2				1		
96-19-5	VOCs	trichloropropene;1,2,3-						2				1		
58138-08-2	Pesticides	tridiphane						1				1		
121-44-8	VOCs	triethylamine						2				1		
1582-09-8	Pesticides	trifluralin						1				1		
unavailable13	VOCs	trihalomethanes, (total) (TTHMs)	TTHM NOTES					2				1		
512-56-1	SVOCs	trimethyl phosphate						2				1		
526-73-8	VOCs	trimethylbenzene;1,2,3-						2				1		
95-63-6	VOCs	trimethylbenzene;1,2,4-					1.15E-01	2				1		
108-67-8	VOCs	trimethylbenzene;1,3,5-					1.10E-01	2				1		

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99-35-4	Explosives	trinitrobenzene;1,3,5-						1				1		
479-45-8	Explosives	trinitrophenylmethylnitramine						2				1		
unavailable12	Radionuclides	uranium, soluble salts				0.00E+00	0.00E+00	1				1		
7440-62-2	Metals	vanadium				0.00E+00	0.00E+00	1	1.00E+03		1.00E+03	1	8.00E+01	N
1314-62-1	Metals	vanadium pentoxide						1				1		
27774-13-6	Metals	vanadyl sulfate						1				1		
1929-77-7	Pesticides	vernam						2				1		
50471-44-8	Pesticides	vinclozolin						1				1		
108-05-4	VOCs	vinyl acetate		2.00E+04		2.10E-02	1.17E-02	2		5.25E+00	5.25E-03	1	8.00E+03	N
75-01-4	VOCs	VINYL CHLORIDE	VINYL CHLORIDE NOTES	2.76E+03	1.17E+00	1.11E+00	8.07E-01	2		1.86E+01	1.86E-02	1	2.90E-01	MCL C ADJ
81-81-2	Pesticides	warfarin						2				1		
8012-95-1	Petroleum	white mineral oil						1				1		
108-38-3	VOCs	xylene;m-		1.61E+02		3.01E-01	1.51E-01	2		1.96E+02	1.96E-01	1	1.60E+03	N
95-47-6	VOCs	xylene;o-		1.78E+02		2.13E-01	1.06E-01	2		2.41E+02	2.41E-01	1	1.60E+03	N
106-42-3	VOCs	xylene;p-		1.85E+02		3.14E-01	1.58E-01	2		3.11E+02	3.11E-01	1	1.60E+03	N
1330-20-7	VOCs	xylenes		1.71E+02		2.79E-01	1.38E-01	2		2.33E+02	2.33E-01	1	1.60E+03	N
7440-66-6	Metals	ZINC	HARDNESS - DEPENDENT		4.70E+01	0.00E+00	0.00E+00	1	6.20E+01		6.20E+01	1	4.80E+03	N
557-21-1	Cyanides	zinc cyanide						1				1		
1314-84-7	Metals	zinc phosphide						1				1		
12122-67-7	Pesticides	zineb						1				1		

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83-32-9	PAHs	acenaphthene		
208-96-8	PAHs	acenaphthylene		
30560-19-1	Pesticides	acephate		Acephate, Orthene, Phosphoramidothioic acid, acetyl-, O,S-d
75-07-0	VOCs	acetaldehyde		Acetaldehyde, Ethanal
34256-82-1	Pesticides	acetochlor		
67-64-1	VOCs	acetone		Acetone, 2-Propanone, Methyl ketone
75-86-5	VOCs	acetone cyanohydrin		Acetone cyanohydrin, 2-Methyllactonitrile, Propanenitrile, 2-hydroxy-2-methyl-
75-05-8	VOCs	acetonitrile		
98-86-2	SVOCs	acetophenone		Ethanone, 1-Phenyl-, Acetophenone
62476-59-9	Herbicides	acifluorfen, sodium		Acifluorfen, sodium salt, Blazer
107-02-8	VOCs	acrolein		Acrolein, 2-Propenal
79-06-1	VOCs	acrylamide		Acrylamide, 2-Propenamide
79-10-7	VOCs	acrylic acid		Acrylic Acid, 2-Propenoic acid, Vinyl formic acid
107-13-1	VOCs	acrylonitrile		Acrylonitrile, 2-Propenenitrile
15972-60-8	Pesticides	alachlor		
1596-84-5	Pesticides	alar		Daminozide, Alar
116-06-3	Pesticides (Carbamate)	aldicarb		
1646-88-4	Pesticides (Carbamate)	aldicarb sulfone		
309-00-2	Pesticides	aldrin		
74223-64-6	Pesticides	ally		Metsulfuron-methyl, Ally
107-18-6	VOCs	allyl alcohol		Allyl alcohol, 2-Propen-1-ol
107-05-1	VOCs	allyl chloride		Allyl Chloride, 1-Propene, 3-chloro-, 3-Chloropropene
7429-90-5	Metals	aluminum		
20859-73-8	Metals	aluminum phosphide		
67485-29-4	Pesticides	amdro		Hydramethylnon, Amdro
834-12-8	Pesticides	ametryn		
591-27-5	Phenols	aminophenol;m-		3-Aminophenol, Aminophenol, m-
504-24-5	SVOCs	aminopyridine;4-		4-Aminopyridine, Avitrol
33089-61-1	Pesticides	amitraz		Amitraz, BAAM
7664-41-7	Nutrients	AMMONIA	AMMONIA NOTES	
7790-98-9	Perchlorates	ammonium perchlorate		Ammonium perchlorate, Perchloric acid, ammonium salt
7773-06-0	Pesticides	ammonium sulfamate		Ammonium sulfamate, Sulfamic acid, monoammonium salt
62-53-3	SVOCs	aniline		Aniline, Benzenamine
120-12-7	PAHs	anthracene		
7440-36-0	Metals	antimony		
1314-60-9	Metals	antimony pentoxide		Antimony oxide (Sb2O5), Antimony Pentoxide
28300-74-5	Metals	antimony potassium tartrate		Antimony potassium tartrate, Antimonate(2-), bis[.mu.-[2,3-di(hydroxy-. kappa.O)butanedioato(4-)-. kappa.O1:.kappa.O4]]di-, dipotassium, trihydrate, stereoisomer
1332-81-6	Metals	antimony tetroxide		Antimony oxide (Sb2O4), Antimony tetroxide
1309-64-4	Metals	antimony trioxide		Antimony trioxide, Antimony oxide (Sb2O3)
74115-24-5	Pesticides	apollo		Clofentezine, Apollo
140-57-8	SVOCs	aramite		
12674-11-2	PCBs	aroclor 1016		PCB-aroclor 1016, Aroclor 1016, PCB-1016, PCB-aroclor-1016
11097-69-1	PCBs	aroclor 1254		PCB-aroclor 1254, Aroclor 1254, PCB-1254, PCB-aroclor-1254
11096-82-5	PCBs	aroclor 1260		PCB-aroclor 1260, Aroclor 1260, PCB-1260, PCB-aroclor-1260
7440-38-2	Metals	arsenic, inorganic		
7784-42-1	Metals	arsine		
1332-21-4	Fibers	ASBESTOS	ASBESTOS NOTE	Asbestos, Asbestos, (fibrous)
76578-14-8	Pesticides	assure		Quizalofop-ethyl, Assure
3337-71-1	Pesticides	asulam		Asulam, Carbamic acid, [(4-aminophenyl)sulfonyl]-, methyl ester
1912-24-9	Pesticides	atrazine		
65195-55-3	Pesticides	avermectin B1		Avermectin B1a, Avermectin A1a, 5-O-demethyl-
103-33-3	Pesticides	azobenzene		Azobenzene, Diazene, diphenyl-
7440-39-3	Metals	barium and compounds		
542-62-1	Metals	barium cyanide		

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114-26-1	Pesticides	baygon		Propoxur, Baygon, Phenol, 2-(1-methylethoxy)-,methylcarbamate
43121-43-3	Pesticides	bayleton		Triademefon
68359-37-5	Pesticides	baythroid		Cyfluthrin, Baythroid
1861-40-1	Pesticides	benefin		Benfluralin, Benefin, Benetin, Benzenamine, N-butyl-N-ethyl-2,6-dinitro-4-(trifluoromethyl)-
17804-35-2	Pesticides	benomyl		
25057-89-0	Herbicides	bentazon		Bentazon, 1H-2,1,3-Benzothiadiazin-4(3H)-one, 3-(1-methylethyl)-, 2,2-dioxide, Bentazone
100-52-7	SVOCs	benzaldehyde		
71-43-2	VOCs	BENZENE		
108-98-5	SVOCs	benzenethiol		Thiophenol, Benzenethiol
92-87-5	SVOCs	benzidine		
191-24-2	PAHs	benzo(g,h,i)perylene		Benzo(ghi)perylene, Benzo(g,h,i)perylene, Benzo[g,h,i]perylene
56-55-3	cPAHs	BENZO[a]ANTHRACENE	PAH NOTES	Benz[a]anthracene, 1,2-Benzanthracene, Benzo(a)anthracene, Benzo[a]anthracene
50-32-8	cPAHs	BENZO[a]PYRENE	PAH NOTES	Benzo(a)pyrene, Benzo[a]pyrene
205-99-2	cPAHs	BENZO[b]FLUORANTHENE	PAH NOTES	Benzo(b)fluoranthene, Benz(e)acephenanthrylene, Benzo[b]fluoranthene
207-08-9	cPAHs	BENZO[k]FLUORANTHENE	PAH NOTES	Benzo(k)fluoranthene, Benzo[k]fluoranthene
65-85-0	SVOCs	BENZOIC ACID	pH-DEPENDENT	
98-07-7	VOCs	benzotrichloride		Benzotrichloride, Benzene, (trichloromethyl)-
100-51-6	SVOCs	benzyl alcohol		
100-44-7	VOCs	benzyl chloride		Benzyl chloride, Toluene, .alpha.-chloro-, Toluene, alpha-chloro-
7440-41-7	Metals	beryllium		
91-58-7	PAHs	beta-chloronaphthalene		PCN-002, 2-Chloronaphthalene
141-66-2	SVOCs	bidrin		Dicrotophos, Bidrin, Phosphoric acid, 3-(dimethylamino)-1-me*
82657-04-3	Pesticides	biphenthrin		Bifenthrin, Biphenthrin
92-52-4	PAHs	biphenyl;1,1-		1,1'-Biphenyl, Biphenyl, Diphenyl
108-60-1	VOCs	bis(2-chloro-1-methyl-ethyl)ether		Bis(2-chloro-1-methylethyl) ether, Propane, 2,2'-oxybis[1-chloro-
111-44-4	SVOCs	bis(2-chloroethyl)ether		
39638-32-9	VOCs	bis(2-chloroisopropyl) ether		Bis(2-chloroisopropyl) ether, Bis(2-chloroisopropyl)ether, Propane, 2,2'-oxybis[2-chloro-
117-81-7	Phthalates	bis(2-ethylhexyl) phthalate		Di(2-ethylhexyl) phthalate, 1,2-Benzenedicarboxylic acid, 1,2-bis(2-ethylhexyl) ester, BEHP, Bis (2-ethylhexyl) phthalate, Bis(2-ethylhexyl) phthalate, Bis(2-ethylhexyl)phthalate, DEHP
542-88-1	VOCs	bis(chloromethyl)ether		
80-05-7	Phenols	bisphenol a		Bisphenol A, 4,4'-Isopropylidenediphenol, Phenol, 4,4'-(1-methylethylidene)bis-
7440-42-8	Metals	boron		
15541-45-4	Pesticides	bromate		
79-08-3	SVOCs	bromoacetic acid		
108-86-1	VOCs	bromobenzene		
75-27-4	VOCs	bromodichloromethane	TTHM NOTES	Dichlorobromomethane, Bromodichloromethane, Methane, bromodichloro-
593-60-2	VOCs	bromoethene		Vinyl bromide, Ethene, bromo-
75-25-2	VOCs	bromoform	TTHM NOTES	Bromoform, Methane, tribromo-, Tribromomethane
74-83-9	VOCs	bromomethane		Bromomethane, Methyl bromide
2104-96-3	Pesticides	bromophos		
1689-84-5	Herbicides	bromoxynil		Brominal
1689-99-2	Pesticides	bromoxynil octanoate		Bromoxynil octanoate, Octanoic acid, 2,6-dibromo-4-cyanophenyl ester
106-99-0	VOCs	butadiene;1,3-		
71-36-3	VOCs	butanol;n-		1-Butanol, n-Butanol, n-Butyl alcohol
85-68-7	Phthalates	butyl benzyl phthalate		Butyl benzyl phthalate, 1,2-Benzenedicarboxylic acid, 1-butyl 2-(phenylmethyl) ester, Butylbenzyl phthalate, Phthalic acid, benzyl butyl ester
2008-41-5	Pesticides	butylate		
85-70-1	Phthalates	butylphthalyl butylglycolate		2-Butoxy-2-oxoethyl butyl phthalate, Butylphthalyl butylglycolate
94-81-5	SVOCs	butyric acid;4-(2-methyl-4-chlorophenoxy)-		MCPB
75-60-5	Pesticides	cacodylic acid		Cacodylic acid, Arsinic acid, dimethyl-, Dimethylarsenic acid, Dimethylarsinic acid, DMAA, Hydroxydimethylarsine oxide, Silvisar 510
7440-43-9	Metals	CADMIUM (POTABLE GROUNDWATER & SURFACE WATER)	CADMIUM NOTES	
7440-43-9a	Metals	CADMIUM (SOIL & NONPOTABLE SURFACE WATER)	CADMIUM NOTES	
592-01-8	Cyanides	calcium cyanide		
105-60-2	SVOCs	caprolactam		
2425-06-1	Pesticides	captafol		Captafol, 1H-Isoindole-1,3(2H)-dione, 3a,4,7,7a-tetrahydro-2-[(1,1,2,2-tetrachloroethyl)thio]-, Difolatan
133-06-2	Pesticides	captan		

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Chemical Synonyms Compiled from Ecology's Environmental Information Management System (EIM) Database
63-25-2	Pesticides (Carbamate)	carbaryl		Carbaryl, 1-Naphthalenol, methylcarbamate, Sevin
86-74-8	PAHs	carbazole		
1563-66-2	Pesticides (Carbamate)	carbofuran		Furaden
75-15-0	VOCs	carbon disulfide		
56-23-5	VOCs	carbon tetrachloride		
786-19-6	Pesticides	carbophenothion		
55285-14-8	Pesticides	carbosulfan		
5234-68-4	Pesticides	carboxin		
1306-38-3	Metals	cerium oxide and cerium compounds		Cerium oxide (CeO2), Cerium Oxide and Cerium Compounds
75-87-6	VOCs	chloral		Chloral, Acetaldehyde, 2,2,2-trichloro-
302-17-0	VOCs	chloral hydrate		Chloral Hydrate, 1,1-Ethanediol, 2,2,2-trichloro-
133-90-4	Herbicides	chloramben		
118-75-2	Pesticides	chloranil		Chloranil, 2,5-Cyclohexadiene-1,4-dione, 2,3,5,6-tetrachloro-
12789-03-6	Pesticides	chlordane		Chlordane, technical, Chlordane, Chlordane technical mixture
143-50-0	SVOCs	chlordecone (kepone)		
16887-00-6	Nutrients	chloride		
90982-32-4	Pesticides	chlorimuron-ethyl		
7782-50-5	Nutrients	chlorine	MCL FOR DISINFECTANTS	
506-77-4	Cyanides	chlorine cyanide		
10049-04-4	VOCs	chlorine dioxide	MCL FOR DISINFECTANTS	Chlorine dioxide, Chlorine oxide (ClO2)
7758-19-2	Nutrients	chlorite		Sodium chlorite, Chlorous acid, sodium salt, Textone
75-68-3	VOCs	chloro-1,1-difluoroethane;1-		HCFC-142b, Ethane, 1-Chloro-1,1-Difluoro-, Freon 142
126-99-8	VOCs	chloro-1,3-butadiene;2-		Chloroprene, 1,3-Butadiene, 2-chloro-
3165-93-3	SVOCs	chloro-2-methylaniline hydrochloride;4-		4-Chloro-o-toluidine hydrochloride, Benzenamine, 4-chloro-2-methyl-, hydrochloride, chloro-2-methylaniline hydrochloride;4-
95-69-2	SVOCs	chloro-2-methylaniline;4-		4-Chloro-2-methylaniline, Benzenamine, 4-chloro-2-methyl-
79-11-8	SVOCs	chloroacetic acid		
532-27-4	SVOCs	chloroacetophenone;2-		Ethanone, 2-chloro-1-phenyl-, 2-Chloroacetophenone
106-47-8	SVOCs	chloroaniline;p-		4-Chloroaniline, Benzenamine, 4-chloro-, p-Chloroaniline, para-Chloroaniline
108-90-7	VOCs	chlorobenzene		
510-15-6	Pesticides	chlorobenzilate		
74-11-3	Pesticides	chlorobenzoic acid;p-		p-Chlorobenzoic acid, Benzoic acid, 4-chloro-
98-56-6	VOCs	chlorobenzotrifluoride;4-		p-Chlorobenzotrifluoride, Benzene, 1-chloro-4-(trifluoromethyl)-
109-69-3	VOCs	chlorobutane;1-		
59-50-7	Phenols	chlorocresol		4-Chloro-3-Methylphenol, p-Chloro-m-cresol
75-45-6	VOCs	chlorodifluoromethane		Methane, Chlorodifluoro-, Freon 22, HCFC-22
67-66-3	VOCs	chloroform	TTHM NOTES	Chloroform, Methane, trichloro-, Methyl trichloride
74-87-3	VOCs	chloromethane		
107-30-2	VOCs	chloromethyl methyl ether		Chloromethyl methyl ether, Methane, chloromethoxy-
88-73-3	Pesticides	chloronitrobenzene;o-		o-Chloronitrobenzene, Benzene, 1-chloro-2-nitro-
100-00-5	Pesticides	chloronitrobenzene;p-		p-Chloronitrobenzene, Benzene, 1-chloro-4-nitro-
95-57-8	Phenols	CHLOROPHENOL;2-	pH-DEPENDENT	
123-09-1	Pesticides	chlorophenyl methyl sulfide;p-		p-Chlorophenyl methyl sulfide, Benzene, 1-chloro-4-(methylthio)-
98-57-7	SVOCs	chlorophenyl methyl sulfone;p-		p-Chlorophenyl methyl sulfone, Benzene, 1-Chloro-4-(Methylsulfonyl)-
934-73-6	SVOCs	chlorophenyl methyl sulfoxide;p-		p-Chlorophenyl methyl sulfoxide, Benzene, 1-chloro-4-(methylsulfinyl)-
75-29-6	VOCs	chloropropane;2-		
1897-45-6	Pesticides	chlorothalonil		Daconil
95-49-8	VOCs	chlorotoluene;o-		2-Chlorotoluene, o-Chlorotoluene
101-21-3	Pesticides	chlorpropham		
2921-88-2	Pesticides	chlorpyrifos		Chlorpyrifos, Chlorpyriphos, Dursban, Phosphorothioic acid, O,O-diethyl O-(3,*
5598-13-0	Pesticides	chlorpyrifos-methyl		Chlorpyrifos-methyl, Methyl Chlorpyrifos, Phosphorothioic acid, O,O-dimethyl O-(3,5,6-trichloro-2-pyridinyl) ester
64902-72-3	Herbicides	chlorsulfuron		
60238-56-4	Pesticides	chlorthiophos		Chlorthiophos, Chlorthiophos (mixture of isomers), Phosphorothioic acid, O-[dichloro(methylthio)phenyl] O,O-diethyl ester
7440-47-3	Metals	CHROMIUM (TOTAL)	CHROMIUM NOTES	Chromium, Chromium, Total
16065-83-1	Metals	CHROMIUM (III)	CHROMIUM NOTES	Chromium, Trivalent, Chromium III, Chromium, ion (Cr3+)

Cleanup Levels and Risk Calculation (CLARC) Master Table - May 2019

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Chemical Synonyms Compiled from Ecology's Environmental Information Management System (EIM) Database
18540-29-9	Metals	CHROMIUM (VI)	CHROMIUM NOTES	Chromium, Hexavalent, Chromium (VI), Chromium VI, Chromium, ion (Cr 6+)
218-01-9	cPAHs	CHRYSENE	PAH NOTES	
8001-58-9	PAHs	coal tar creosote		Creosote, Coal tar creosote
8007-45-2	VOCs	coke oven emissions		
7440-50-8	Metals	COPPER	HARDNESS - DEPENDENT	
544-92-3	Cyanides	copper cyanide		Copper cyanide, Copper(I) cyanide
108-39-4	Phenols	cresol;m-		m-Cresol, 1-Hydroxy-3-methylbenzene, 3-Methylphenol, meta-Cresol, Phenol, 3-methyl-
95-48-7	Phenols	cresol;o-		o-Cresol, 2-Methylphenol, o-Hydroxytoluene, ortho-Cresol, Phenol, 2-methyl-
106-44-5	Phenols	cresol;p-		p-Cresol, 4-Hydroxytoluene, 4-Methylphenol, para-Cresol, Phenol, 4-methyl-
4170-30-3	VOCs	crotonaldehyde		Crotonaldehyde, 2-Butenal
98-82-8	VOCs	cumene		Cumene, Benzene, (1-methylethyl)-, Isopropylbenzene, Isopropylbenzene (Cumene)
21725-46-2	Pesticides	cyanazine		
57-12-5	Cyanides	CYANIDE	CYANIDE NOTES	Cyanide, Cyanide, Total
460-19-5	Cyanides	cyanogen		Cyanogen, Ethanedinitrile
506-68-3	Cyanides	cyanogen bromide		
110-82-7	VOCs	cyclohexane		
108-94-1	VOCs	cyclohexanone		
108-91-8	SVOCs	cyclohexylamine		
542-92-7	SVOCs	cyclopentadiene		Cyclopentadiene, 1,3-Cyclopentadiene
68085-85-8	Pesticides	cyhalothrin/karate		
52315-07-8	Pesticides	cypermethrin		
66215-27-8	Pesticides	cyromazine		Cyromazine, 1,3,5-Triazine-2,4,6-triamine, N-cyclopropyl-
1861-32-1	Herbicides	dacthal		Chlorthal-dimethyl, 1,4-Benzenedicarboxylic acid,2,3,5,6-tetrachloro-,dimethyl ester, Dacthal, DCPA, Dimethyl tetrachloroterephthalate
75-99-0	Herbicides	dalapon, sodium salt		Dalapon, Dalapon (DPA), Propanoic acid, 2,2-dichloro-
39515-41-8	Pesticides	danitol		Fenpropathrin, Danitol
94-82-6	Herbicides	db;2,4-		2,4-DB, Butanoic acid, 4-(2,4-dichlorophenoxy)-, Butoxone, 2,4-DB acid
72-54-8	Pesticides	ddd		4,4'-DDD, p,p'-DDD
72-55-9	Pesticides	dde		4,4'-DDE, p,p'-DDE
50-29-3	Pesticides	ddt		4,4'-DDT, Benzene, 1,1'-(2,2,2-trichloroethyliden*, p,p'-DDT
1163-19-5	PBDEs	decabromodiphenyl ether		PBDE-209, 2,2',3,3',4,4',5,5',6,6'-Decabromodiphenyl ether, BDE-209, Benzene, 1,1'-oxybis[2,3,4,5,6-pentabromo-, DBDPE, Decabromobiphenyl ether, Decabromodiphenyl ether (BDE-209), Decabromodiphenyl oxide
8065-48-3	Pesticides	demeton		
103-23-1	Phthalates	di(2-ethylhexyl)adipate		Di(2-ethylhexyl) adipate, Hexanedioic Acid, Bis(2-Ethylhexyl) Ester
2303-16-4	Pesticides	diallate		Diallate (cis or trans)
333-41-5	Pesticides	diazinon		
53-70-3	cPAHs	DIBENZ[a,h]ANTHRACENE	PAH NOTES	Dibenzo(a,h)anthracene, Dibenz[a,h]anthracene
132-64-9	PAHs	dibenzofuran		
96-12-8	Pesticides	dibromo-3-chloropropane;1,2-		1,2-Dibromo-3-Chloropropane, DBCP, Propane, 1,2-dibromo-3-chloro-
631-64-1	SVOCs	dibromoacetic acid		
106-37-6	Pesticides	dibromobenzene;1,4-		p-Dibromobenzene, 1,4-DiBB, 1,4-Dibromobenzene, Benzene, 1,4-dibromo-
124-48-1	VOCs	dibromochloromethane	TTHM NOTES	Chlorodibromomethane, Dibromochloromethane, Methane, dibromochloro-
84-74-2	Phthalates	di-butyl phthalate		Dibutyl phthalate, 1,2-Benzenedicarboxylic acid, 1,2-dibutyl ester, Di-n-butyl phthalate, Di-n-butylphthalate
1918-00-9	Herbicides	dicamba		Dicamba, Banvel, Benzoic acid, 3,6-dichloro-2-methoxy-
3400-09-7	Disinfectants	dichloramine	MCL FOR DISINFECTANTS	
764-41-0	VOCs	dichloro-2-butene;1,4-		
79-43-6	SVOCs	dichloroacetic acid		
95-50-1	VOCs	dichlorobenzene;1,2-		1,2-Dichlorobenzene, o-Dichlorobenzene
541-73-1	VOCs	dichlorobenzene;1,3-		1,3-Dichlorobenzene, m-Dichlorobenzene
106-46-7	VOCs	dichlorobenzene;1,4-		1,4-Dichlorobenzene, p-Dichlorobenzene
91-94-1	SVOCs	dichlorobenzidine;3,3'-		
75-71-8	VOCs	dichlorodifluoromethane		CFC-12, Dichlorodifluoromethane, Freon 12, Methane, dichlorodifluoro-
75-34-3	VOCs	dichloroethane;1,1-		
107-06-2	VOCs	dichloroethane;1,2-		1,2-Dichloroethane, 1,2-DCA, Dichloroethane, EDC, Ethane, 1,2-dichloro-
540-59-0	VOCs	dichloroethylene,1,2- (mixed isomers)		1,2-Dichloroethene, 1,2-Dichloroethene, cis-, trans-, 1,2-Dichloroethylene, 1,2-Dichloroethylene, (mixed isomers)
75-35-4	VOCs	dichloroethylene;1,1-		1,1-Dichloroethene, 1,1-Dichloroethylene, Vinylidene chloride
156-59-2	VOCs	dichloroethylene;1,2-,cis		Cis-1,2-Dichloroethene, cis-1,2-Dichloroethylene, Ethene, 1,2-dichloro-, (1Z)-
156-60-5	VOCs	dichloroethylene;1,2-,trans		Trans-1,2-Dichloroethene, Ethene, 1,2-dichloro-, (1E)-, trans-1,2-Dichloroethylene
120-83-2	Phenols	DICHLOROPHENOL;2,4-	pH-DEPENDENT	

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Chemical Synonyms Compiled from Ecology's Environmental Information Management System (EIM) Database
94-75-7	Herbicides	dichlorophenoxyacetic acid;2,4-		2,4-D, 2,4-D Acid, Acetic acid, (2,4-dichlorophenoxy)-
78-87-5	VOCs	dichloropropane;1,2-		
616-23-9	SVOCs	dichloropropanol;2,3-		2,3-Dichloropropanol, 1-Propanol, 2,3-dichloro-
542-75-6	VOCs	dichloropropene;1,3-		1,3-Dichloropropene, 1-Propene, 1,3-dichloro-
62-73-7	Pesticides	dichlorvos		DDVP, Dichlorvos
115-32-2	Pesticides	dicofol		Dicofol, Benzenemethanol, 4-chloro-.alpha.-(4-chlorophenyl)-.alpha.-(trichloromethyl)-, Kelthane
77-73-6	VOCs	dicyclopentadiene		Dicyclopentadiene, 4,7-Methano-1H-indene, 3a,4,7,7a-tetrahydro-
60-57-1	Pesticides	dieldrin		Dieldrin, 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1a.alpha.,2.beta.,2a.alpha.,3.beta.,6.beta.,6a.alpha.,7.beta.,7a.alpha.)-
84-66-2	Phthalates	diethyl phthalate		Diethyl phthalate, 1,2-Benzenedicarboxylic acid, 1,2-diethyl ester, Diethylphthalate
111-46-6	Glycols	diethylene glycol		
693-21-0	Glycols	diethylene glycol dinitrate		Diethylene glycol dinitrate, Ethanol, 2,2'-oxybis-, dinitrate
112-34-5	Glycols	diethylene glycol monobutyl ether		
111-90-0	Glycols	diethylene glycol monoethyl ether		
617-84-5	SVOCs	diethylformamide		Diethylformamide, Formamide, N,N-diethyl-
311-45-5	Pesticides	diethyl-p-nitrophenylphosphate		Paraoxon, Parathion breakdown product, Phosphoric acid, diethyl 4-nitrophenyl, Methyl paraoxon
56-53-1	SVOCs	diethylstilbesterol		Diethylstilbestrol, DES
43222-48-6	Pesticides	difenzoquat		Difenzoquat methyl sulfate, 1H-Pyrazolium, 1,2-dimethyl-3,5-diphenyl-, methyl sulfate, Difenzoquat
35367-38-5	Pesticides	diflubenzuron		Diflubenzuron, Benzamide, N-[[(4-chlorophenyl)amino]carbonyl]-2,6-difluoro-
75-37-6	VOCs	difluoroethane;1,1-		HFC-152a, Ethane, 1,1-difluoro-
1445-75-6	SVOCs	diisopropyl methylphosphonate		Diisopropyl methylphosphonate, Phosphonic acid, methyl-, bis(1-methylethyl) ester
55290-64-7	Pesticides	dimethipin		Dimethipin, 1,4-Dithiin, 2,3-dihydro-5,6-dimethyl-, 1,1,4,4-tetraoxide
60-51-5	Pesticides	dimethoate		
119-90-4	SVOCs	dimethoxybenzidine;3,3'-		
131-11-3	Phthalates	dimethyl phthalate		Dimethyl phthalate, 1,2-Benzenedicarboxylic acid, dimethyl ester, Dimethylphthalate, Phthalic acid, dimethyl ester
120-61-6	Phthalates	dimethyl terephthalate		Dimethyl terephthalate, 1,4-Benzenedicarboxylic acid, dimethyl ester
124-40-3	VOCs	dimethylamine		Dimethylamine, Methanamine, N-methyl-
21436-96-4	SVOCs	dimethylaniline hydrochloride;2,4-		2,4-Dimethylaniline hydrochloride, 2,4-Xylidine.HCl
95-68-1	SVOCs	dimethylaniline;2,4-		
121-69-7	SVOCs	dimethylaniline;N,N-		
119-93-7	SVOCs	dimethylbenzidine;3,3'-		3,3'-Dimethylbenzidine, [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-, Benzidine, 3,3-Dimethyl-, o-Tolidine
68-12-2	VOCs	dimethylformamide;N,N-		N,N-Dimethylformamide, Formamide, N,N-dimethyl-
57-14-7	VOCs	dimethylhydrazine;1,1-		1,1-Dimethylhydrazine, Dimethylhydrazine;1,1-
540-73-8	VOCs	dimethylhydrazine;1,2-		1,2-Dimethylhydrazine, Dimethylhydrazine;1,2-
105-67-9	Phenols	dimethylphenol;2,4-		
576-26-1	Phenols	dimethylphenol;2,6-		
95-65-8	Phenols	dimethylphenol;3,4-		
99-65-0	Explosives	dinitrobenzene;m-		1,3-Dinitrobenzene, m-Dinitrobenzene, 1,3-DNB
528-29-0	SVOCs	dinitrobenzene;o-		o-Dinitrobenzene, 1,2-Dinitrobenzene, Benzene, 1,2-dinitro-
100-25-4	SVOCs	dinitrobenzene;p-		1,4-Dinitrobenzene
131-89-5	Phenols	dinitro-o-cyclohexyl phenol;4,6-		Dinex, Dinitro-o-cyclohexyl phenol;4,6-, Phenol, 2-cyclohexyl-4,6-dinitrophenol
51-28-5	Phenols	DINITROPHENOL;2,4-	pH-DEPENDENT	
25550-58-7	Phenols	dinitrophenols		
25321-14-6	SVOCs	dinitrotoluene mixture; 2,4-/2,6-		
121-14-2	Explosives	dinitrotoluene;2,4-		2,4-DNT
606-20-2	Explosives	dinitrotoluene;2,6-		2,6-DNT
117-84-0	Phthalates	di-n-octyl phthalate		Di-n-octyl phthalate, 1,2-Benzenedicarboxylic acid, 1,2-dioctyl ester, Di-n-octylphthalate, DnOP, Phthalic acid, dioctyl ester
88-85-7	Herbicides	dinoseb		DNBP
123-91-1	VOCs	dioxane;1,4-		1,4-Dioxane, 1,4-Diethyleneoxide, Dioxane, 1,4-
957-51-7	Pesticides	diphenamid		
122-39-4	SVOCs	diphenylamine		Diphenylamine, Benzenamine, N-phenyl-
122-66-7	SVOCs	diphenylhydrazine;1,2-		
85-00-7	Pesticides	diquat		Diquat Dibromide, Diquat
1937-37-7	Dyes	direct black 38		C.I. Direct Black 38, Direct Black 38
2602-46-2	Dyes	direct blue 6		C.I. Direct Blue 6, Direct Blue 6

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Chemical Synonyms Compiled from Ecology's Environmental Information Management System (EIM) Database
16071-86-6	Dyes	direct brown 95		C.I. Direct Brown 95, Direct Brown 95
2610-05-1	Dyes	direct sky blue		C.I. Direct Blue 1, tetrasodium salt, Direct sky blue
298-04-4	Pesticides	disulfoton		
505-29-3	SVOCs	dithiane;1,4-		1,4-Dithiane, Dithiane;1,4-
330-54-1	Pesticides (Carbamate)	diuron		Diuron, DCMU, Urea, N'-(3,4-dichlorophenyl)-N,N-dimethyl-
534-52-1	Phenols	DNOC		4,6-Dinitro-2-Methylphenol, 4,6-Dinitro-o-cresol, Dinitrocresol, Elgetol 30, Phenol, 2-methyl-4,6-dinitro-, Sinox
2439-10-3	Pesticides	dodine		Dodine, Guanidine, dodecyl-, monoacetate
115-29-7	Pesticides	endosulfan		
1031-07-8	Pesticides	endosulfan sulfate		
959-98-8	Pesticides	endosulfan;alpha		.alpha.-Endosulfan, Endosulfan I
33213-65-9	Pesticides	endosulfan;beta		.beta.-Endosulfan, Endosulfan II
145-73-3	Herbicides	endothall		Endothall, 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
72-20-8	Pesticides	endrin		
7421-93-4	Pesticides	endrin aldehyde		
106-89-8	VOCs	epichlorohydrin		Epichlorohydrin, Oxirane, 2-(chloromethyl)
106-88-7	VOCs	epoxybutane		1,2-Epoxybutane, 1,2-Butylene oxide
16672-87-0	Pesticides	ethephon		Ethephon, Phosphonic acid, (2-chloroethyl)-
563-12-2	Pesticides	ethion		
111-15-9	VOCs	ethoxyethanol acetate;2-		Ethylene glycol monoethyl ether acetate, Ethanol, 2-ethoxy-, acetate
110-80-5	VOCs	ethoxyethanol;2-		2-Ethoxyethanol, Ethylene glycol monoethyl ether
141-78-6	VOCs	ethyl acetate		
140-88-5	VOCs	ethyl acrylate		Ethyl acrylate, 2-Propenoic acid, ethyl ester
75-00-3	VOCs	ethyl chloride		Chloroethane
759-94-4	Pesticides	ethyl dipropylthiocarbamate;S-		EPTC, Eptam
60-29-7	VOCs	ethyl ether		Diethyl ether
97-63-2	VOCs	ethyl methacrylate		
2104-64-5	Pesticides	ethyl p-nitrophenyl phenylphosphorothioate		EPN
100-41-4	VOCs	ethylbenzene		
109-78-4	SVOCs	ethylene cyanohydrin		Ethylene cyanohydrin, Propanenitrile, 3-hydroxy-
107-15-3	SVOCs	ethylene diamine		Ethylenediamine, 1,2-Ethanediamine, Ethylene diamine
106-93-4	VOCs	ethylene dibromide (EDB)		Ethylene dibromide, 1,2-Dibromoethane, EDB, Ethane, 1,2-dibromo-
107-21-1	VOCs	ethylene glycol		Ethylene Glycol, 1,2-Ethanediol
111-76-2	Glycols	ethylene glycol monobutyl ether (EGBE)		Ethylene glycol monobutyl ether, Ethanol, 2-butoxy-
75-21-8	VOCs	ethylene oxide		Ethylene oxide, Oxirane
96-45-7	SVOCs	ethylene thiourea		
84-72-0	Phthalates	ethylphthalyl ethylglycolate		Ethoxycarbonylmethyl ethyl phthalate, 1,2-Benzenedicarboxylic acid, 2-ethoxy-2-oxoethyl-, ethyl ester, Ethylphthalyl ethylglycolate
101200-48-0	Pesticides	express		Tribenuron-methyl, Express
22224-92-6	Pesticides	fenamiphos		
115-90-2	Pesticides	fensulfothion		
2164-17-2	Pesticides	fluometuron		
206-44-0	PAHs	fluoranthene		Fluoranthene, Benzo[j,k]fluorene
86-73-7	PAHs	fluorene		
16984-48-8	Nutrients	FLUORIDE	FLUORIDE NOTES	
59756-60-4	Pesticides	fluridone		
56425-91-3	Pesticides	flurprimidol		Flurprimidol, 5-Pyrimidinemethanol, .alpha.-(1-methylethyl)-.alpha.-[4-(trifluoromethoxy)phenyl]-
66332-96-5	Pesticides	flutolanil		Flutolanil, Benzamide, N-[3-(1-methylethoxy)phenyl]-2-(trifluoromethyl)-
69409-94-5	Pesticides	fluvalinate		Fluvalinate, Valine, N-[2-chloro-4-(trifluoromethyl) phenyl]-, cyano(3-phenoxyphenyl)methyl ester
133-07-3	Pesticides	folpet		Folpet, 1H-Isoindole-1,3(2H)-dione, 2-[(trichloromethyl)thio]-
72178-02-0	Pesticides	fomesafen		Fomesafen, Benzamide, 5-[2-chloro-4-(trifluoromethyl) phenoxy]-N-(methylsulfonyl)- 2-nitro-
944-22-9	Pesticides	fonofos		
50-00-0	VOCs	formaldehyde		Formaldehyde, Methanal, Methyl aldehyde
64-18-6	VOCs	formic acid		
39148-24-8	Pesticides	fosetyl-al		Fosetyl-Al, Phosphonic acid, monoethyl ester, aluminum salt
110-00-9	Furans	furan		

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67-45-8	SVOCs	furazolidone		Furazolidone, 2-Oxazolidinone, 3-[[(5-nitro-2-furanyl)methylene] amino]-
98-01-1	VOCs	furfural		Furfural, 2-Furancarboxaldehyde
531-82-8	SVOCs	furium		Furothiazole, Acetamide, N-[4-(5-nitro-2-furanyl)-2- thiazolyl]-, Furium
60568-05-0	Pesticides	furmecyclox		Furmecyclox, 3-Furancarboxamide, N-cyclohexyl-N-methoxy-2,5- dimethyl-
77182-82-2	SVOCs	glufosinate-ammonium		Glufosinate-ammonium, Butanoic acid, 2-amino-4-(hydroxymethylphosphinyl)-, monoammonium salt
765-34-4	VOCs	glycidaldehyde		Glycidylaldehyde, Oxiranecarboxaldehyde, glycidyl
1071-83-6	SVOCs	glyphosate		Glyphosate, Glycine, N-(phosphonomethyl)-
unavailable20	Radionuclides	gross alpha particle activity	ALPHA PARTICLE NOTE	
unavailable21	Radionuclides	gross beta particle activity	BETA PARTICLE NOTE	
86-50-0	Pesticides	guthion		Azinphos-methyl, Guthion, Phosphorodithioic acid, O,O-dimethyl S-[(4-oxo-1,2,3-benzotriazin-3(4H)-yl)methyl] ester
69806-40-2	Pesticides	haloxyfop-methyl		Haloxyfop-methyl, Propanoic acid, 2-[4-[[3-chloro-5-(trifluoromethyl)- 2-pyridinyl]oxy]phenoxy]-, methyl ester
79277-27-3	Pesticides	harmony		Thifensulfuron-methyl, Harmony
76-44-8	Pesticides	heptachlor		
1024-57-3	Pesticides	heptachlor epoxide		
142-82-5	VOCs	heptane;n-		
87-82-1	SVOCs	hexabromobenzene		
68631-49-2	PBDEs	hexabromodiphenyl ether; 2,2',4,4',5,5'-		PBDE-153, 2,2',4,4',5,5'-Hexabromodiphenyl ether, Benzene, 1,1'-oxybis[2,4,5-tribromo-
118-74-1	Pesticides	hexachlorobenzene		Hexachlorobenzene, Benzene, 1,2,3,4,5,6-hexachloro-
87-68-3	VOCs	hexachlorobutadiene		Hexachlorobutadiene, 1,3-Butadiene, 1,1,2,3,4,4-hexachloro-, Hexachloro-1,3-butadiene
319-84-6	Pesticides	hexachlorocyclohexane;alpha		alpha-BHC, .alpha.-Benzene hexachloride, .alpha.-BHC, alpha-Hexachlorocyclohexane, Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1.alpha.,2.alpha.,3.beta.,4.alpha.,5.beta.,6.beta.)-
319-85-7	Pesticides	hexachlorocyclohexane;beta-		beta-BHC, .beta.-Benzene hexachloride, .beta.-BHC, beta-Hexachlorocyclohexane, Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1.alpha.,2.beta.,3.alpha.,4.beta.,5.alpha.,6.beta.)-
319-86-8	Pesticides	hexachlorocyclohexane;delta-		delta-BHC, Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1.alpha.,2.alpha.,3.alpha.,4.beta.,5.alpha.,6.beta.)-, delta-Hexachlorocyclohexane
608-73-1	SVOCs	hexachlorocyclohexane;technical		
77-47-4	Pesticides	hexachlorocyclopentadiene		
19408-74-3	Dioxins	hexachlorodibenzo-p-dioxin, mixture		1,2,3,7,8,9-HxCDD, 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
67-72-1	VOCs	hexachloroethane		
70-30-4	SVOCs	hexachlorophene		
822-06-0	VOCs	hexamethylene diisocyanate;1,6-		Hexamethylene-1,6-diisocyanate, Hexane, 1,6-diisocyanato-
110-54-3	VOCs	hexane;n-		Hexane, n-Hexane
591-78-6	VOCs	hexanone;2-		
51235-04-2	Pesticides	hexazinone		
302-01-2	VOCs	hydrazine		
10034-93-2	SVOCs	hydrazine sulfate		Hydrazine sulfate, Hydrazine sulfate (1:1)
7647-01-0	VOCs	hydrogen chloride		Hydrochloric acid, Hydrogen chloride
74-90-8	Cyanides	hydrogen cyanide		Hydrogen cyanide, Hydrocyanic acid
7783-06-4	VOCs	hydrogen sulfide		
123-31-9	SVOCs	hydroquinone		Hydroquinone, 1,4-Benzenediol
35554-44-0	Pesticides	imazalil		Imazalil, 1H-Imidazole, 1-[2-(2,4-dichlorophenyl)- 2-(2-propenyloxy)ethyl]-
81335-37-7	Pesticides	imazaquin		Imazaquin, 3-Quinolinecarboxylic acid, 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol- 2-yl]-
193-39-5	cPAHs	INDENO[1,2,3-cd]PYRENE	PAH NOTES	Indeno(1,2,3-cd)pyrene, Indeno(1,2,3-c,d)pyrene, Indeno[1,2,3-cd]pyrene
36734-19-7	Pesticides	iprodione		Iprodione, 1-Imidazolidinecarboxamide, 3-(3,5-dichlorophenyl)-N-(1-methylethyl)-2,4-dioxo-
7439-89-6	Metals	iron		Iron, Iron, total
78-83-1	VOCs	isobutyl alcohol		
78-59-1	SVOCs	isophorone		
33820-53-0	Pesticides	isopropalin		Isopropalin, Benzenamine, 4-(1-methylethyl)-2,6-dinitro- N,N-dipropyl-
1832-54-8	SVOCs	isopropyl methyl phosphonic acid		Monoisopropyl methylphosphonate, Isopropyl methyl phosphonic acid, Phosphonic acid, methyl-, mono(1-methylethyl) ester
82558-50-7	Pesticides	isoxaben		Isoxaben, Benzamide, N-[3-(1-ethyl-1-methylpropyl)-5-isoxazolyl]-2,6-dimethoxy-
77501-63-4	Pesticides	lactofen		Lactofen, Benzoic acid, 5-[2-chloro-4-(trifluoromethyl) phenoxy]-2-nitro-, 2-ethoxy-1-methyl-2-oxoethyl ester
7439-92-1	Metals	LEAD	LEAD NOTES	
unavailable02	Metals	lead alkyls		
58-89-9	Pesticides	lindane		Lindane, Benzene hexachloride, Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1.alpha.,2.alpha.,3.beta.,4.alpha.,5.alpha.,6.beta.)-, gamma-BHC, gamma-Hexachlorocyclohexane
330-55-2	Pesticides (Carbamate)	linuron		Linuron, Urea, N'-(3,4-dichlorophenyl)-N-methoxy-N-methyl-
7791-03-9	Perchlorates	lithium perchlorate		Lithium perchlorate, Perchloric acid, lithium salt \
83055-99-6	Pesticides	londax		Bensulfuron-methyl, Londax

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121-75-5	Pesticides	malathion		
108-31-6	SVOCs	maleic anhydride		Maleic anhydride, 2,5-Furandione
123-33-1	SVOCs	maleic hydrazide		Maleic hydrazide, 3,6-Pyridazinedione, 1,2-dihydro-
109-77-3	VOCs	malononitrile		Malononitrile, Propanedinitrile
8018-01-7	Pesticides	mancozeb		Mancozeb, Manganese, [[2-[(dithiocarboxy)amino] ethyl]carbamodithioato(2-)-. kappa.S,.kappa.S']-, mixt. with [[2-[(dithiocarboxy)amino] ethyl]carbamodithioato(2-)-. kappa.S,.kappa.S']zinc
12427-38-2	Pesticides	maneb		Maneb, Manganese, [[2-[(dithiocarboxy)amino] ethyl]carbamodithioato(2-)-. kappa.S,.kappa.S']-
7439-96-5	Metals	MANGANESE (Diet)	MANGANESE NOTES	
7439-96-5a	Metals	MANGANESE (Non-Diet)	MANGANESE NOTES	
950-10-7	Pesticides	mephosfolan		Mephosfolan, Phosphoramidic acid, (4-methyl-1,3-dithiolan-2- ylidene)-, diethyl ester
24307-26-4	Pesticides	mepiquat chloride		Mepiquat chloride, Piperidinium, 1,1-dimethyl-, chloride
7487-94-7	Metals	mercuric chloride		Mercuric chloride, Mercury chloride (HgCl2)
7439-97-6	Metals	mercury		
150-50-5	Pesticides	merphos		Merphos, Phosphorotrithious acid, tributyl ester
57837-19-1	Pesticides	metalaxyl		
126-98-7	VOCs	methacrylonitrile		
10265-92-6	Pesticides	methamidosphos		Methamidophos, Acephate-met, Monitor, Phosphoramidothioic acid, O,S-dimethyl e
67-56-1	VOCs	methanol		
950-37-8	Pesticides	methidathion		
16752-77-5	Pesticides (Carbamate)	methomyl		Methomyl, Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester
99-59-2	SVOCs	methoxy-5-nitroaniline;2-		2-Methoxy-5-nitroaniline, Benzenamine, 2-methoxy-5-nitro-, 5-Nitro-o-anisidine
72-43-5	Pesticides	methoxychlor		
110-49-6	VOCs	methoxyethanol acetate;2-		2-Methoxyethanol acetate, Ethanol, 2-methoxy-, acetate
109-86-4	VOCs	methoxyethanol;2-		2-Methoxyethanol, Ethanol, 2-methoxy-, Ethylene glycol monomethyl ether, Methyl cellosolve
79-20-9	VOCs	methyl acetate		
96-33-3	VOCs	methyl acrylate		
78-93-3	VOCs	methyl ethyl ketone		Methyl ethyl ketone, 2-Butanone, MEK
108-10-1	VOCs	methyl isobutyl ketone		Methyl isobutyl ketone, 2-Pentanone, 4-methyl-, 4-Methyl-2-pentanone, Hexone, MIBK
22967-92-6	Metals (organometallic)	METHYL MERCURY	METHYL MERCURY NOTES	Methyl mercury, Methylmercury, Methylmercury(1+)
80-62-6	VOCs	methyl methacrylate		
90-12-0	PAHs	methyl naphthalene;1-		1-Methylnaphthalene, Naphthalene, 1-methyl-
91-57-6	PAHs	methyl naphthalene;2-		2-Methylnaphthalene, Naphthalene, 2-methyl-
298-00-0	Pesticides	methyl parathion		Methyl Parathion, Phosphorothioic acid, O,O-dimethyl O-(4-
25013-15-4	VOCs	methyl styrene		Vinyl toluene, Benzene, ethenylmethyl-, Methyl styrene
98-83-9	SVOCs	methyl styrene, alpha		.alpha.-Methylstyrene, Benzene, (1-methylethenyl)-, Methyl styrene, alpha
1634-04-4	VOCs	methyl tert-butyl ether		Methyl t-butyl ether, MTBE, Propane, 2-methoxy-2-methyl-
94-74-6	Herbicides	methyl-4-chlorophenoxy-acetic acid;2-		MCPA, Acetic acid, (4-chloro-2-methylphenoxy)-, MCPA acid
99-55-8	SVOCs	methyl-5-nitroaniline;2-		5-Nitro-o-toluidine
636-21-5	SVOCs	methylaniline hydrochloride;2-		o-Toluidine hydrochloride, Benzenamine, 2-methyl-, hydrochloride (1:1), methylaniline hydrochloride;2-
95-53-4	VOCs	methylaniline;2-		o-Toluidine, 2-Aminotoluene, Benzenamine, 2-methyl
108-87-2	VOCs	methylcyclohexane		
101-14-4	SVOCs	methylene bis(2-chloroaniline);4,4'-		
101-61-1	SVOCs	methylene bis(n,n'-dimethyl)aniline;4,4'-		4,4'-Methylenebis[N,N-dimethylaniline], Benzenamine, 4,4'-methylenebis[N,N- dimethyl-
74-95-3	VOCs	methylene bromide		dibromomethane
75-09-2	VOCs	methylene chloride		Methylene Chloride, Dichloromethane, Methane, dichloro-, DCM
101-68-8	SVOCs	methylene diphenyl diisocyanate (MDI)		4,4'-Methylenedi(phenyl isocyanate), Benzene, 1,1'-methylenebis[4-isocyanato-
9016-87-9	SVOCs	methylene diphenyl diisocyanate (PMDI)		Polymeric diphenylmethane diisocyanate, Isocyanic acid, polymethylenepolyphenylene ester
101-77-9	SVOCs	methylenebisbenzenamine;4,4-		4,4'-Methylenedianiline, Benzenamine, 4,4'-methylenebis-
60-34-4	VOCs	methylhydrazine		Methyl hydrazine, Methylhydrazine
51218-45-2	Pesticides	metolachlor		
21087-64-9	Pesticides	metribuzin		
7786-34-7	Pesticides	mevinphos		phosdrin
2385-85-5	Pesticides	mirex		Mirex, Dechlorane
2212-67-1	Pesticides	molinate		
7439-98-7	Metals	molybdenum		

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10599-90-3	Disinfectants	monochloramine	MCL FOR DISINFECTANTS	Chloramine, Chloramide, Monochloramine
unavailable03	SVOCs	monochlorobutanes (not in HSDB)		
300-76-5	Pesticides	naled		Naled, Phosphoric acid, 1,2-dibromo-2,2-dichloroethyl dimethyl ester
91-20-3	PAHs	naphthalene		Naphthalene, Aromatic oil #2, Aromatic oil #3, Napthalene, Tar Camphor
15299-99-7	Pesticides	napropamide		
104-51-8	VOCs	n-butylbenzene		n-Butylbenzene, Benzene, butyl-
2429-74-5	Dyes	niagara blue 4B		C.I. Direct Blue 15, Niagara blue 4b
unavailable04	Metals	nickel refinery dust		
7440-02-0	Metals	NICKEL SOLUBLE SALTS	HARDNESS - DEPENDENT	
12035-72-2	Metals	nickel subsulfide		Nickel subsulfide, Nickel sulfide (Ni3S2)
14797-55-8	Nutrients	nitrate		Nitrate, Nitrogen, nitrate total (as NO3)
10102-43-9	Gases	nitric oxide		Nitric oxide, Nitrogen oxide (NO)
14797-65-0	Nutrients	nitrite		
88-74-4	SVOCs	nitroaniline, 2-		2-Nitroaniline, o-Nitroaniline
100-01-6	SVOCs	nitroaniline, 4-		4-Nitroaniline, p-Nitroaniline
98-95-3	Explosives	nitrobenzene		NB
67-20-9	SVOCs	nitrofurantoin		Nitrofurantoin, 2,4-Imidazolidinedione, 1-[[(5-nitro-2-furanyl)methylene]amino]-
59-87-0	SVOCs	nitrofurazone		Nitrofurazone, Hydrazinecarboxamide, 2-[(5-nitro-2-furanyl)methylene]-
10102-44-0	Gases	nitrogen dioxide		Nitrogen dioxide, Nitrogen oxide (NO2)
556-88-7	SVOCs	nitroguanidine		
79-46-9	VOCs	nitropropane;2-		
1116-54-7	SVOCs	nitrosodiethanolamine;N-		
55-18-5	SVOCs	nitrosodiethylamine;N-		
62-75-9	SVOCs	nitrosodimethylamine;N-		N-Nitrosodimethylamine, Methanamine, N-methyl-N-nitroso-, NDMA
924-16-3	VOCs	nitroso-di-n-butylamine;N-		
621-64-7	SVOCs	nitroso-di-n-propylamine;N-		N-Nitrosodi-n-propylamine, Di-n-propylnitrosamine, N-Nitrosodipropylamine
86-30-6	SVOCs	nitrosodiphenylamine;N-		
4549-40-0	SVOCs	nitrosomethylvinylamine,n-		
759-73-9	SVOCs	nitroso-n-ethylurea;n-		N-Nitroso-N-ethylurea, nitroso-n-ethylurea;n-, Urea, N-ethyl-N-nitroso-
10595-95-6	SVOCs	nitroso-N-methylethylamine;N-		N-Nitrosomethylethylamine
684-93-5	SVOCs	nitroso-n-methylurea,n-		N-Nitroso-N-methylurea, nitroso-n-methylurea,n-, Urea, N-methyl-N-nitroso-
930-55-2	SVOCs	nitrosopyrrolidine;N-		N-Nitrosopyrrolidine
99-08-1	Explosives	nitrotoluene, m-		3-Nitrotoluene, 3-NT
88-72-2	Explosives	nitrotoluene, o-		2-Nitrotoluene, 2-NT
99-99-0	Explosives	nitrotoluene, p-		4-Nitrotoluene, 4-NT
1321-12-6	Explosives	nitrotoluenes;o-,m-,p-		Nitrotoluene, Benzene, methylnitro-, Nitrotoluene, m-, o-, or p-
84852-15-3	Phenols	nonylphenol		4-Nonylphenol branched, 4-Nonylphenol, mixed isomers, Branched p-nonylphenol, Phenol, 4-nonyl-, branched
27314-13-2	Pesticides	norflurazon		
85509-19-9	Herbicides	nustar		Flusilazole, 1H-1,2,4-Triazole, 1-[[bis(4-fluorophenyl)methylsilyl] methyl]-, NuStar
32536-52-0	PBDEs	octabromodiphenyl ether		PBDE, Octabromodiphenyl ethers, Benzene, 1,1'-oxybis-, octabromo deriv., Total octabromodiphenyl ethers
2691-41-0	Explosives	octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine		HMX
152-16-9	SVOCs	octamethylpyrophosphoramide		Schradan, Octamethylpyrophosphoramide
19044-88-3	Pesticides	oryzalin		
19666-30-9	Pesticides	oxadiazon		Oxadiazon, Oxydiazon
23135-22-0	Pesticides (Carbamate)	oxamyl		Oxamyl, Ethanimidothioic acid, 2-(dimethylamino)-N-[[(methylamino)carbonyl]oxy]-2-oxo-, methyl ester, Vydate
42874-03-3	Pesticides	oxyfluorfen		goal
76738-62-0	Herbicides	paclobutrazol		Paclobutrazol, 1H-1,2,4-Triazole- 1-ethanol, .beta.-[(4-chlorophenyl)methyl]-. alpha.-(1,1-dimethylethyl)-, (.alpha.R,.beta.R)-rel-
unavailable05	PAHs	PAHs	PAH NOTES	
4685-14-7	Pesticides	paraquat		Paraquat, 4,4'-Bipyridinium, 1,1'-dimethyl-, Paraquat dication, Paraquat ion
56-38-2	Pesticides	parathion		Parathion, Ethyl parathion, Phosphorothioic acid, O,O-diethy O-(p-ni
1114-71-2	Pesticides	pebulate		
40487-42-1	Pesticides	pendimethalin		
87-84-3	SVOCs	pentabromo-6-chloro-cyclohexane;1,2,3,4,5-		
60348-60-9	PBDEs	pentabromodiphenyl ether; 2,2',4,4',5-		PBDE-099, BDE-99, 2,2',4,4',5-Pentabromodiphenyl ether, Benzene, 1,2,4-tribromo-5-(2,4-dibromophenoxy)-

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32534-81-9	PBDEs	pentabromodiphenyl ethers		Pentabromodiphenyl ether, Benzene, 1,1'-oxybis-, pentabromo deriv., Bromkal 70, DE-71, Pentabromobiphenyl ether, Pentabromodiphenyl oxide, Tardex 50
608-93-5	SVOCs	pentachlorobenzene		Pentachlorobenzene, Benzene, 1,2,3,4,5-pentachloro-, Benzene, pentachloro-
82-68-8	Pesticides	pentachloronitrobenzene		Pentachloronitrobenzene, PCNB
87-86-5	Herbicides	PENTACHLOROPHENOL	pH-DEPENDENT	Pentachlorophenol, Dowicide 7, PCP
14797-73-0	Perchlorates	perchlorate and perchlorate salts		
52645-53-1	Pesticides	permethrin		Permethrin, Cyclopropanecarboxylic acid, 3-(2,2-dichloroethenyl)-2,2-dimethyl-, (3-phenoxyphenyl) methyl ester, Permethrin, mixed cis, trans
72-56-0	Pesticides	perthane		Perthane, Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-ethyl-, Ethylan
unavailable19	General Chemistry	pH	pH NOTES	
85-01-8	PAHs	phenanthrene		
13684-63-4	Pesticides	phenmedipham		Phenmedipham, Carbamic acid, (3-methylphenyl)-, 3-[(methoxycarbonyl)amino] phenyl ester
108-95-2	Phenols	phenol		Phenol, Benzene, hydroxy-, Carbolic acid
106-50-3	SVOCs	phenylenediamine, p-		1,4-Benzenediamine, p-Phenylenediamine, 1,4-Phenylenediamine
108-45-2	SVOCs	phenylenediamine;m-		
95-54-5	SVOCs	phenylenediamine;o-		1,2-Phenylenediamine, 1,2-Benzenediamine, o-Phenylenediamine
62-38-4	Metals (organometallic)	phenylmercuric acetate		Phenylmercury Acetate, Mercury, (acetato-.kappa.O) phenyl-, PMA
90-43-7	Phenols	phenylphenol;2-		[1,1'-Biphenyl]-2-Ol, 2-Phenylphenol, o-Biphenylol
298-02-2	Pesticides	phorate		
75-44-5	VOCs	phosgene		Phosgene, Carbonic dichloride
732-11-6	Pesticides	phosmet		Phosmet, Imidan, Phosphorodithioic acid, S-[(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methyl] O,O-dimethyl ester
7803-51-2	Gases	phosphine		Phosphine, Hydrogen phosphide
7664-38-2	SVOCs	phosphoric acid		
7723-14-0	Metals	phosphorus		
100-21-0	Phthalates	phthalic acid;p-		Terephthalic acid, 1,4-Benzenedicarboxylic acid, p-Phthalic acid
85-44-9	Phthalates	phthalic anhydride		Phthalic Anhydride, 1,3-Isobenzofurandione
1918-02-1	Herbicides	picloram		Picloram, 2-Pyridinecarboxylic acid, 4-amino-3,5,*
29232-93-7	Pesticides	pirimiphos-methyl		Pirimiphos-methyl, Phosphorothioic acid, O-[2-(diethylamino)-6-methyl-4-pyrimidinyl] O,O-dimethyl ester
59536-65-1	PBBs	polybrominated biphenyls		FireMaster BP 6, Hexabromobiphenyl, Polybrominated biphenyls
1336-36-3	PCBs	polychlorinated biphenyls (PCBs)		
151-50-8	Cyanides	potassium cyanide		Potassium cyanide, Potassium cyanide (K(CN))
7778-74-7	Perchlorates	potassium perchlorate		Potassium perchlorate, Perchloric acid, potassium salt
506-61-6	Cyanides	potassium silver cyanide		Potassium silver cyanide, Argentate(1-), bis(cyano-.kappa.C)-, potassium (1:1)
67747-09-5	Pesticides	prochloraz (not in HSDB)		Prochloraz, 1H-Imidazole-1-carboxamide, N-propyl-N-[2-(2,4,6-trichlorophenoxy) ethyl]-
26399-36-0	Pesticides	profluralin		
1610-18-0	Pesticides	prometon		Prometon, Pramitol
7287-19-6	Pesticides	prometryn		
23950-58-5	Pesticides	pronamide		Pronamide (Kerb), Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-, KERB
1918-16-7	Pesticides	propachlor		Ramrod
709-98-8	Pesticides	propanil		Propanil, Propanamide, N-(3,4-dichlorophenyl)-
2312-35-8	Pesticides	propargite		Propargite, Sulfurous acid, 2-[4-(1,1-dimethylethyl)phenoxy]cyclohexyl 2-propynyl ester, Propargite (S-181)
107-19-7	VOCs	propargyl alcohol		Propargyl alcohol, 2-Propyn-1-ol
139-40-2	Pesticides	propazine		
122-42-9	Pesticides	propham		Propham, Carbamic acid, phenyl-, 1-methylethyl ester
60207-90-1	Pesticides	propiconazole		Propiconazole, 1H-1,2,4-Triazole, 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]methyl]-
123-38-6	VOCs	propionaldehyde		
93-65-2	Herbicides	propionic acid;(2-methyl-4-chlorophenoxy)2-		Mecoprop, MCPP, Propanoic acid, 2-(4-chloro-2-methylphenoxy)-
103-65-1	VOCs	propylbenzene;n-		
57-55-6	Glycols	propylene glycol		
6423-43-4	Glycols	propylene glycol dinitrate;1,2-		
52125-53-8	Glycols	propylene glycol monoethyl ether		1(or 2)-Ethoxypropanol, Propanol, 1(or 2)-ethoxy-, Propylene glycol ethyl ether
107-98-2	Glycols	propylene glycol monomethyl ether		Propylene glycol 1-methyl ether, 2-Propanol, 1-methoxy-, Propylene glycol monomethyl ether
75-56-9	VOCs	propylene oxide		Propylene oxide, Oxirane, 2-methyl-
81335-77-5	Pesticides	pursuit		Imazethapyr, 3-Pyridinecarboxylic acid, 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-5-ethyl-, Pursuit
51630-58-1	Pesticides	pydrin		Fenvalerate, Sumicide
129-00-0	PAHs	pyrene		Pyrene, Benzo[def]phenanthrene

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Chemical Synonyms Compiled from Ecology's Environmental Information Management System (EIM) Database
110-86-1	VOCs	pyridine		
13593-03-8	Pesticides	quinalphos		Quinalphos, Phosphorothioic acid, O,O-diethyl O-2-quinoxalinyl ester
91-22-5	SVOCs	quinoline		Quinoline, Benzo[b]pyridine
13982-63-3	Radionuclides	radium 226	RADIUM 226 NOTE	Radium-226, Radium 226, Radium, isotope of mass 226
unavailable23	Radionuclides	radium 226 and 228	RADIUM 226 & 228 NOTES	
121-82-4	Explosives	rdx		hexahydro-1,3,5-trinitro-1,3,5-triazine
unavailable07	Fibers	REFRACTORY CERAMIC FIBERS	REFRACTORY FIBER NOTE	
10453-86-8	Pesticides	resmethrin		
299-84-3	Pesticides	ronnel		
83-79-4	Pesticides	rotenone		
78-48-8	Pesticides	s,s;s-tributylphosphorotrithioate		merphos oxide, DEF (Butifos)
78587-05-0	Pesticides	savey		Hexythiazox, Savey
135-98-8	VOCs	sec-butylbenzene		Sec-Butylbenzene, Benzene, (1-methylpropyl)-
7783-00-8	Metals	selenious acid		
7782-49-2	Metals	selenium and compounds		
630-10-4	Metals (organometallic)	selenourea		
74051-80-2	Pesticides	sethoxydim		Sethoxydim, 2-Cyclohexen-1-one, 2-[1-(ethoxyimino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-
7440-22-4	Metals	SILVER	HARDNESS - DEPENDENT	
506-64-9	Cyanides	silver cyanide		
122-34-9	Pesticides	simazine		
26628-22-8	Metals	sodium azide		
143-33-9	Cyanides	sodium cyanide		
148-18-5	Metals (organometallic)	sodium diethyldithiocarbamate		Sodium diethyldithiocarbamate, Carbamodithioic acid, diethyl-, sodium salt
62-74-8	Metals (organometallic)	sodium fluoroacetate		Sodium Fluoroacetate, 1080, Acetic acid, fluoro-, sodium salt
13718-26-8	Metals	sodium metavanadate		Sodium vanadate, Sodium metavanadate, Vanadate (VO31-), sodium
7601-89-0	Perchlorates	sodium perchlorate		Sodium perchlorate, Perchloric acid, sodium salt
7440-24-6	Metals	strontium		
57-24-9	SVOCs	strychnine		Strychnine, Strychnidin-10-one
100-42-5	VOCs	styrene		Styrene, Benzene, ethenyl-
unavailable17	Metals	sulfate		
88671-89-0	Pesticides	systhane		Myclobutanil, 1H-1,2,4-Triazole-1-propanenitrile, .alpha.-butyl-.alpha.-(4-chlorophenyl)-, Systhane
1746-01-6	Dioxins	TCDD;2,3,7,8- (LOW ORGANIC) (DIOXIN)	TEF NOTES	2,3,7,8-TCDD, 2,3,7,8-Tetrachlorodibenzo-p-dioxin
34014-18-1	Pesticides	tebuthiuron		
3383-96-8	Pesticides	temephos		
5902-51-2	Pesticides	terbacil		
13071-79-9	SVOCs	terbufos		
886-50-0	Pesticides	terbutryn		
98-06-6	VOCs	tert-butylbenzene		
5436-43-1	PBDEs	tetrabromodiphenyl ether 2,2',4,4'		PBDE-047, BDE-47, 2,2',4,4' - tetrabromodiphenyl ether, Benzene, 1,1'-oxybis[2,4-dibromo-
95-94-3	SVOCs	tetrachlorobenzene;1,2,4,5-		
630-20-6	VOCs	tetrachloroethane;1,1,1,2-		
79-34-5	VOCs	tetrachloroethane;1,1,2,2-		1,1,2,2-Tetrachloroethane, 1,1,2,2-PCA, Ethane, 1,1,2,2-tetrachloro-
127-18-4	VOCs	TETRACHLOROETHYLENE (PCE)	PCE NOTES	Tetrachloroethene, Ethene, 1,1,2,2-tetrachloro-, PCE, Perc, Perchloroethene, Perchloroethylene, Tetrachloroethylene
58-90-2	Phenols	TETRACHLOROPHENOL;2,3,4,6-	pH-DEPENDENT	
5216-25-1	VOCs	tetrachlorotoluene;p,a,a,a,-		4-Chlorobenzotrichloride, Benzene, 1-chloro-4-(trichloromethyl)-, p,a,a,a-Tetrachlorotoluene
961-11-5	Pesticides	tetrachlorvinphos		stirofos, gardona
3689-24-5	Pesticides	tetraethyl dithiopyrophosphate		
78-00-2	Metals (organometallic)	tetraethyl lead		Tetraethyllead, Plumbane, tetraethyl-, Tetraethyl lead
811-97-2	VOCs	tetrafluoroethane;1,1,1,2-		HFC-134a, Ethane, 1,1,1,2-tetrafluoro-
109-99-9	Furans	tetrahydrofuran		Tetrahydrofuran, Diethylene oxide, Tetramethylene oxide
1314-32-5	Metals	thallic oxide		Thallic oxide, Thallium oxide (Tl2O3), Thallium(III) oxide
563-68-8	Metals	thallium acetate		Thallium acetate, Acetic acid, thallium(1+) salt (1:1), Thallium(I) acetate
6533-73-9	Metals	thallium carbonate		Thallium(I) carbonate, Carbonic acid, dithallium(1+) salt, Thallium carbonate
7791-12-0	Metals	thallium chloride		Thallium chloride, Thallium(I) chloride, Thallous chloride

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Chemical Synonyms Compiled from Ecology's Environmental Information Management System (EIM) Database
10102-45-1	Metals	thallium nitrate		Thallium nitrate, Nitric acid, thallium(1+) salt (1:1), Thallium(I) nitrate
12039-52-0	Metals	thallium selenite		Thallium(I) selenite, Selenious acid, dithallium(1+) salt
7446-18-6	Metals	thallium(I) sulfate		Thallium sulfate, Sulfuric acid, thallium(1+) salt (1:2), Thallium(I) sulfate
7440-28-0	Metals	thallium, soluble salts		
28249-77-6	Pesticides	thiobencarb		Thiobencarb, Benthiocarb, Carbamothioic acid, diethyl-, S-[(4-chlorophenyl)methyl] ester
21564-17-0	SVOCs	thiocyanomethylthiobenzothiazole;2-		TCMTB
39196-18-4	Pesticides	thiofanox		Thiofanox, 2-Butanone, 3,3-dimethyl-1-(methylthio)*
23564-05-8	Pesticides	thiophanate-methyl		Thiophanate-methyl, Carbamic acid, [1,2-phenylenebis(iminocarbonothioyl)]bis-, dimethyl ester
137-26-8	Pesticides	thiram		Thiram, Thioperoxydicarbonic diamide ([(H2N)C(S)]2S2), N,N,N',N'-tetramethyl-
7440-31-5	Metals	tin		
118-96-7	Explosives	tnt		Trinitrotoluene, Benzene, 2-methyl-1,3,5-trinitro-, trinitrotoluene, 2,4,6-, 2,4,6-TNT
108-88-3	VOCs	toluene		Toluene, Benzene, methyl-
26471-62-5	VOCs	toluene diisocyanate mixture;2,4-/2,6-		Toluene Diisocyanate, Benzene, 1,3-diisocyanatomethyl-
584-84-9	VOCs	toluene-2,4-diisocyanate		Benzene, 2,4-diisocyanato-1-methyl-, 2,4-Toluene diisocyanate
91-08-7	VOCs	toluene-2,6-diisocyanate		
95-80-7	SVOCs	toluenediamine;2,4-		2,4-Toluenediamine, 1,3-Benzenediamine, 4-methyl-, 2,4-Diaminotoluene
95-70-5	SVOCs	toluenediamine;2,5-		
823-40-5	SVOCs	toluenediamine;2,6-		2,6-Toluenediamine, 1,3-Benzenediamine, 2-methyl-
106-49-0	SVOCs	toluidine;p-		p-Toluidine, Benzenamine, 4-methyl-
unavailable18	General Chemistry	total dissolved solids		
8001-35-2	Pesticides	toxaphene		
93-72-1	Herbicides	tp;2,4,5-		fenoprop, Silvex, 2,4,5-TP, 2-(2,4,5-trichlorophenoxy)-propionic acid
unavailable09	Petroleum	tph, diesel range organics		
unavailable10	Petroleum	tph, heavy oils		
unavailable11	Petroleum	tph, mineral oils		
unavailable25	Petroleum	tph: gasoline range organics, benzene present		
unavailable08	Petroleum	tph: gasoline range organics, no detectable benzene		
66841-25-6	Pesticides	tralomethrin		Tralomethrin, Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(1,2,2,2-tetrabromoethyl)-, cyano(3-phenoxyphenyl)methyl ester, Scout X-tra
2303-17-5	Pesticides	triallate		
82097-50-5	Pesticides	triasulfuron		Triasulfuron, 1-[2-(2-chloroethoxy)phenylsulfonyl]-3-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)urea
615-54-3	VOCs	tribromobenzene;1,2,4-		
688-73-3	Organotins	tributyltin		Tributyltin, Stannane, tributyl-, Tributyl tin, TBT
56-35-9	Organotins	tributyltin oxide		
10025-85-1	Disinfectants	trichloramine	MCL FOR DISINFECTANTS	Nitrogen chloride
76-13-1	VOCs	trichloro-1,2,2-trifluoroethane;1,1,2-		CFC-113, 1,1,2-Trichlorotrifluoroethane, Ethane, 1,1,2-trichloro-1,2,2-trifluoro-, Freon 113
76-03-9	SVOCs	trichloroacetic acid		
33663-50-2	SVOCs	trichloroaniline hydrochloride;2,4,6-		2,4,6-Trichloroaniline hydrochloride, Benzenamine, 2,4,6-trichloro-, hydrochloride
634-93-5	SVOCs	trichloroaniline;2,4,6-		2,4,6-Trichloroaniline, Benzenamine, 2,4,6-trichloro-
120-82-1	VOCs	trichlorobenzene;1,2,4-		1,2,4-Trichlorobenzene, Benzene, 1,2,4-trichloro-
71-55-6	VOCs	trichloroethane;1,1,1-		
79-00-5	VOCs	trichloroethane;1,1,2-		1,1,2-Trichloroethane, 1,1,2-TCA, Ethane, 1,1,2-trichloro-
79-01-6	VOCs	TRICHLOROETHYLENE (TCE)	TCE NOTES	Trichloroethene, Ethene, trichloro-, TCE, Trichloroethylene
75-69-4	VOCs	trichlorofluoromethane		CFC-11, Freon 11, Methane, trichlorofluoro-, Trichlorofluoromethane
95-95-4	Phenols	TRICHLOROPHENOL;2,4,5-	pH-DEPENDENT	
88-06-2	Phenols	TRICHLOROPHENOL;2,4,6-	pH-DEPENDENT	2,4,6-Trichlorophenol, Phenol, 2,4,6-trichloro-
93-76-5	Herbicides	trichlorophenoxyacetic acid;2,4,5-		2,4,5-T, Acetic acid, (2,4,5-trichlorophenoxy)-
598-77-6	VOCs	trichloropropane;1,1,2-		1,1,2-Trichloropropane, Trichloropropane;1,1,2-
96-18-4	VOCs	trichloropropane;1,2,3-		
96-19-5	VOCs	trichloropropene;1,2,3-		1,2,3-Trichloropropene, Trichloropropene;1,2,3-
58138-08-2	Pesticides	tridiphane		Tridiphane, Oxirane, 2-(3,5-dichlorophenyl)-2-(2,2,2-trichloroethyl)-
121-44-8	VOCs	triethylamine		Triethylamine, Ethanamine, N,N-diethyl-
1582-09-8	Pesticides	trifluralin		Trifluralin, Benzenamine, 2,6-dinitro-N,N-dipropyl-4-(trifluoromethyl)-, Treflan
unavailable13	VOCs	trihalomethanes, (total) (TTHMs)	TTHM NOTES	
512-56-1	SVOCs	trimethyl phosphate		Trimethyl phosphate, Phosphoric acid, trimethyl ester
526-73-8	VOCs	trimethylbenzene;1,2,3-		
95-63-6	VOCs	trimethylbenzene;1,2,4-		
108-67-8	VOCs	trimethylbenzene;1,3,5-		

CAS #	Chemical Data Group	Chemical Name	Links to Important Notes	Chemical Synonyms Compiled from Ecology's Environmental Information Management System (EIM) Database
99-35-4	Explosives	trinitrobenzene;1,3,5-		1,3,5-TNB
479-45-8	Explosives	trinitrophenylmethylnitramine		tetryl, 2,4,6-Trinitrophenylmethylnitramine
unavailable12	Radionuclides	uranium, soluble salts		
7440-62-2	Metals	vanadium		
1314-62-1	Metals	vanadium pentoxide		
27774-13-6	Metals	vanadyl sulfate		
1929-77-7	Pesticides	vernam		vernolate
50471-44-8	Pesticides	vinclozolin		Vinclozolin, 2,4-Oxazolidinedione, 3-(3,5-dichlorophenyl)-5-ethenyl-5-methyl-
108-05-4	VOCs	vinyl acetate		
75-01-4	VOCs	VINYL CHLORIDE	VINYL CHLORIDE NOTES	Vinyl Chloride, Chloroethene, Chloroethylene, Ethene, chloro-, Ethylene, chloro-
81-81-2	Pesticides	warfarin		
8012-95-1	Petroleum	white mineral oil		Paraffin oils, Mineral oil
108-38-3	VOCs	xylene;m-		m-Xylene, Benzene, 1,3-dimethyl-
95-47-6	VOCs	xylene;o-		o-Xylene, Benzene, 1,2-dimethyl-
106-42-3	VOCs	xylene;p-		p-Xylene, Benzene, 1,4-dimethyl-
1330-20-7	VOCs	xylenes		Total Xylenes, Benzene, dimethyl-, Xylenes, Xylenes (mixture of o, m, and p isomers)
7440-66-6	Metals	ZINC	HARDNESS - DEPENDENT	
557-21-1	Cyanides	zinc cyanide		
1314-84-7	Metals	zinc phosphide		
12122-67-7	Pesticides	zineb		Zineb, Zinc, [[2-[(dithiocarboxy)amino] ethyl]carbamodithioato(2-)-. kappa.S,.kappa.S']-

	CAS	Data Group	Chemical
1	50-32-8	cPAH	Benzo(a)pyrene
2	19408-74-3	Dioxins/Furans	1,2,3,7,8,9-HxCDD
3	1746-01-6	Dioxins/Furans	2,3,7,8-TCDD
4	132-64-9	Dioxins/Furans	Dibenzofuran
5	93-76-5	Herbicides	2,4,5-T
6	94-75-7	Herbicides	2,4-D
7	94-82-6	Herbicides	2,4-DB
8	75-99-0	Herbicides	Dalapon
9	1918-00-9	Herbicides	Dicamba
10	87-86-5	Herbicides	Pentachlorophenol
11	93-72-1	Herbicides	Silvex
12	7440-36-0	Metals	Antimony
13	7440-38-2	Metals	Arsenic
14	7440-43-9a	Metals	Cadmium
15	16065-83-1	Metals	Chromium III
16	18540-29-9	Metals	Chromium VI
17	7440-50-8	Metals	Copper
18	7439-92-1	Metals	Lead
19	7439-97-6	Metals	Mercury
20	22967-92-6	Metals	Methyl Mercury
21	7440-02-0	Metals	Nickel
22	7782-49-2	Metals	Selenium
23	7440-22-4	Metals	Silver
24	7440-66-6	Metals	Zinc
25	688-73-3	Organotins	Tributyltin
26	56-35-9	Organotins	Tributyltin oxide
27	91-57-6	PAH	2-Methylnaphthalene
28	83-32-9	PAH	Acenaphthene
29	208-96-8	PAH	Acenaphthylene
30	120-12-7	PAH	Anthracene
31	191-24-2	PAH	Benzo(ghi)perylene
32	206-44-0	PAH	Fluoranthene
33	86-73-7	PAH	Fluorene
34	91-20-3	PAH	Naphthalene
35	85-01-8	PAH	Phenanthrene
36	129-00-0	PAH	Pyrene
37	1336-36-3	PCB	Total PCBs
38	959-98-8	Pesticides	.alpha.-Endosulfan
39	33213-65-9	Pesticides	.beta.-Endosulfan
40	72-54-8	Pesticides	4,4'-DDD
41	72-55-9	Pesticides	4,4'-DDE

42	50-29-3	Pesticides	4,4'-DDT
43	309-00-2	Pesticides	Aldrin
44	319-84-6	Pesticides	alpha-BHC
45	319-85-7	Pesticides	beta-BHC
46	319-86-8	Pesticides	delta-BHC
47	60-57-1	Pesticides	Dieldrin
48	1031-07-8	Pesticides	Endosulfan Sulfate
49	72-20-8	Pesticides	Endrin
50	7421-93-4	Pesticides	Endrin Aldehyde
51	76-44-8	Pesticides	Heptachlor
52	1024-57-3	Pesticides	Heptachlor Epoxide
53	118-74-1	Pesticides	Hexachlorobenzene
54	58-89-9	Pesticides	Lindane
55	72-43-5	Pesticides	Methoxychlor
56	12789-03-6	Pesticides	Total Chlordane
57	8001-35-2	Pesticides	Toxaphene
58	58-90-2	Phenols	2,3,4,6-Tetrachlorophenol
59	95-95-4	Phenols	2,4,5-Trichlorophenol
60	88-06-2	Phenols	2,4,6-Trichlorophenol
61	120-83-2	Phenols	2,4-Dichlorophenol
62	105-67-9	Phenols	2,4-Dimethylphenol
63	95-48-7	Phenols	o-Cresol
64	106-44-5	Phenols	p-Cresol
65	108-95-2	Phenols	Phenol
66	117-81-7	Phthalates	Bis(2-ethylhexyl)phthalate
67	85-68-7	Phthalates	Butyl benzyl phthalate
68	84-74-2	Phthalates	Dibutyl phthalate
69	84-66-2	Phthalates	Diethyl phthalate
70	131-11-3	Phthalates	Dimethyl phthalate
71	117-84-0	Phthalates	Di-n-octyl phthalate
72	65-85-0	SVOC	Benzoic Acid
73	100-51-6	SVOC	Benzyl Alcohol
74	62-75-9	SVOC	N-Nitrosodimethylamine
75	86-30-6	SVOC	N-Nitrosodiphenylamine
76	120-82-1	VOC	1,2,4-Trichlorobenzene
77	95-50-1	VOC	1,2-Dichlorobenzene
78	106-46-7	VOC	1,4-Dichlorobenzene
	71-43-2	VOC	Benzene
79	87-68-3	VOC	Hexachlorobutadiene

Notes:

(1) Toxicity data taken from the CLARC table (updated 2019)

(2) Calculated by multiplying the RfDo by the GI absorption conversion factor.

(3) Calculated by dividing the CPFo by the GI absorption conversion factor.

(4) GI absorption factor = if the chemical-specific GI absorption is >50%, use 100% as a d

(5) ABS = In the absence of chemical-specific values, use defaults of 0 percent for inorgar

(6) This considers relative bioavailability. The MTCA default is 1. May use 0.6 for mixtur
(7) Cancer causing chemicals that operate by a mutagenic mode of action as recommen

cPAH mixtures are evaluated as a group using TEFs. For mixtures of cPAHs, the referenc

cPAH = Carcinogenic Polycyclic Aromatic Hydrocarbon
CPF = Cancer Potency Factor
GI = Gastrointestinal
M = Mutagenic compound
NTV = Not Toxicity Value
PAH = Polycyclic Aromatic Hydrocarbon
RfD = Reference Dose
SVOC = Semi-volatile organic compound
TEF = Toxicity equivalency factor
VOC = Volatile organic compound

References for Toxicity Data

Toxicity data were taken from the December 2017 CLARC Database

A	Agency for Toxic Substances and Disease Registry
H	Health Effects Assessment Summary Table from EPA
I	IRIS (Integrated Risk Information System) database from the Environmen
P	Provisional Peer-Reviewed Toxicity Values from EPA
X	PPRTV Appendix from EPA
C	Cal EPA = California Environmental Protection Agency

RAGS Part E. EPA, 2004. Risk Assessment Guidance for Superfund, Vol. I: Human Healt

Noncancer Toxicity Values (1)			Cancer Toxicity Values (1)			GI Absorption Conversion Factor (4)
Oral RfD (RfDo)		Dermal RfD (RfDd) (2)	Oral CPF (CPFo)		Dermal CPF (CPFd) (3)	
(mg/kg-day)	Ref.	(mg/kg-day)	(mg/kg-day)$^{-1}$	Ref.	(mg/kg-day)$^{-1}$	
3.00E-04	I	3.0E-04	1E+00	I	1	1
NTV		---	6E+03	I	6200	1
7.00E-10	I	7.0E-10	1E+05	C	130000	1
1.00E-03	X	1.0E-03	NTV		---	1
1.00E-02	I	1.0E-02	NTV		---	1
1.00E-02	I	1.0E-02	NTV		---	1
8.00E-03	I	8.0E-03	NTV		---	1
3.00E-02	I	3.0E-02	NTV		---	1
3.00E-02	I	3.0E-02	NTV		---	1
5.00E-03	I	5.0E-03	4E-01	I	0.4	1
8.00E-03	I	8.0E-03	NTV		---	1
4.00E-04	I	6.0E-05	NTV		---	0.15
3.00E-04	I	3.0E-04	2E+00	I	1.5	1
1.00E-03	I	2.5E-05	NTV		---	0.025
1.50E+00	I	2.0E-02	NTV		---	0.013
3.00E-03	I	7.5E-05	NTV		---	0.025
4.00E-02	H	4.0E-02	NTV		---	1
NTV		---	NTV		---	1
NTV		---	NTV		---	1
1.00E-04		1.0E-04	NTV		---	1
2.00E-02	I	4.0E-03	NTV		---	0.2
5.00E-03	I	5.0E-03	NTV		---	1
5.00E-03	I	2.0E-04	NTV		---	0.04
3.00E-01	I	3.0E-01	NTV		---	1
NTV		---	NTV		---	1
3.00E-04		3.0E-04	NTV		---	1
4.00E-03	I	4.0E-03	NTV		---	1
6.00E-02	I	6.0E-02	NTV		---	1
NTV		---	NTV		---	1
3.00E-01	I	3.0E-01	NTV		---	1
NTV		---	NTV		---	1
4.00E-02	I	4.0E-02	NTV		---	1
4.00E-02	I	4.0E-02	NTV		---	1
2.00E-02	I	2.0E-02	NTV		---	1
NTV		---	NTV		---	1
3.00E-02	I	3.0E-02	NTV		---	1
2.00E-05	I	2.0E-05	2E+00	I	2	1
NTV		---	NTV		---	1
NTV		---	NTV		---	1
3.00E-05	X	3.0E-05	2E-01	I	0.24	1
3.00E-04	X	3.0E-04	3E-01	I	0.34	1

5.00E-04	I	5.0E-04	3E-01	I	0.34	1
3.00E-05	I	3.0E-05	2E+01	I	17	1
8.00E-03	A	8.0E-03	6E+00	I	6.3	1
NTV		---	2E+00	I	1.8	1
NTV		---	NTV		---	1
5.00E-05	I	5.0E-05	2E+01	I	16	1
6.00E-03	P	6.0E-03	NTV		---	1
3.00E-04	I	3.0E-04	NTV		---	1
NTV		---	NTV		---	1
5.00E-04	I	5.0E-04	5E+00	I	4.5	1
1.30E-05	I	1.3E-05	9E+00	I	9.1	1
8.00E-04	I	8.0E-04	2E+00	I	1.6	1
3.00E-04	I	3.0E-04	1E+00	C	1.1	1
5.00E-03	I	5.0E-03	NTV		---	1
5.00E-04	I	5.0E-04	3.5E-01	I	0.35	1
9.00E-05	P	9.0E-05	1.1E+00	I	1.1	1
3.00E-02	I	3.0E-02	NTV		---	1
1.00E-01	I	1.0E-01	NTV		---	1
1.00E-03	P	1.0E-03	1E-02	I	0.011	1
3.00E-03	I	3.0E-03	NTV		---	1
2.00E-02	I	2.0E-02	NTV		---	1
5.00E-02	I	5.0E-02	NTV		---	1
1.00E-01	A	1.0E-01	NTV		---	1
3.00E-01	I	3.0E-01	NTV		---	1
2.00E-02	I	2.0E-02	1E-02	I	0.014	1
2.00E-01	I	2.0E-01	2E-03	P	0.0019	1
1.00E-01	I	1.0E-01	NTV		---	1
8.00E-01	I	8.0E-01	NTV		---	1
NTV		---	NTV		---	1
1.00E-02	P	1.0E-02	NTV		---	1
4.00E+00	I	4.0E+00	NTV		---	1
1.00E-01	P	1.0E-01	NTV		---	1
8.00E-06	P	8.0E-06	5E+01	I	51	1
NTV		---	5E-03	I	0.0049	1
1.00E-02	I	1.0E-02	3E-02	P	0.029	1
9.00E-02	I	9.0E-02	NTV		---	1
7.00E-02	A	7.0E-02	5E-03	C	0.0054	1
4.00E-03	I	4.0E-03	5.5E-02	I	0.055	1
0.001	P	1.0E-03	7.8E-02	I	0.078	1

efault; use 100% as a default for inorganics, VOCs, and SVOCs that lack chemical-specific values (EPA R
nics and VOCs, and 10 percent for SVOCs (EPA RAGS Part E, 2004).

Dermal absorption factor (ABS) (5)	Gastrointestinal absorption factor (AB) (6)	Mutagen (7)
0.13	1	M
0.03	1	
0.03	0.6	
0.03	1	
0.1	1	
0.05	1	
0.1	1	
0.1	1	
0.1	1	
0.25	1	
0.1	1	
0	1	
0.03	1	
0.001	1	
0	1	
0	1	
0	1	
0	1	
0	1	
0	1	
0.01	1	
0	1	
0	1	
0	1	
0	1	
0.1	1	
0.13	1	
0.13	1	
0.13	1	
0.13	1	
0.13	1	
0.13	1	
0.13	1	
0.13	1	
0.13	1	
0.13	1	
0.14	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	

Toxicity data for total PCBs are based on the highest CPF

0.03	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.04	1	
0.1	1	
0.04	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0.1	1	
0	1	
0	1	
0	1	
0	1	
0	1	

AGS Part E, 2004)

or lowest RfD among the PCB aroclors.

Human Health Direct Contact Sediment
Separately for Child Beac
N

Non-Carcinogenic

Sediment Cleanup Level (mg/kg dry wt) =

Noncancer - Direct Contact

Adult Sub
Adult S

	CAS	Data Group	Chemical
1	50-32-8	cPAH	Benzo(a)pyrene
2	19408-74-3	Dioxins/Furans	1,2,3,7,8,9-HxCDD
3	1746-01-6	Dioxins/Furans	2,3,7,8-TCDD
4	132-64-9	Dioxins/Furans	Dibenzofuran
5	93-76-5	Herbicides	2,4,5-T
6	94-75-7	Herbicides	2,4-D
7	94-82-6	Herbicides	2,4-DB
8	75-99-0	Herbicides	Dalapon
9	1918-00-9	Herbicides	Dicamba

10	87-86-5	Herbicides	Pentachlorophenol
11	93-72-1	Herbicides	Silvex
12	7440-36-0	Metals	Antimony
13	7440-38-2	Metals	Arsenic
14	7440-43-9a	Metals	Cadmium
15	16065-83-1	Metals	Chromium III
16	18540-29-9	Metals	Chromium VI
17	7440-50-8	Metals	Copper
18	7439-92-1	Metals	Lead
19	7439-97-6	Metals	Mercury
20	22967-92-6	Metals	Methyl Mercury
21	7440-02-0	Metals	Nickel
22	7782-49-2	Metals	Selenium
23	7440-22-4	Metals	Silver
24	7440-66-6	Metals	Zinc
25	688-73-3	Organotins	Tributyltin
26	56-35-9	Organotins	Tributyltin oxide
27	91-57-6	PAH	2-Methylnaphthalene
28	83-32-9	PAH	Acenaphthene
29	208-96-8	PAH	Acenaphthylene
30	120-12-7	PAH	Anthracene
31	191-24-2	PAH	Benzo(ghi)perylene
32	206-44-0	PAH	Fluoranthene
33	86-73-7	PAH	Fluorene
34	91-20-3	PAH	Naphthalene
35	85-01-8	PAH	Phenanthrene
36	129-00-0	PAH	Pyrene
37	1336-36-3	PCB	Total PCBs
38	959-98-8	Pesticides	.alpha.-Endosulfan
39	33213-65-9	Pesticides	.beta.-Endosulfan
40	72-54-8	Pesticides	4,4'-DDD
41	72-55-9	Pesticides	4,4'-DDE
42	50-29-3	Pesticides	4,4'-DDT
43	309-00-2	Pesticides	Aldrin
44	319-84-6	Pesticides	alpha-BHC
45	319-85-7	Pesticides	beta-BHC
46	319-86-8	Pesticides	delta-BHC
47	60-57-1	Pesticides	Dieldrin
48	1031-07-8	Pesticides	Endosulfan Sulfate
49	72-20-8	Pesticides	Endrin
50	7421-93-4	Pesticides	Endrin Aldehyde
51	76-44-8	Pesticides	Heptachlor
52	1024-57-3	Pesticides	Heptachlor Epoxide
53	118-74-1	Pesticides	Hexachlorobenzene
54	58-89-9	Pesticides	Lindane
55	72-43-5	Pesticides	Methoxychlor
56	12789-03-6	Pesticides	Total Chlordane

57	8001-35-2	Pesticides	Toxaphene
58	58-90-2	Phenols	2,3,4,6-Tetrachlorophenol
59	95-95-4	Phenols	2,4,5-Trichlorophenol
60	88-06-2	Phenols	2,4,6-Trichlorophenol
61	120-83-2	Phenols	2,4-Dichlorophenol
62	105-67-9	Phenols	2,4-Dimethylphenol
63	95-48-7	Phenols	o-Cresol
64	106-44-5	Phenols	p-Cresol
65	108-95-2	Phenols	Phenol
66	117-81-7	Phthalates	Bis(2-ethylhexyl)phthalate
67	85-68-7	Phthalates	Butyl benzyl phthalate
68	84-74-2	Phthalates	Dibutyl phthalate
69	84-66-2	Phthalates	Diethyl phthalate
70	131-11-3	Phthalates	Dimethyl phthalate
71	117-84-0	Phthalates	Di-n-octyl phthalate
72	65-85-0	SVOC	Benzoic Acid
73	100-51-6	SVOC	Benzyl Alcohol
74	62-75-9	SVOC	N-Nitrosodimethylamine
75	86-30-6	SVOC	N-Nitrosodiphenylamine
76	120-82-1	VOC	1,2,4-Trichlorobenzene
77	95-50-1	VOC	1,2-Dichlorobenzene
78	106-46-7	VOC	1,4-Dichlorobenzene
	71-43-2	VOC	Benzene
79	87-68-3	VOC	Hexachlorobutadiene

Cleanup Levels (Combined Ingestion and Dermal Contact)
h Play, Adult Clam Digger, Adult Net Fisher
oncancer Endpoint

Formula (Equation 9-2 SCUM II Manual)

$$\frac{HQ \times BW \times ATnc \times UCF}{ED \times ED \times [((1/RfDo) \times IR \times AB) + ((1/RfDd) \times SA \times AF \times ABS)]}$$

Oral Reference Dose (RfDo) (mg/kg-day) = Chemical Specific
Dermal Reference Dose (RfDd) (mg/kg-day) = Chemical Specific
Hazard Quotient (HQ) (unitless) = 1
Child Body weight (BW) (kg) = 15.2
Adult Body weight (BW) (kg) = 81
Child Noncancer Averaging Time (ATnc) (days) = 2190
Adult Noncancer Averaging Time (ATnc) (days) = 25550
Child Beach Play Exposure Frequency (EF) (days/years) = 41
Adult Subsistence Clam Digger Exposure Frequency (EF) (days/years) = 120
Adult Subsistence Net Fisher Exposure Frequency (EF) (days/years) = 119
Child Exposure duration (ED) (years) = 6
Adult Exposure duration (ED) (years) = 70
Child Beach Play Ingestion rate (IR) (mg/day) = 200
Adult Subsistence Clam Digger Ingestion rate (IR) (mg/day) = 100
Adult Subsistence Net Fisher Ingestion rate (IR) (mg/day) = 50
Gastrointestinal absorption factor (AB) (unitless) = Chemical Specific
Unit conversion factor (UCF) (mg/kg) = 1.00E+06
Child dermal surface area (SA) (cm^2) = 2378
Adult dermal surface area (SA) (cm^2) = 3470
Child Beach Play Sediment-to-skin adherence factor (AF) (mg/cm^2-day) = 0.2
sistence Clam Digger Sediment-to-skin adherence factor (AF) (mg/cm^2-day) = 0.6
ubsistence Net Fisher Sediment-to-skin adherence factor (AF) (mg/cm^2-day) = 0.02
Dermal absorption factor (ABS) (unitless) = Chemical Specific

Child Beach Play mg/kg	Adult Clam Digger mg/kg	Adult Net Fisher mg/kg
1.55E+02	1.99E+02	1.26E+03
NTV	NTV	NTV
7.05E-04	1.41E-03	5.42E-03
6.32E+02	1.52E+03	4.77E+03
5.47E+03	7.99E+03	4.36E+04
6.05E+03	1.21E+04	4.65E+04
4.37E+03	6.40E+03	3.49E+04
1.64E+04	2.40E+04	1.31E+05
1.64E+04	2.40E+04	1.31E+05

2.12E+03	1.99E+03	1.84E+04
4.37E+03	6.40E+03	3.49E+04
2.71E+02	9.86E+02	1.99E+03
1.89E+02	4.55E+02	1.43E+03
6.18E+02	1.34E+03	4.71E+03
1.01E+06	3.70E+06	7.45E+06
2.03E+03	7.39E+03	1.49E+04
2.71E+04	9.86E+04	1.99E+05
NTV	NTV	NTV
NTV	NTV	NTV
6.77E+01	2.46E+02	4.97E+02
1.21E+04	2.41E+04	9.29E+04
3.38E+03	1.23E+04	2.48E+04
3.38E+03	1.23E+04	2.48E+04
2.03E+05	7.39E+05	1.49E+06
NTV	NTV	NTV
1.64E+02	2.40E+02	1.31E+03
2.07E+03	2.66E+03	1.68E+04
3.10E+04	3.99E+04	2.53E+05
NTV	NTV	NTV
1.55E+05	1.99E+05	1.26E+06
NTV	NTV	NTV
2.07E+04	2.66E+04	1.68E+05
2.07E+04	2.66E+04	1.68E+05
1.03E+04	1.33E+04	8.42E+04
NTV	NTV	NTV
1.55E+04	1.99E+04	1.26E+05
1.02E+01	1.26E+01	8.32E+01
NTV	NTV	NTV
NTV	NTV	NTV
1.64E+01	2.40E+01	1.31E+02
1.64E+02	2.40E+02	1.31E+03
3.16E+02	7.58E+02	2.39E+03
1.64E+01	2.40E+01	1.31E+02
4.37E+03	6.40E+03	3.49E+04
NTV	NTV	NTV
NTV	NTV	NTV
2.73E+01	4.00E+01	2.18E+02
3.28E+03	4.80E+03	2.62E+04
1.64E+02	2.40E+02	1.31E+03
NTV	NTV	NTV
2.73E+02	4.00E+02	2.18E+03
7.11E+00	1.04E+01	5.67E+01
4.37E+02	6.40E+02	3.49E+03
1.85E+02	4.03E+02	1.41E+03
2.73E+03	4.00E+03	2.18E+04
3.09E+02	6.72E+02	2.35E+03

4.92E+01	7.19E+01	3.93E+02
1.64E+04	2.40E+04	1.31E+05
5.47E+04	7.99E+04	4.36E+05
5.47E+02	7.99E+02	4.36E+03
1.64E+03	2.40E+03	1.31E+04
1.09E+04	1.60E+04	8.73E+04
2.73E+04	4.00E+04	2.18E+05
5.47E+04	7.99E+04	4.36E+05
1.64E+05	2.40E+05	1.31E+06
1.09E+04	1.60E+04	8.73E+04
1.09E+05	1.60E+05	8.73E+05
5.47E+04	7.99E+04	4.36E+05
4.37E+05	6.40E+05	3.49E+06
NTV	NTV	NTV
5.47E+03	7.99E+03	4.36E+04
2.19E+06	3.20E+06	1.75E+07
5.47E+04	7.99E+04	4.36E+05
4.37E+00	6.40E+00	3.49E+01
NTV	NTV	NTV
6.77E+03	2.46E+04	4.97E+04
6.09E+04	2.22E+05	4.47E+05
4.74E+04	1.72E+05	3.48E+05
2.71E+03	9.86E+03	1.99E+04
6.77E+02	2.46E+03	4.97E+03

Human Health Direct Contact Sediment Cleanup Level (Combined Ingestion and Dermal Contact)

Separately for Child Beach Play, Adult Clam Digger, Adult Net Fisher

Cancer Endpoint

Carcinogenic Formula (Equation 9-1 SCUM II Manual)

$$\text{Sediment Cleanup Level (mg/kg dry wt)} = \frac{\text{ACR x BW x ATcr x UCF}}{\text{ED x EF x [(IR x AB x CPFo) + (SA x AF x ABS x CPFd)]}}$$

Cancer - Direct Contact

Oral Carcinogenic Potency Factor (CPFo) (kg-day/mg) = Chemical Specific
Dermal Carcinogenic Potency Factor (CPFd) (kg-day/mg) = Chemical Specific
Acceptable cancer risk level (ACR) (1 in 1,000,000) untiless = 1.00E-06
Child Body weight (BW) (kg) = 15.2
Adult Body weight (BW) (kg) = 81
Cancer Averaging Time (ATcr) (days) = 25550
Child Beach Play Exposure Frequency (EF) (days/years) = 41
Adult Subsistence Clam Digger Exposure Frequency (EF) (days/years) = 120
Adult Subsistence Net Fisher Exposure Frequency (EF) (days/years) = 119
Child Exposure duration (ED) (years) = 6
Adult Exposure duration (ED) (years) = 70
Child Beach Play Ingestion rate (IR) (mg/day) = 200
Adult Subsistence Clam Digger Ingestion rate (IR) (mg/day) = 100
Adult Subsistence Net Fisher Ingestion rate (IR) (mg/day) = 50
Gastrointestinal absorption factor (AB) (unitless) = Chemical Specific
Unit conversion factor (UCF) (mg/kg) = 1.00E+06
Child dermal surface area (SA) (cm^2) = 2378
Adult dermal surface area (SA) (cm^2) = 3470
Child Beach Play Sediment-to-skin adherence factor (AF) (mg/cm^2-day) = 0.2
Adult Subsistence Clam Digger Sediment-to-skin adherence factor (AF) (mg/cm^2-day) = 0.6
Adult Subsistence Net Fisher Sediment-to-skin adherence factor (AF) (mg/cm^2-day) = 0.02
Dermal absorption factor (ABS) (unitless) = Chemical Specific

CAS	Data Group	Chemical	Child Beach Play mg/kg	Adult Clam Digger mg/kg	Adult Net Fisher mg/kg
50-32-8	cPAH	Benzo(a)pyrene	6.03E+00	6.65E-01	4.21E+00

Human Health Direct Contact Sediment Cleanup Level (Combined Ingestion and Dermal Contact)
Cancer - Mutagenic (Child Beach Play)

Carcinogenic Formula (Equation 9-1 SCUM II Manual - modified to include early life exposure)

$$\text{Sediment Cleanup Level (mg/kg dry wt)} = \frac{ACR \times ATcr \times UCF}{(CPFo \times AB \times IRF_{child\text{-}adj}) + (CPFd \times ABS \times DF_{child\text{-}adj})}$$

Where:

$$IRF_{child\text{-}adj} = (IR_{0\text{-}2} \times ED_{0\text{-}2} \times EF_{0\text{-}2} \times ADAF_{0\text{-}2} \times 1/BW_{0\text{-}2}) + (IR_{2\text{-}6} \times ED_{2\text{-}6} \times EF_{2\text{-}6} \times ADAF_{2\text{-}6} \times 1/BW_{2\text{-}6})$$

$$DF_{child\text{-}adj} = (SA_{0\text{-}2} \times ED_{0\text{-}2} \times EF_{0\text{-}2} \times AF_{0\text{-}2} \times ADAF_{0\text{-}2} \times 1/BW_{0\text{-}2}) + (SA_{2\text{-}6} \times ED_{2\text{-}6} \times EF_{2\text{-}6} \times AF_{2\text{-}6} \times ADAF_{2\text{-}6} \times 1/BW_{2\text{-}6})$$

Cancer - Mutagenic (Child Beach Play)

Oral Carcinogenic Potency Factor (CPFo) (kg-day/mg) = Chemical Specific
Dermal Carcinogenic Potency Factor (CPFd) (kg-day/mg) = Chemical Specific
Child Mutagenic Sediment Ingestion Factor - Age-adjusted ($IRF_{child\text{-}adj}$) (mg/kg) = 24299.77117
Child Mutagenic Sediment Dermal Factor - Age-adjusted ($DF_{child\text{-}adj}$) (mg/kg) = 51569.83753
Age-Dependent Adjustment Factor - 0 - 2 years old ($ADAF_{0\text{-}2}$) = 10
Age-Dependent Adjustment Factor - 2 - 6 years old ($ADAF_{2\text{-}6}$) = 3
Acceptable cancer risk level (ACR) (1 in 1,000,000) untiless = 1.00E-06
Child Body weight ($BW_{0\text{-}2}$) (kg) = 9.2
Child Body weight ($BW_{2\text{-}6}$) (kg) = 15.2
Cancer Averaging Time (ATcr) (days) = 25550
Child Beach Play Exposure Frequency ($EF_{0\text{-}2}$) (days/years) = 41
Child Beach Play Exposure Frequency ($EF_{2\text{-}6}$) (days/years) = 41
Child Exposure duration ($ED_{0\text{-}2}$) (years) = 2
Child Exposure duration ($ED_{2\text{-}6}$) (years) = 4
Child Beach Play Ingestion rate ($IR_{0\text{-}2}$) (mg/day) = 200
Child Beach Play Ingestion rate ($IR_{2\text{-}6}$) (mg/day) = 200
Gastrointestinal absorption factor (AB) (unitless) = Chemical Specific
Unit conversion factor (UCF) (mg/kg) = 1.00E+06
Child dermal surface area ($SA_{0\text{-}2}$) (cm^2) = 1952
Child dermal surface area ($SA_{2\text{-}6}$) (cm^2) = 2591
Child Beach Play Sediment-to-skin adherence factor ($AF_{0\text{-}2}$) (mg/cm^2-day) = 0.2
Child Beach Play Sediment-to-skin adherence factor ($AF_{2\text{-}6}$) (mg/cm^2-day) = 0.2
Dermal absorption factor (ABS) (unitless) = Chemical Specific

CAS	Data Group	Chemical	Child Beach Play mg/kg
50-32-8	cPAH	Benzo(a)pyrene	8.2E-01

Human Health Direct Contact Sediment Cleanup Level (Combined Ingestion and Dermal Contact)
Cancer Mutagenic - Child/Adult (Child Beach Play and Adult Clamming)

Carcinogenic Formula (Equation 9-1 SCUM II Manual - modified to include early life exposure)

$$\text{Sediment Cleanup Level (mg/kg dry wt)} = \frac{ACR \times ATcr \times UCF}{(CPFo \times AB \times IRF_{adj}) + (CPFd \times ABS \times DF_{adj})}$$

Where:

$$IRF_{adj} = (IR_{0\text{-}2} \times ED_{0\text{-}2} \times EF_{0\text{-}2} \times ADAF_{0\text{-}2} \times 1/BW_{0\text{-}2}) + (IR_{2\text{-}6} \times ED_{2\text{-}6} \times EF_{2\text{-}6} \times ADAF_{2\text{-}6} \times 1/BW_{2\text{-}6})$$
$$(IR_{6\text{-}16} \times ED_{6\text{-}16} \times EF_{6\text{-}16} \times ADAF_{6\text{-}16} \times 1/BW_{6\text{-}16}) + (IR_{16\text{-}70} \times ED_{16\text{-}70} \times EF_{16\text{-}70} \times ADAF_{16\text{-}70} \times 1/BW_{16\text{-}70})$$

$$DF_{adj} = (SA_{0\text{-}2} \times ED_{0\text{-}2} \times EF_{0\text{-}2} \times AF_{0\text{-}2} \times ADAF_{0\text{-}2} \times 1/BW_{0\text{-}2}) + (SA_{2\text{-}6} \times ED_{2\text{-}6} \times EF_{2\text{-}6} \times AF_{2\text{-}6} \times ADAF_{2\text{-}6} \times 1/BW_{2\text{-}6})$$
$$(SA_{6\text{-}16} \times ED_{6\text{-}16} \times EF_{6\text{-}16} \times AF_{6\text{-}16} \times ADAF_{6\text{-}16} \times 1/BW_{6\text{-}16}) + (SA_{16\text{-}70} \times ED_{16\text{-}70} \times EF_{16\text{-}70} \times AF_{16\text{-}70} \times ADAF_{16\text{-}70} \times 1/BW_{16\text{-}70})$$

Cancer - Mutagenic
Beach Play and Clam Digging

Oral Carcinogenic Potency Factor (CPFo) (kg-day/mg) = Chemical Specific
Dermal Carcinogenic Potency Factor (CPFd) (kg-day/mg) = Chemical Specific
Mutagenic Sediment Ingestion Factor - Age-adjusted (IRF_{adj}) (mg/kg) = 40426.182
Mutagenic Sediment Dermal Factor - Age-adjusted (DF_{adj}) (mg/kg) = 320472.8804
Age-Dependent Adjustment Factor - 0 - 2 years old ($ADAF_{0\text{-}2}$) = 10
Age-Dependent Adjustment Factor - 2 - 6 years old ($ADAF_{2\text{-}6}$) = 3
Age-Dependent Adjustment Factor - 6 - 16 years old ($ADAF_{6\text{-}16}$) = 3
Age-Dependent Adjustment Factor - 2 - 6 years old ($ADAF_{16\text{-}70}$) = 1
Acceptable cancer risk level (ACR) (1 in 1,000,000) untiless = 1.00E-06
Body weight ($BW_{0\text{-}2}$) (kg) = 9.2
Body weight ($BW_{2\text{-}6}$) (kg) = 15.2
Body weight ($BW_{6\text{-}16}$) (kg) = 44.3
Body weight ($BW_{16\text{-}70}$) (kg) = 81
Cancer Averaging Time (ATcr) (days) = 25550
Exposure Frequency ($EF_{0\text{-}2}$) (days/years) = 41
Exposure Frequency ($EF_{2\text{-}6}$) (days/years) = 41
Exposure Frequency ($EF_{6\text{-}16}$) (days/years) = 120
Exposure Frequency ($EF_{16\text{-}64}$) (days/years) = 120
Exposure duration ($ED_{0\text{-}2}$) (years) = 2
Exposure duration ($ED_{2\text{-}6}$) (years) = 4
Exposure duration ($ED_{6\text{-}16}$) (years) = 10
Exposure duration ($ED_{16\text{-}70}$) (years) = 54
Ingestion rate ($IR_{0\text{-}2}$) (mg/day) = 200
Ingestion rate ($IR_{2\text{-}6}$) (mg/day) = 200
Ingestion rate ($IR_{6\text{-}16}$) (mg/day) = 100
Ingestion rate ($IR_{16\text{-}64}$) (mg/day) = 100
Gastrointestinal absorption factor (AB) (unitless) = Chemical Specific
Unit conversion factor (UCF) (mg/kg) = 1.00E+06
Dermal surface area ($SA_{0\text{-}2}$) (cm^2) = 1952
Dermal surface area ($SA_{2\text{-}6}$) (cm^2) = 2591
Dermal surface area ($SA_{6\text{-}16}$) (cm^2) = 2161
Dermal surface area ($SA_{16\text{-}70}$) (cm^2) = 3407
Sediment-to-skin adherence factor ($AF_{0\text{-}2}$) (mg/cm^2-day) = 0.2
Sediment-to-skin adherence factor ($AF_{2\text{-}6}$) (mg/cm^2-day) = 0.2
Sediment-to-skin adherence factor ($AF_{6\text{-}16}$) (mg/cm^2-day) = 0.6
Sediment-to-skin adherence factor ($AF_{16\text{-}70}$) (mg/cm^2-day) = 0.6
Dermal absorption factor (ABS) (unitless) = Chemical Specific

CAS	Data Group	Chemical	Child Beach Play/Adult Clamming mg/kg
50-32-8	cPAH	Benzo(a)pyrene	3.1E-01

Human Health Direct Contact Sediment Cleanup Level (Combined Ingestion and Dermal Contact)
Cancer Mutagenic - Child/Adult (Child Beach Play and Adult Net Fishing)

Carcinogenic Formula (Equation 9-1 SCUM II Manual - modified to include early life exposure)

$$\text{Sediment Cleanup Level (mg/kg dry wt)} = \frac{\text{ACR x ATcr x UCF}}{(\text{CPFo x AB x IRF}_{adj}) + (\text{CPFd x ABS x DF}_{adj})}$$

Where:

$$\textbf{IRF}_{adj} = (\text{IR}_{0\text{-}2} \text{ x ED}_{0\text{-}2} \text{ x EF}_{0\text{-}2} \text{ x ADAF}_{0\text{-}2} \text{ x 1/BW}_{0\text{-}2}) + (\text{IR}_{2\text{-}6} \text{ x ED}_{2\text{-}6} \text{ x EF}_{2\text{-}6} \text{ x ADAF}_{2\text{-}6} \text{ x 1/BW}_{2\text{-}6})$$
$$(\text{IR}_{6\text{-}16} \text{ x ED}_{6\text{-}16} \text{ x EF}_{6\text{-}16} \text{ x ADAF}_{6\text{-}16} \text{ x 1/BW}_{6\text{-}16}) + (\text{IR}_{16\text{-}70} \text{ x ED}_{16\text{-}70} \text{ x EF}_{16\text{-}70} \text{ x ADAF}_{16\text{-}70} \text{ x 1/BW}_{16\text{-}70})$$

$$\textbf{DF}_{adj} = (\text{SA}_{0\text{-}2} \text{ x ED}_{0\text{-}2} \text{ x EF}_{0\text{-}2} \text{ x AF}_{0\text{-}2} \text{ x ADAF}_{0\text{-}2} \text{ x 1/BW}_{0\text{-}2}) + (\text{SA}_{2\text{-}6} \text{ x ED}_{2\text{-}6} \text{ x EF}_{2\text{-}6} \text{ x AF}_{2\text{-}6} \text{ x ADAF}_{2\text{-}6} \text{ x 1/BW}_{2\text{-}6})$$
$$(\text{SA}_{6\text{-}16} \text{ x ED}_{6\text{-}16} \text{ x EF}_{6\text{-}16} \text{ x AF}_{6\text{-}16} \text{ x ADAF}_{6\text{-}16} \text{ x 1/BW}_{6\text{-}16}) + (\text{SA}_{16\text{-}70} \text{ x ED}_{16\text{-}70} \text{ x EF}_{16\text{-}70} \text{ x AF}_{16\text{-}70} \text{ x ADAF}_{16\text{-}70} \text{ x 1/BW}_{16\text{-}70})$$

Cancer - Mutagenic
Beach Play and Net Fishing

Oral Carcinogenic Potency Factor (CPFo) (kg-day/mg) = Chemical Specific
Dermal Carcinogenic Potency Factor (CPFd) (kg-day/mg) = Chemical Specific
Mutagenic Sediment Ingestion Factor - Age-adjusted (IRF_{adj}) (mg/kg) = 32295.78321
Mutagenic Sediment Dermal Factor - Age-adjusted (DF_{adj}) (mg/kg) = 60458.577
Age-Dependent Adjustment Factor - 0 - 2 years old ($ADAF_{0-2}$) = 10
Age-Dependent Adjustment Factor - 2 - 6 years old ($ADAF_{2-6}$) = 3
Age-Dependent Adjustment Factor - 6 - 16 years old ($ADAF_{6-16}$) = 3
Age-Dependent Adjustment Factor - 2 - 6 years old ($ADAF_{16-70}$) = 1
Acceptable cancer risk level (ACR) (1 in 1,000,000) untiless = 1.00E-06
Body weight (BW_{0-2}) (kg) = 9.2
Body weight (BW_{2-6}) (kg) = 15.2
Body weight (BW_{6-16}) (kg) = 44.3
Body weight (BW_{16-70}) (kg) = 81
Cancer Averaging Time (ATcr) (days) = 25550
Exposure Frequency (EF_{0-2}) (days/years) = 41
Exposure Frequency (EF_{2-6}) (days/years) = 41
Exposure Frequency (EF_{6-16}) (days/years) = 119
Exposure Frequency (EF_{16-64}) (days/years) = 119
Exposure duration (ED_{0-2}) (years) = 2
Exposure duration (ED_{2-6}) (years) = 4
Exposure duration (ED_{6-16}) (years) = 10
Exposure duration (ED_{16-70}) (years) = 54
Ingestion rate (IR_{0-2}) (mg/day) = 200
Ingestion rate (IR_{2-6}) (mg/day) = 200
Ingestion rate (IR_{6-16}) (mg/day) = 50
Ingestion rate (IR_{16-64}) (mg/day) = 50
Gastrointestinal absorption factor (AB) (unitless) = Chemical Specific
Unit conversion factor (UCF) (mg/kg) = 1.00E+06
Dermal surface area (SA_{0-2}) (cm^2) = 1952
Dermal surface area (SA_{2-6}) (cm^2) = 2591
Dermal surface area (SA_{6-16}) (cm^2) = 2161
Dermal surface area (SA_{16-70}) (cm^2) = 3407
Sediment-to-skin adherence factor (AF_{0-2}) (mg/cm^2-day) = 0.2
Sediment-to-skin adherence factor (AF_{2-6}) (mg/cm^2-day) = 0.2
Sediment-to-skin adherence factor (AF_{6-16}) (mg/cm^2-day) = 0.02
Sediment-to-skin adherence factor (AF_{16-70}) (mg/cm^2-day) = 0.02
Dermal absorption factor (ABS) (unitless) = Chemical Specific

CAS	Data Group	Chemical	Child Beach Play/Adult Net Fishing mg/kg
50-32-8	cPAH	Benzo(a)pyrene	6.4E-01

				Noncancer Toxicity Values (1)		Cancer Toxicity Values (1)					
				Oral RfD (RfDo)		Oral CPF (CPFo)					
	CAS	Data Group	Chemical	(mg/kg-day)	Ref.	$(mg/kg-day)^{-1}$	Ref.	S_{foc}	f_{lipid}	BSAF	Mutagen (2)
1	50-32-8	cPAH	Benzo(a)pyrene	3.00E-04	I	1.0E+00	I	0.0223	0.0051	0.67	M
2	1746-01-6	Dioxins/Furans	2,3,7,8-TCDD	7.00E-10	I	1.3E+05	C	0.0223	0.0051	0.06	
3	1336-36-3	PCB	Total PCBs	2.00E-05	I	2E+00	I	0.0223	0.0051	0.032	
4	1746-01-6a	PCB	Dioxin-like PCB TEQs	7.00E-10	I	1.3E+05	C	0.0223	0.0051	0.01	
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											

Notes:
(1) Toxicity data taken from the CLARC table (updated 2019)
(2) Cancer causing chemicals that operate by a mutagenic mode of action are identified with an "M".

cPAH = Carcinogenic Polycyclic Aromatic Hydrocarbon
CPF = Cancer Potency Factor
M = Mutagenic compound
NTV = Not Toxicity Value
PAH = Polycyclic Aromatic Hydrocarbon
RfD = Reference Dose
TEF = Toxicity equivalency factor

<u>References for Toxicity Data</u>

I	IRIS (Integrated Risk Information System) database from the Environmental Protection Agency (EPA)
C	Cal EPA = California Environmental Protection Agency

BSAF, lipip, and foc are based on Jeld-Wen data. Jeld-Wen developed site-specific BSAFs for cPAHs, dioxins/furans, and PCBs.

The BSAF data for metals was populated for calculation purposes and needs to be updated with site-specific data.

Notes:

(1) Toxicity data taken from the December 2017 draft CLARC table.

(2) Calculated by multiplying the RfDo by the GI absorption conversion factor.

(3) Calculated by dividing the CPFo by the GI absorption conversion factor.

(4) GI MTCA Defaults = 0.2 for inorganics; 0.8 for volatile chemicals and mixtures of dioxins/furans; 0.5 for other organic chemicals

(5) ABS MTCA Defaults = 0.01 for inorganics; 0.03 for VOCs w/VP < benzene; 0.0005 for VOCs w/VP ≥ benzene; 0.1 for other organic chemicals. A chemical-specific value of 0.03 was used for dioxins/furans.

(6) This considers relative bioavailability. The MTCA default is 1. May use 0.6 for mixtures of dioxins/furans. These values were imported from CLARC.

(7) Cancer causing chemicals that operate by a mutagenic mode of action are identified with an "M". Identified in EPAs November 2018 Regional Screening Level Table.

cPAH mixtures are evaluated as a group using TEFs. For mixtures of cPAHs, the reference chemical is benzo(a)pyrene.

cPAH = Carcinogenic Polycyclic Aromatic Hydrocarbon
CPF = Cancer Potency Factor
GI = Gastrointestinal
M = Mutagenic compound
NTV = Not Toxicity Value
PAH = Polycyclic Aromatic Hydrocarbon
RfD = Reference Dose
SVOC = Semi-volatile organic compound
TEF = Toxicity equivalency factor
VOC = Volatile organic compound

S_{foc} = Fraction of organic carbon in sediment (unitless) =
SL = lipid content in tissue (unitless) =
BSAF = Biota-Sediment Accumulation Factor (unitless) =

<u>References for Toxicity Data</u>

Toxicity data were taken from the December 2017 CLARC Database

A	Agency for Toxic Substances and Disease Registry
H	Health Effects Assessment Summary Table from EPA
I	IRIS (Integrated Risk Information System) database from the Environmental Protection Agency (EPA)
P	Provisional Peer-Reviewed Toxicity Values from EPA
X	PPRTV Appendix from EPA
C	Cal EPA = California Environmental Protection Agency

Toxicity data for total PCBs are based on the highest CPF or lowest RfD among the PCB aroclors.

Human Health Risk-Based Tissue Concentration - Adult Exposure
Noncancer Effects

Non-Carcinogenic Formula (Equation 9-6 SCUM II Manual)

$$\text{Risk-based Tissue Concentration (mg/kg)} = \frac{HQ \times BW \times ATnc \times UCF \times RfDo}{FCR \times FDF \times EF \times ED}$$

Noncancer - Fish Tissue Consumption
Risk-based Tissue Concentration
Adult Exposure

Oral Reference Dose (RfDo) (mg/kg-day) = Chemical Specific
Hazard Quotient (HQ) (unitless) = 1
Adult Body weight (BW) (kg) = 81
Noncancer Averaging Time (ATnc) (days) = 25550
Exposure Frequency (EF) (days/years) = 365
Exposure duration (ED) (years) = 70
Fish consumption rate (FCR) (g/day) = 186
Fish Diet Fraction = 1
Unit conversion factor (UCF) (g/kg) = 1.00E+03

	CAS	Data Group	Chemical	Tissue Concentration mg/kg	Concentrations converted to ppb or ppt		
1	50-32-8	cPAH	Benzo(a)pyrene	1.31E-01	1.31E+02	ug/kg	ppb
2	1746-01-6	Dioxins/Furans	2,3,7,8-TCDD	3.0E-07	3.05E-01	ng/kg	ppt
3	1336-36-3	PCB	Total PCBs	8.7E-03	8.71E+00	ug/kg	ppb
4							

Human Health Risk-Based Tissue Concentration - Adult Exposure
Carcinogenic Effects

Carcinogenic Formula (Equation 9-5 SCUM II Manual)

$$\text{Risk-based Tissue Concentration (mg/kg)} = \frac{ACR \times BW \times ATcr \times UCF}{CPFo \times FCR \times FDF \times EF \times ED}$$

Cancer - Fish Tissue Consumption Risk-based Tissue Concentration Adult Exposure

Oral Carcinogenic Potency Factor (CPFo) (kg-day/mg) = Chemical Specific
Acceptable cancer risk level (ACR) (1 in 1,000,000) untiless = 1.00E-06
Adult Body weight (BW) (kg) = 81
Cancer Averaging Time (ATcr) (days) = 25550
Exposure Frequency (EF) (days/years) = 365
Exposure duration (ED) (years) = 70
Fish consumption rate (FCR) (g/day) = 186
Fish Diet Fraction = 1
Unit conversion factor (UCF) (g/kg) = 1.00E+03

CAS	Data Group	Chemical	Tissue Concentration mg/kg	Concentrations converted to ppb or ppt		
50-32-8	cPAH	Benzo(a)pyrene	4.4E-04	4.35E-01	ug/kg	ppb

Human Health Risk-Based Tissue Concentration - Child/Adult Exposure
Carcinogenic Effects - Mutagenic

Carcinogenic Formula (Equation 9-5 SCUM II Manual - modified to include early life exposure)

$$\text{Risk-based Tissue Concentration (mg/kg)} = \frac{ACR \times ATcr \times UCF}{IRF_{adj} \times EF \times CPFo \times FDF}$$

Where: $IRF_{adj} = (FCR_{0\text{-}2} \times ED_{0\text{-}2} \times ADAF_{0\text{-}2} \times 1/BW_{0\text{-}2}) + (FCR_{2\text{-}6} \times ED_{2\text{-}6} \times ADAF_{2\text{-}6} \times 1/BW_{2\text{-}6}) + (FCR_{6\text{-}16} \times ED_{6\text{-}16} \times ADAF_{6\text{-}16} \times 1/BW_{6\text{-}16}) + (FCR_{16\text{-}70} \times ED_{16\text{-}70} \times ADAF_{16\text{-}70} \times 1/BW_{16\text{-}70})$

Cancer - Fish Tissue Consumption
Risk-based Tissue Concentration
Child/Adult Exposure - Mutagenic

Oral Carcinogenic Potency Factor (CPFo) (kg-day/mg) = Chemical Specific
Mutagenic Tissue Ingestion Factor - Age-adjusted (IRF_{adj}) (g-year/kg-day) = 489.9936929
Age-Dependent Adjustment Factor - 0 - 2 years old ($ADAF_{0\text{-}2}$) = 10
Age-Dependent Adjustment Factor - 2 - 6 years old ($ADAF_{2\text{-}6}$) = 3
Age-Dependent Adjustment Factor - 2 - 6 years old ($ADAF_{6\text{-}16}$) = 3
Age-Dependent Adjustment Factor - 2 - 6 years old ($ADAF_{16\text{-}70}$) = 1
Acceptable cancer risk level (ACR) (1 in 1,000,000) unitless = 1.00E-06
Body weight ($BW_{0\text{-}2}$) (kg) = 9.2
Body weight ($BW_{2\text{-}6}$) (kg) = 15.2
Body weight ($BW_{6\text{-}16}$) (kg) = 44.3
Body weight ($BW_{16\text{-}70}$) (kg) = 81
Cancer Averaging Time (ATcr) (days) = 25550
Exposure Frequency (EF) (days/years) = 365
Exposure duration ($ED_{0\text{-}2}$) (years) = 2
Exposure duration ($ED_{2\text{-}6}$) (years) = 4
Exposure duration ($ED_{6\text{-}16}$) (years) = 10
Exposure duration ($ED_{16\text{-}70}$) (years) = 54
Fish consumption rate ($FCR_{0\text{-}2}$) (g/day) = 81
Fish consumption rate ($FCR_{2\text{-}6}$) (g/day) = 81
Fish consumption rate ($FCR_{6\text{-}16}$) (g/day) = 186
Fish consumption rate ($FCR_{16\text{-}70}$) (g/day) = 186
Fish Diet Fraction = 1
Unit conversion factor (UCF) (g/kg) = 1.00E+03

CAS	Data Group	Chemical	Tissue Concentration mg/kg	Concentrations converted to ppb or ppt		
50-32-8	cPAH	Benzo(a)pyrene	1.4E-04	1.43E-01	ug/kg	ppb

Human Health Sediment Cleanup Level for Consumption of Fish - Adult Exposure
Noncancer Effects

Non-Carcinogenic Formula (Equation 9-6 SCUM II Manual - modified to include BSAF)

$$\text{Sediment Cleanup Level (mg/kg)} = \frac{HQ \times BW \times ATnc \times UCF \times RfDo \times S_{foc}}{FCR \times FDF \times EF \times ED \times f_{lipid} \times BSAF}$$

Noncancer - Fish Tissue Consumption
Risk-based Sediment Concentration
Adult Exposure

Oral Reference Dose (RfDo) (mg/kg-day) = Chemical Specific
S_{foc} = Fraction of organic carbon in sediment (unitless) = Site Specific
f_{lipid} = lipid content in tissue (unitless) = Site Specific
BSAF = Biota-Sediment Accumulation Factor (unitless) = Chemical Specific
Hazard Quotient (HQ) (unitless) = 1
Adult Body weight (BW) (kg) = 81
Noncancer Averaging Time (ATnc) (days) = 25550
Exposure Frequency (EF) (days/years) = 365
Exposure duration (ED) (years) = 70
Fish/Shellfish consumption rate (FCR) (g/day) = 186
Fish Diet Fraction = 1
Unit conversion factor (UCF) (g/kg) = 1.00E+03

	CAS	Data Group	Chemical	Sediment Concentration mg/kg	Concentrations converted to ppb or ppt		
1	50-32-8	cPAH	Benzo(a)pyrene	8.53E-01	8.53E+02	ug/kg	ppb
2	1746-01-6	Dioxins/Furans	2,3,7,8-TCDD	2.22E-05	2.22E+01	ng/kg	ppt
3	1336-36-3	PCB	Total PCBs	1.19E+00	1.19E+03	ug/kg	ppb

Estimate fish tissue concentration from BSAF

$$\text{Fish Tissue Concentration} = \frac{\text{Sediment Concentration} \times f_{lipid} \times BSAF}{S_{foc}}$$

Human Health Sediment Cleanup Level for Consumption of Fish - Adult Exposure
Carcinogenic Effects

Carcinogenic Formula (Equation 9-5 SCUM II Manual - modified to include BSAF)

$$\text{Sediment Cleanup Level (mg/kg)} = \frac{ACR \times BW \times ATcr \times UCF \times S_{foc}}{CPFo \times FCR \times FDF \times EF \times ED \times f_{lipid} \times BSAF}$$

Cancer - Fish Tissue Consumption
Risk-based Sediment Concentration
Adult Exposure

Oral Carcinogenic Potency Factor (CPFo) (kg-day/mg) = Chemical Specific
S_{foc} = Fraction of organic carbon in sediment (unitless) = Site Specific
f_{lipid} = lipid content in tissue (unitless) = Site Specific
BSAF = Biota-Sediment Accumulation Factor (unitless) = Chemical Specific
Acceptable cancer risk level (ACR) (1 in 1,000,000) untiless = 1.00E-06
Adult Body weight (BW) (kg) = 81
Cancer Averaging Time (ATcr) (days) = 25550
Exposure Frequency (EF) (days/years) = 365
Exposure duration (ED) (years) = 70
Fish/Shellfish consumption rate (FCR) (g/day) = 186
Fish Diet Fraction = 1
Unit conversion factor (UCF) (g/kg) = 1.00E+03

	CAS	Data Group	Chemical	Sediment Concentration mg/kg	Concentrations converted to ppb or ppt		
1	50-32-8	cPAH	Benzo(a)pyrene	2.84E-03	2.84E+00	ug/kg	ppb
2	1746-01-6	Dioxins/Furans	2,3,7,8-TCDD	2.44E-07	2.44E-01	ng/kg	ppt
3	1336-36-3	PCB	Total PCBs	2.98E-02	2.98E+01	ug/kg	ppb
	1746-01-6a	PCB	Dioxin-like PCB TEQs	1.46E-06	1.46E+00	ng/kg	ppt

Estimate fish tissue concentration from BSAF

$$\text{Fish Tissue Concentration} = \frac{\text{Sediment Concentration} \times f_{lipid} \times BSAF}{S_{foc}}$$

Human Health Sediment Cleanup Level for Consumption of Fish - Child/Adult Exposure
Carcinogenic Effects - Mutagenic

Carcinogenic Formula (Equation 9-5 SCUM II Manual - modified to include BSAF)

$$\textbf{Sediment Cleanup Level (mg/kg)} = \frac{ACR \times ATcr \times UCF \times S_{foc}}{CPFo \times IRF_{adj} \times FDF \times EF \times f_{lipid} \times BSAF}$$

Where:

$$IRF_{adj} = (FCR_{0\text{-}2} \times ED_{0\text{-}2} \times ADAF_{0\text{-}2} \times 1/BW_{0\text{-}2}) + (FCR_{2\text{-}6} \times ED_{2\text{-}6} \times ADAF_{2\text{-}6} \times 1/BW_{2\text{-}6}) + (FCR_{6\text{-}16} \times ED_{6\text{-}16} \times ADAF_{6\text{-}16} \times 1/BW_{6\text{-}16}) + (FCR_{16\text{-}70} \times ED_{16\text{-}70} \times ADAF_{16\text{-}70} \times 1/BW_{16\text{-}70})$$

Cancer - Fish Tissue Consumption
Risk-based Sediment Concentration
Child/Adult Exposure

Oral Carcinogenic Potency Factor (CPFo) (kg-day/mg) = Chemical Specific
Mutagenic Tissue Ingestion Factor - Age-adjusted (IRF_{adj}) (g-year/kg-day) = 489.9936929
Age-Dependent Adjustment Factor - 0 - 2 years old ($ADAF_{0\text{-}2}$) = 10
Age-Dependent Adjustment Factor - 2 - 6 years old ($ADAF_{2\text{-}6}$) = 3
Age-Dependent Adjustment Factor - 6 - 16 years old ($ADAF_{6\text{-}16}$) = 3
Age-Dependent Adjustment Factor - 16 - 70 years old ($ADAF_{16\text{-}70}$) = 1
S_{foc} = Fraction of organic carbon in sediment (unitless) = Site Specific
f_{lipid} = lipid content in tissue (unitless) = Site Specific
BSAF = Biota-Sediment Accumulation Factor (unitless) = Chemical Specific
Acceptable cancer risk level (ACR) (1 in 1,000,000) untiless = 1.00E-06
Body weight ($BW_{0\text{-}2}$) (kg) = 9.2
Body weight ($BW_{2\text{-}6}$) (kg) = 15.2
Body weight ($BW_{6\text{-}16}$) (kg) = 44.3
Body weight ($BW_{16\text{-}70}$) (kg) = 81
Cancer Averaging Time (ATcr) (days) = 25550
Exposure Frequency (EF) (days/years) = 365
Exposure duration ($ED_{0\text{-}2}$) (years) = 2
Exposure duration ($ED_{2\text{-}6}$) (years) = 4
Exposure duration ($ED_{6\text{-}16}$) (years) = 10
Exposure duration ($ED_{16\text{-}70}$) (years) = 54
Fish consumption rate ($FCR_{0\text{-}2}$) (g/day) = 81
Fish consumption rate ($FCR_{2\text{-}6}$) (g/day) = 81
Fish consumption rate ($FCR_{6\text{-}16}$) (g/day) = 186
Fish consumption rate ($FCR_{16\text{-}70}$) (g/day) = 186
Fish Diet Fraction = 1
Unit conversion factor (UCF) (g/kg) = 1.00E+03

	CAS	Data Group	Chemical	Sediment Concentration mg/kg	Concentrations converted to ppb or ppt		
1	50-32-8	cPAH	Benzo(a)pyrene	9.32E-04	9.32E-01	ug/kg	ppb

Estimate fish tissue concentration from BSAF

Fish Tissue Concentration =

$$\frac{\text{Sediment Concentration} \times f_{lipid} \times \text{BSAF}}{S_{foc}}$$

APPENDIX L

CALCULATION SUMMARIES

Description: Contains calculations used as part of the RI/FS process including groundwater flow characteristics, PCL calculations for protection of sediment, and PQL calculation tables for applicable TEQ values.

Parameters for Groundwater Velocity

Parameters			
Head	h	ft	Measured
Distance	d	ft	Measured
Hydraulic Gradient	i	ft/ft	Calculated
Velocity	v	ft/day	Calculated
Hydraulic Conductivity	K	ft/day	Estimate[1]
Effective Porosity	n	dimensionless	Estimate[2]

Step 1: Measure depth to groundwater to determine head

Well ID	Elevation (TOC) (ft)	Depth to Groundwater 2/18/2020 (ft)	**Groundwater Elevation (head)(ft)**
MW-3	11.45	5.25	**6.20**
MW-6	12.31	4.27	**8.04**
MW-10A	10.71	1.68	**9.03**
MW-11A	11.91	3.18	**8.73**
MW-16	12.5	4.92	**7.58**
MW-17	12.2	4.82	**7.38**

Step 2: Calculate horizontal hydraulic gradient

Well Pair	Approximate Distance between paired wells (ft)	Change in head (ft)	Horizontal hydraulic gradient (ft/ft)
MW-6 to MW-3	650	1.84	0.00283
MW-10A to MW-17	945	1.65	0.00175
MW-11A to MW-16	950	1.15	0.00121
Average horizontal hydraulic gradient			**0.00193**

$$i = \frac{\Delta head}{\Delta distance}$$

Step 3: Calculate groundwater veolcity

Parameter	Value	Units
Estimated K	70	ft/day
Estimated n	0.3	dimesionless
Average i	0.00193	ft/ft
v =	0.450333333	ft/day

$$v = \frac{K * i}{n}$$

Step 4: Calculate approximate distance traveled over time

Time since possible contamination occurred	70	years
	25550	days
Estimated distance traveled over 70 years	11506.02	feet

References:

1) Domenico, P.A. and F.W. Schwartz, 1990. Physical and Chemical Hydrogeology, John Wiley & Sons, New York, 824 p.

2) Bonazountas, M. and Wagner, J.M. (1984). SESOIL: A Seasonal Soil Compartment Model, Draft Report. Office of Toxic Substances, U.S. Environmental Protection Agency: Washington, DC, PB86112406.

Parameters for Total PCB Congeners

Step 1 Params:				
Target Sediment Concentration:		0.035	mg/kg	Specific to Ecology
UCF	Unit conversion factor, default	0.001	mg/µg	Constant
DF	Dilution factor, default (saturated)	1	unitless	
	Distribution coefficient in sediment			
	Selected Sediment Kd			
K_d	(pH 8.0, Foc = 1.9%)	5870	L/kg	
θ_w	Water-filled soil porosity, LDW average	0.615	ml water/ml soil	
ρ_b	Dry soil bulk density, from Kmet 2016	1.02	kg/L	

Step 2 Params:				
UCF	Unit conversion factor, default	0.001	mg/µg	Constant
DF	Dilution factor, default (saturated)	1	unitless	
	Vadose	20		
	Saturated	1		
	Distribution coefficient in sediment			
	Selected Soil Kd			
K_d	(pH 6.8, Foc = 0.1%)	309	L/kg	
θ_w	Water-filled soil porosity, LDW average	0.615	ml water/ml soil	
	Vadose	0.3	ml water/ml soil	
	Saturated	0.43	ml water/ml soil	
θ_a	Air-filled soil porosity, default			
	Vadose	0.13	ml air/ml soil	
	Saturated	0	ml air/ml soil	
ρ_b	Dry soil bulk density, from Kmet 2016	1.02	kg/L	
H_{cc}	Henry's law constant at 13 degrees C		unitless	

Step 1: GW-3 (Ground water PCUL Protect Sediment, µg/L)

$$CUL{-}GW{-}SED\ = \frac{RBC{-}SED}{UCF\ x\ DF\ x\ \left[K_d + \frac{\theta_w}{\rho_b}\right]}$$

GW PCUL: 5.96E-03 µg/L

Step 2: Protect Sediment Vadose Zone

$$CUL{-}S{-}GW\ = CUL{-}GW\ x\ UCF\ x\ DF\ x\ \left[K_d + \frac{\theta_w + \theta_a H_{cc}}{\rho_b}\right]$$

Sediment 4E-02 mg/kg

Step 2: Protect Sediment Saturated Zone

Sediment 1.84E-03 mg/kg

PQL Calculation Tables
Jeld Wen/Former Nord Door Facility

Carcinogenic Polycyclic Aromatic Compounds (cPAHs) (mg/Kg)			
Analyte	**PQL**	**TEF**	**TEQ**
benzo[a]anthracene	0.006	0.1	0.0006
benzo[a]pyrene	0.006	1	0.006
benzo[b]fluoranthene	0.006	0.1	0.0006
benzo[k]fluoranthene	0.006	0.1	0.0006
chrysene	0.006	0.01	0.00006
dibenzo[a,h]anthracene	0.006	0.1	0.0006
indeno[1,2,3-cd]pyrene	0.006	0.1	0.0006
Total TEQ			**0.009**

*PQL per 8270-SIM method

*TEF per Table 708-2 (WAC 173-34-900)

Carcinogenic Polycyclic Aromatic Compounds (cPAHs) (ug/L)			
Analyte	**PQL**	**TEF**	**TEQ**
benzo[a]anthracene	0.01	0.1	0.001
benzo[a]pyrene	0.01	1	0.01
benzo[b]fluoranthene	0.01	0.1	0.001
benzo[k]fluoranthene	0.01	0.1	0.001
chrysene	0.01	0.01	0.0001
dibenzo[a,h]anthracene	0.01	0.1	0.001
indeno[1,2,3-cd]pyrene	0.01	0.1	0.001
Total TEQ			**0.015**

*PQL per 8270-SIM Low-Level method

*TEF per Table 708-2 (WAC 173-34-900)

PQL Calculation Tables
Jeld Wen/Former Nord Door Facility

Dioxins/Furans (pg/g)			
Analyte	**PQL**	**TEF**	**TEQ**
2,3,7,8-TCDD	0.5	1	0.5
1,2,3,7,8-PeCDD	2.5	1	2.5
1,2,3,4,7,8-HxCDD	2.5	0.1	0.25
1,2,3,6,7,8-HxCDD	2.5	0.1	0.25
1,2,3,7,8,9-HxCDD	2.5	0.1	0.25
1,2,3,4,6,7,8-HpCDD	2.5	0.01	0.025
OCDD	5	0.0003	0.0015
2,3,7,8-TCDF	0.5	0.1	0.05
1,2,3,7,8-PeCDF	2.5	0.03	0.075
2,3,4,7,8-PeCDF	2.5	0.3	0.75
1,2,3,4,7,8-HxCDF	2.5	0.1	0.25
1,2,3,6,7,8-HxCDF	2.5	0.1	0.25
1,2,3,7,8,9-HxCDF	2.5	0.1	0.25
2,3,4,6,7,8-HxCDF	2.5	0.1	0.25
1,2,3,4,6,7,8-HpCDF	2.5	0.01	0.025
1,2,3,4,7,8,9-HpCDF	2.5	0.01	0.025
OCDF	5	0.0003	0.0015
Total TEQ			**5.70**

*PQL per 1613 method

*TEF per Table 708-1 (WAC 173-34-900)

PQL Calculation Tables
Jeld Wen/Former Nord Door Facility

Dioxins/Furans (pg/L)			
Analyte	**PQL**	**TEF**	**TEQ**
2,3,7,8-TCDD	5	1	5
1,2,3,7,8-PeCDD	25	1	25
1,2,3,4,7,8-HxCDD	25	0.1	2.5
1,2,3,6,7,8-HxCDD	25	0.1	2.5
1,2,3,7,8,9-HxCDD	25	0.1	2.5
1,2,3,4,6,7,8-HpCDD	25	0.01	0.25
OCDD	50	0.0003	0.015
2,3,7,8-TCDF	5	0.1	0.5
1,2,3,7,8-PeCDF	25	0.03	0.75
2,3,4,7,8-PeCDF	25	0.3	7.5
1,2,3,4,7,8-HxCDF	25	0.1	2.5
1,2,3,6,7,8-HxCDF	25	0.1	2.5
1,2,3,7,8,9-HxCDF	25	0.1	2.5
2,3,4,6,7,8-HxCDF	25	0.1	2.5
1,2,3,4,6,7,8-HpCDF	25	0.01	0.25
1,2,3,4,7,8,9-HpCDF	25	0.01	0.25
OCDF	50	0.0003	0.015
Total TEQ			**57.0**

*PQL per 1613 method

*TEF per Table 708-1 (WAC 173-34-900)

APPENDIX M

SUMMARY OF UPLAND FS COSTS

Description: Contains unit costs and assumptions and scope of work for upland remedial actions used to conduct the DCA.

Creosote/Fuel Oil Area - Alternative 1

Sub-Slab Depressurization, Engineering Controls, and Institutional Controls

Sub-slab depressurization (SSD) below building floor slab, Engineering Controls, groundwater montoring, and institutional controls

Remedy Components:

1. Construction contractor mobilization
2. Pilot testing for SSD design
3. Install SSD system below existing building floor slabs
4. Install 5 additional monitoring wells
5. Groundwater monitoring for 20 years to confirm plume stability
6. Engineering controls (surface capping) to limit direct exposure and Institutional controls to restrict exposure to soil

Primary Assumptions

1. 200 scfm SSD system
2. 4 SSD pits within building
3. Capping unpaved areas on-property
4. SSD blower is 5 hp, 1000 lbs of carbon/yr
5. Groundwater monitoing and cap inspection/maintenance for 20 years
6. Institutional controls restricting soil exposure and soil management plan

Remedial Action Component	Units	No. of Units	Unit Cost	Cost	Total Cost
REMEDIAL ACTION					
Mobilization					
Mobilization	est	1	$10,000	$10,000	
					$10,000
Pilot testing					
Install SSD point	each	1	$2,000	$2,000	
Install vapor monitoring points	each	8	$300	$2,400	
Perform test	each	1	$5,000	$5,000	
Reporting	each	1	$7,000	$7,000	
					$16,400
Capping (surface capping at unpaved areas)	est	1	$24,000	$24,000	
Institutional Controls	each	1	$25,000	$25,000	
					$49,000
Install SSD system					
Install SSD pits	each	3	$6,000	$18,000	
Piping	ft	500	$50	$25,000	
Blower system and carbon	est	1	$15,000	$15,000	
					$58,000
Install Monitoring wells					
Install wells	each	5	$4,000	$20,000	
					$20,000
Decommissioning					
Monitoring Well Decommissioning[1]	each	15	$2,000	$30,000	
					(See NPV)
Subtotal					$153,400
Project Management 6%					$9,204
Design and permitting 15%					$23,010
Construction management 10%					$15,340
Tax 10%					$20,095
Contingency 25%					$38,350
Remedial Action Subtotal (Rounded to nearest $10,000)					**$260,000**
Monitoring and Maintenance					
Quarterlygroundwater monitoring and sampling (yrs 1-5)[1]	yr	5	$20,000	$100,000	
Annual groundwater monitoring and sampling (yrs 6-20)[1]	yr	15	$5,000	$75,000	
Annual reporting (yr 1)[1]	yr	1	$10,000	$10,000	
Annual reporting (yrs 2-20)[1]	yr	19	$4,000	$76,000	
SSD system O&M, electrical service, equipment repair	yr	20	$25,000	$500,000	
5 year review report (every 5 yrs)[1]	yr	4	$12,000	$48,000	
Subtotal NPV (see below)					$738,000
Tax 10%					$73,800
Contingency 20%					$147,600
Monitoring and Maintenance Subtotal (Rounded to nearest $10,000)					**$960,000**
REMEDIAL ACTION ESTIMATED TOTAL (Rounded to nearest $100,000)					**$1,200,000**

[1] Year 1 value shown

Remedial Action Component		Units	No. of Units	Unit Cost	Cost	Total Cost
SUM NPV:	$161,913	$446,629		$24,105	$105,358	**$738,000**
Year	**Monitoring**	**O&M**		**Decom**	**Reporting**	
1	$20,000	$25,000		$0	$10,000	
2	$20,000	$25,000		$0	$4,000	
3	$20,000	$25,000		$0	$4,000	
4	$20,000	$25,000		$0	$4,000	
5	$20,000	$25,000		$0	$12,000	
6	$5,000	$25,000		$0	$4,000	
7	$5,000	$25,000		$0	$4,000	
8	$5,000	$25,000		$0	$4,000	
9	$5,000	$25,000		$0	$4,000	
10	$5,000	$25,000		$0	$12,000	
11	$5,000	$25,000		$0	$4,000	
12	$5,000	$25,000		$0	$4,000	
13	$5,000	$25,000		$0	$4,000	
14	$5,000	$25,000		$0	$4,000	
15	$5,000	$25,000		$0	$12,000	
16	$5,000	$25,000		$0	$4,000	
17	$5,000	$25,000		$0	$4,000	
18	$5,000	$25,000		$0	$4,000	
19	$5,000	$25,000		$0	$4,000	
20	$5,000	$25,000		$30,000	$12,000	

Notes:

Discount rate = 1.1%

OMB Circular No. A-94 (Executive office of the President, office of Management and Budget, and 2013 Discount Rates memo dated 1-24-2013)

Total NPV shown is rounded to nearest $1,000

Creosote/Fuel Oil Area - Alternative 2

Bioremediation and Sub-Slab Depressurization

Bioremediation (Bio) on- and off-property; Sub-Slab Depressurization (SSD) below existing building slab

Remedy Components:
1 Construction contractor mobilization
2 Pilot testing and Install SSD system below existing building floor slabs with bioremediation system
3 Additional assessment, bioremediation pilot testing set-up, perform pilot testing for one year
4 Install 22 shallow air injection (AI), 18 shallow NNS (nitrate/nutrient/surfactant solution), 10 deep AI, and 5 deep recirculation NNS wells
5 Install estimated 3,000 feet of piping
6 Install NNS, AI, and SVE system
7 Construction Management
8 System O&M and groundwater monitoring
9 Engeering controls (surface capping) to limit direct exposure and short-term institutional controls to restrict exposure to soil/remediation efforts

Primary Assumptions
1 2 injection rounds of an estimated 200,000 lbs NNS each round
2 Injections require 1 month to perform
2 SVE installed in horizontal pipes in common trench
4 250 cfm AI, 400 cfm SVE/SSD, 60 gpm NNS system, 20,000 lb carbon consumed
5 Bioremediation System operates for 5 years
6 Groundwater sampling of 10 wells for 10 years (5 years semi-annually, 5 years annually)
7 Institutional controls restricting soil exposure and soil management plan

Remedial Action Component	Units	No. of Units	Unit Cost	Cost	Total Cost
REMEDIAL ACTION					
Mobilization					
Mobilization	est	1	$15,000	$15,000	
					$15,000
Monitoring Well and Geoprobe installation					
Install monitoring wells	each	10	$4,000	$40,000	
Geoprobe borings	est	1	$40,000	$40,000	
Lab and Reporting	est	1	$20,000	$20,000	
					$100,000
Capping (surface capping at unpaved areas)	est	1	$24,000	$24,000	
Site Controls	est	1	$15,000	$15,000	
					$39,000
Pilot testing					
Install wells	each	4	$6,000	$24,000	
Install vertical recirculation well	each	1	$8,000	$8,000	
Testing Labor	month	6	$12,000	$72,000	
Equipment Rental and setup	month	6	$10,000	$60,000	
NNS chemicals	lbs	2,000	$33	$66,800	
Temporary power supply	LS	1	$10,000	$10,000	
Carbon vessels	each	2	$4,000	$8,000	
Install post test borings	LS	1	$10,000	$10,000	
Lab and Reporting	LS	1	$40,000	$40,000	
					$298,800
Bioremediation System					
AI wells	each	32	$3,000	$96,000	
NNS wells	each	18	$4,000	$72,000	
Vertical mixing wells	each	5	$8,000	$40,000	
Submersible pumps and headworks	each	14	$5,000	$70,000	
Trenching and Piping	feet	3,000	$110	$330,000	
Road Bore	LS	1	$40,000	$40,000	
Blowers and Enclosure	LS	1	$160,000	$160,000	
NNS addtion system	LS	1	$70,000	$70,000	
NNS chemicals	lbs	400,000	$3.40	$1,360,000	
NNS addition labor	LS	2	$45,000	$90,000	
Electrical Service	LS	1	$40,000	$40,000	
					$2,368,000
SSD					
Pilot testing	est	1	$16,400	$16,400	
System construction and equipment installation	est	1	$58,000	$58,000	
					$74,400
Decommissioning					
Monitoring Well Decommissioning[1]	each	55	$2,000	$110,000	
					(See NPV)
Subtotal					$2,895,200
Project Management 6%					$173,712
Design and permitting 15%					$434,280
Construction management 10%					$289,520

Remedial Action Component	Units	No. of Units	Unit Cost	Cost	Total Cost
Tax 10%					$379,271
Contingency 25% (EPA 540-R-00-002)					$723,800
Remedial Action Subtotal (Rounded to nearest $10,000)					**$4,900,000**
Monitoring and Maintenance					
Semi-annual groundwater monitoring and sampling (yr 1-5)[1]	yr	5	$10,000	$50,000	
Groundwater monitoring and sampling - annual (yrs 6-10)[1]	yr	5	$5,000	$25,000	
Annual reporting (yr 1)[1]	yr	1	$10,000	$10,000	
Annual reporting (yrs 2-10)[1]	yr	8	$4,000	$32,000	
Bio systems and SSD O&M, electrical, equipment repair	yr	5	$40,000	$200,000	
5 year review report (every 5 yrs)[1]	yr	2	$12,000	$24,000	
Subtotal NPV (see below)					$461,000
Tax 10%					$46,100
Contingency 25% (EPA 540-R-00-002)					$115,250
Monitoring and Maintenance Subtotal (Rounded to nearest $10,000)					**$620,000**
REMEDIAL ACTION ESTIMATED TOTAL (Rounded to nearest $100,000)					**$5,500,000**

[1] Year 1 value shown

	Monitoring	O&M	Carbon	Decom	Reporting	
SUM NPV:	$71,299	$193,566	$38,946	$98,601	$58,363	**$461,000**
Year	**Monitoring**	**O&M**	**Carbon**	**Decom**	**Reporting**	
1	$10,000	$40,000	$14,000	$0	$10,000	
2	$10,000	$40,000	$8,000	$0	$4,000	
3	$10,000	$40,000	$8,000	$0	$4,000	
4	$10,000	$40,000	$6,000	$0	$4,000	
5	$10,000	$40,000	$4,000	$0	$12,000	
6	$5,000	$0	$0	$0	$4,000	
7	$5,000	$0	$0	$0	$4,000	
8	$5,000	$0	$0	$0	$4,000	
9	$5,000	$0	$0	$0	$4,000	
10	$5,000	$0	$0	$110,000	$12,000	

Notes:

Discount rate = 1.1%

OMB Circular No. A-94 (Executive office of the President, office of Management and Budget, and 2013 Discount Rates memo dated 1-24-2013)

Total NPV shown is rounded to nearest $1,000

Creosote/Fuel Oil Area - Alternative 3

In-Situ Chemical Oxidation and Sub-Slab Depressurization

In-Situ Chemical Oxidation (ISCO) using sodium persulfate injections and Sub-slab depressurization (SSD) below existing building slab

Remedy Components:

1. Construction contractor mobilization / injection planning
2. Additional assessment, SSD Pilot testing and system installation below existing building floor slabs with ISCO injections (first round)
3. Injection points roughly on 10 x 12 spacing, 1,000 points total for 3 events
4. Volumes estimates are 18,000, 20,000, and 1,500 cu yds for 0-15, 16 to 35, and 36 to 55 ft bgs
5. Three separate injection events using Regenesis PersulfOx planned approximately 1 year apart
6. Two groundwater sampling events and one Geoprobe sampling event before the second and third injections
7. SSD system consisting of 4 suction pits
8. Engeering controls (surface capping) to limit direct exposure and short-term institutional controls to restrict exposure to soil/remediation efforts

Primary Assumptions

1. Assumes one full ISCO injection event followed by evaluation for effectiveness, assumes three injection events total
2. One year of semi-annual and three years of annual monitoring after last injection
3. Institutional controls restricting soil exposure and soil management plan

Remedial Action Component	Units	No. of Units	Unit Cost	Cost	Total Cost
REMEDIAL ACTION					
Mobilization					
Mobilization	est	1	$50,000	$50,000	
					$50,000
Monitoring Well and Geoprobe installation					
Install monitoring wells	each	10	$4,000	$40,000	
Geoprobe borings	est	1	$60,000	$60,000	
Lab and Reporting	est	1	$20,000	$20,000	
					$120,000
Capping (surface capping at unpaved areas)	est	1	$24,000	$24,000	
Site Controls	est	1	$15,000	$15,000	
					$39,000
ISCO Pilot testing					
Well installation	each	3	$4,000	$12,000	
Injection Rig	day	3	$3,500	$10,500	
Chemical cost	lbs	2.25	$7,500	$16,875	
Lab and Reporting	est	1	$20,000	$20,000	
Water and miscellaneous cost	est	1	$2,000	$2,000	
					$61,375
ISCO (per event)					
Injection Rig	day	70	$3,500	$245,000	
Chemical cost	lbs	2.25	$565,000	$1,271,250	
Supply water, IDW disposal, and miscellaneous	est	1	$20,000	$20,000	
Total per event				$1,536,250	
Total for 3 events					$4,608,750
Two post injection Geoprobe investigations					
Geoprobe	est	2	$10,000	$20,000	
Lab and Reporting	est	2	$20,000	$40,000	
					$60,000
SSD					
Pilot testing	est	1	$16,400	$16,400	
System construction and equipment installation	est	1	$58,000	$58,000	
					$58,000
Decommissioning					
Monitoring Well Decommissioning[1]	each	20	$2,000	$40,000	
					(See NPV)
Subtotal					$4,997,125
Project Management 4%					$199,885
Remedial Design 5%					$249,856
Construction Management 6%					$299,828
Tax 10%					$499,713
Contingency 30% (EPA 540-R-00-002)					$1,499,138
Remedial Action Subtotal (Rounded to nearest $100,000)					**$7,700,000**
Groundwater Monitoring, O&M, and Closure					
Semi-annual groundwater monitoring and sampling (yr 1)[1]	yr	1	$25,000	$25,000	
Groundwater monitoring and sampling - annual (yrs 2-4)[1]	yr	3	$12,000	$36,000	
SSD system O&M, electrical service, equipment repair	yr	3	$25,000	$75,000	
Annual reporting (yr 1)[1]	yr	1	$8,000	$8,000	
Annual reporting (yrs 2-4)[1]	yr	3	$4,000	$12,000	
5 year review report (every 5 yrs)[1]	yr	1	$12,000	$12,000	

Subtotal NPV (see below)		$188,000
Tax	10%	$18,800
Contingency	20%	$37,600
Monitoring and Maintenance Subtotal (Rounded to nearest $10,000)		**$240,000**
REMEDIAL ACTION ESTIMATED TOTAL (Rounded to nearest $100,000)		**$7,900,000**

[1] Year 1 value shown

SUM NPV:	$58,278	$73,380	$37,459	$18,861	**$188,000**
Year	**Monitoring**	**O&M**	**Decommissioning**	**Reporting**	
1	$0	$25,000	$0	$0	
2	$0	$25,000	$0	$0	
3	$25,000	$25,000	$0	$8	
4	$12,000	$0	$0	$4,000	
5	$12,000	$0	$0	$4,000	
6	$12,000	$0	$40,000	$12,000	

Notes:

Discount rate = 1.1%

OMB Circular No. A-94 (Executive office of the President, office of Management and Budget, and 2013 Discount Rates memo dated 1-24-2013)

Total NPV shown is rounded to nearest $1,000

Creosote/Fuel Oil Area - Alternative 4

Soil Removal (on-property) and Bioremediation on- and off-property

Excavation and off-site disposal of contaminated on-property soil to 15 feet bgs and Bioremediation (Bio) on- and off-property

Remedy Components:

1 Construction contractor mobilization
2 Install Monitoring wells and Geoprobes
3 Demolish portions of the main manufacturing building for access to impacted soil for excavation
4 Install sheet-pile shoring to allow for soil excavation
5 Excavation of shallow soils to a depth of 15 feet below grade, hauling and off-site disposal
6 Building demolition, soil excavation, backfill, compaction, slab replacement, and partial building replacement.
7 Install Bioremediation system for deep on-property impacts and shallow and deep off-property impacts
6 Operate Bioremediation System for 5 years
7 Construction Management
8 Short-term institutional controls to restrict exposure to soil/remediation efforts

Primary Assumptions

1 On-property soil excavation is estimated at 31,000 bcy
2 ACM in building is only in roofing
3 Excavation will require 1 year to complete followed by Bioremediation
4 5 feet of clean overburden, 20% of impacted soil requires special disposal
5 125 cfm AI, 200 cfm SVE, 5,000 lb carbon consumed, 30 gpm NNS (described in Alternative 2)
6 Two injections of NNS at 50,000 lbs each
7 Groundwater sampling of 10 wells for 10 years (5 years semi-annually, 5 years annually)
8 Institutional controls restricting soil exposure and soil management plan (off-property)

Remedial Action Component	Units	No. of Units	Unit Cost	Cost	Total Cost
REMEDIAL ACTION					
Mobilization					
Mobilization	LS	1	$50,000	$50,000	
					$50,000
Monitoring Well and Geoprobe installation					
Install monitoring wells	each	10	$4,000	$40,000	
Install Geoprobes	est	1	$40,000	$40,000	
Lab and Reporting	est	1	$20,000	$20,000	
					$100,000
Site Controls / Institutional Controls (off-property)	est	1	$20,000	$20,000	
					$20,000
Excavation					
Demolish building	est	1	$1,050,000	$1,050,000	
Building disposal	sq ft	65,000	$2.50	$162,500	
Well abandonment	ea	5	$2,000	$10,000	
Shoring installation	sq ft	35,000	$75	$2,625,000	
Dewatering system	est	1	$100,000	$100,000	
Relocation of utilities in excavation area	est	1	$200,000	$200,000	
Excavation	bcy	31,000	$6	$186,000	
Disposal 5 to 15 feet regular waste	ton	23,147	$55	$1,273,067	
Disposal 5 to 15 feet persistent waste	ton	5,787	$400	$2,314,667	
Place and compact clean overburden	bcy	10,332	$5	$51,662	
Provide, place, and compact clean fill	bcy	20,667	$25	$516,667	
					$8,489,562
Bio Pilot testing					
Install wells	each	4	$6,000	$24,000	
Install vertical recirculation well	each	1	$8,000	$8,000	
Testing Labor	month	6	$12,000	$72,000	
Equipment Rental and setup	month	6	$10,000	$60,000	
NNS chemicals	lbs	2,000	$33	$66,800	
Temporary power supply	LS	1	$10,000	$10,000	
Carbon vessels	each	2	$4,000	$8,000	
Install post test borings	LS	1	$10,000	$10,000	
Lab and Reporting	LS	1	$40,000	$40,000	
					$298,800
Bioremediation System					
AI wells	each	14	$3,000	$42,000	
NNS wells	each	4	$4,000	$16,000	
Vertical mixing wells	each	4	$8,000	$32,000	
Submersible pumps and headworks	each	6	$5,000	$30,000	
Trenching and Piping	feet	1,500	$110	$165,000	
Road Bore	LS	1	$40,000	$40,000	
Blowers and Enclosure	LS	1	$110,000	$110,000	
NNS addtion system	LS	1	$50,000	$50,000	
NNS chemicals	lbs	100,000	$3.40	$340,000	
NNS addition labor	LS	2	$30,000	$60,000	
Electrical Service	LS	1	$40,000	$40,000	
					$925,000

Remedial Action Component	Units	No. of Units	Unit Cost	Cost	Total Cost
Decommissioning					
Monitoring Well Decommissioning[1]	each	30	$2,000	$60,000	(See NPV)
Subtotal					$9,883,362
Project Management 6%					$593,002
Design and permitting 10%					$988,336
Construction management 8%					$790,669
Taxes 10%					$988,336
Contingency 25%					$2,470,840
Remedial Action Subtotal (Rounded to nearest $10,000)					**$15,710,000**
Monitoring and Maintenance					
Semi-annual groundwater monitoring and sampling (yr 1-5)[1]	yr	5	$10,000	$50,000	
Groundwater monitoring and sampling - annual (yrs 6-10)[1]	yr	5	$5,000	$25,000	
Annual reporting (year 1-2)[1]	yr	2	$10,000	$20,000	
Annual reporting (yrs 3 - 10)[1]	yr	8	$4,000	$32,000	
Bio systems O&M, electrical, equipment repair	yr	5	$32,000	$160,000	
5 year review report (every 5 yrs)[1]	yr	2	$12,000	$24,000	
Subtotal NPV (see below)					$350,000
Taxes 10%					$35,000
Contingency 20%					$70,000
Monitoring and Maintenance Subtotal (Rounded to nearest $10,000)					**$460,000**
REMEDIAL ACTION ESTIMATED TOTAL (Rounded to nearest $100,000)					**$16,200,000**

[1] Year 1 value shown

SUM NPV:	$70,523	$153,168	$9,827	$53,197	$63,534	**$350,000**
Year	**Monitoring**	**O&M**	**Carbon**	**Decom**	**Reporting**	
1	$0	$0	$6,000	$0	$0	
2	$10,000	$32,000	$2,000	$0	$10,000	
3	$10,000	$32,000	$2,000	$0	$10,000	
4	$10,000	$32,000	$0	$0	$4,000	
5	$10,000	$32,000	$0	$0	$4,000	
6	$10,000	$32,000	$0	$0	$12,000	
7	$5,000	$0	$0	$0	$4,000	
8	$5,000	$0	$0	$0	$4,000	
9	$5,000	$0	$0	$0	$4,000	
10	$5,000	$0	$0	$0	$4,000	
11	$5,000	$0	$0	$60,000	$12,000	

Notes:

Discount rate = 1.1%

OMB Circular No. A-94 (Executive office of the President, office of Management and Budget, and 2013 Discount Rates memo dated 1-24-2013)

Total NPV shown is rounded to nearest $1,000

Creosote/Fuel Oil Area - Alternative 5

Thermal Treatment on- and off-property with short-term Sub-Slab Depressurization

Thermal Treatment (TT) using steam-enhanced extraction on- and off-property, short-term Sub-Slab Depressurization (SSD) below existing building floor slab

Remedy Components:
1 Construction contractor mobilization
2 Completing an estimated 50 Geoprobe borings for additional sampling for bench testing of thermal treatment (TT)
3 Contractor bench testing of steam-enhanced extraction (SSE) for TT
4 Install approximately 70 multi depth injection and 35 extraction points for the SSE
5 Install steam plant, piping, treatment facilities, operations trailer
6 Construction Management
7 System O&M and groundwater monitoring
8 Install short-term SSD system below existing building slab for duration of SEE system operation
9 Engeering controls (surface capping) to limit direct exposure and short-term institutional controls to restrict exposure to remediation efforts

Primary Assumptions
1 Treatment volume is 142,000 bcy for SEE
2 Approximately 2100 kw steam input
4 Capacity in existing natural gas line adjacent to the Site
5 Approximately 18 months of SEE design and construction and 6 months SEE system operation
6 Utilities in road are less than 5 feet deep
7 Existing borings and wells to be abandoned to allow for SSE application
8 Semiannual groundwater sampling of 10 wells for 2 years

Remedial Action Component	Units	No. of Units	Unit Cost	Cost	Total Cost
REMEDIAL ACTION					
Mobilization					
SSE contractor mobilization	LS	1	$1,000,000	$1,000,000	
					$1,000,000
Geoprobe installation, well abandonment, bench test					
Install Geoprobes	each	50	$2,500	$125,000	
Well and boring abandonment	each	30	$1,000	$30,000	
Bench Test	est	1	$10,000	$10,000	
Lab and Reporting	est	1	$26,000	$26,000	
					$191,000
Steam-enhanced extraction (SSE) and Sub-Slab Depressurization (SSD)					
Install multidepth injection points	each	70	$20,000	$1,400,000	
Install extraction points	each	35	$8,000	$280,000	
Injection and extraction piping	ft	10000	$125	$1,250,000	
Steam Plant	LS	1	$750,000	$750,000	
SSD Pilot testing	est	1	$16,400	$16,400	
SSD System construction and equipment installation	est	1	$58,000	$58,000	
Utility connection	ls	1	$80,000	$80,000	
Water Treatment system	est	1	$20,000	$20,000	
Discharge permitting	est	1	$15,000	$15,000	
Labor for system operation	month	6	$120,000	$720,000	
Utility cost	month	6	$125,000	$750,000	
Carbon Useage	lbs	100,000	$2.00	$200,000	
Product disposal	tons	10	$400.00	$4,000	
System decommisioning	est	1	$550,000	$550,000	
					$6,093,400
Post remediation monitoring well installation					
Install wells	each	10	$4,000	$40,000	
Lab and reporting	est	1	$30,000	$30,000	
					$70,000
Decommissioning					
Monitoring Well Decommissioning[1]	each	10	$2,000	$20,000	
					(See NPV)
Subtotal					$7,354,400
Project Management 6%					$441,264
Design and permitting 10%					$735,440
Construction management 8%					$588,352
Taxes 10%					$735,440
Contingency 25%					$1,838,600
Remedial Action Subtotal (Rounded to nearest $100,000)					**$11,700,000**
Monitoring and Maintenance					
Semi annual groundwater monitoring and sampling (yr 1-2)[1]	yr	2	$10,000	$20,000	
Annual reporting (yr 1)[1]	yr	1	$6,000	$6,000	
Final Report	yr	1	$12,000	$12,000	
SSD system O&M, electrical service, equipment repair	yr	1	$25,000	$25,000	
Subtotal NPV (see below)					$81,000
Taxes 10%					$8,100

Remedial Action Component		Units	No. of Units	Unit Cost	Cost	Total Cost
Contingency	20%					$16,200
Monitoring and Maintenance Subtotal (Rounded to nearest $10,000)						**$110,000**
REMEDIAL ACTION ESTIMATED TOTAL (Rounded to nearest $100,000)						**$11,800,000**

[1] Year 1 value shown

SUM NPV:	$19,461	$24,728	$19,354	$17,483	**$81,000**
Year	**Monitoring**	**O&M**	**Decom**	**Reporting**	
1	$0	$25,000	$0	$0	
2	$10,000	$0	$0	$6,000	
3	$10,000	$0	$20,000	$12,000	

Notes:

Discount rate = 1.1%

OMB Circular No. A-94 (Executive office of the President, office of Management and Budget, and 2013 Discount Rates memo dated 1-24-2013)

Total NPV shown is rounded to nearest $1,000

Creosote/Fuel Oil Area - Alternative 6

In-Situ Stabilization/Solidification on and off--property, Thermal Treatment off-property

In-Situ Stabilization/Solidification (ISS) targeting shallow on- and off- property and thermal treatment (TT) targeting off-property shallow and deep

Remedy Components:

1. Construction contractor mobilization
2. Completing and estimated 50 geoprobe boring for additional sampling for bench testing of thermal treatment and ISS mixtures
3. Bench testing for ISS and TT
4. Demolish portions of the main manufacturing building for access to impacted soil for ISS
5. Perform soil stabilization on-property to approximately 50 feet bgs
6. Install approximately 25 multidepth injection and 12 extraction points off-property to a depth of 50 feet bgs for TT
7. Install steam plant, piping, treatment facilites, operations trailer
8. System O&M and groundwater monitoring
9. Construction Management
10. Short-term institutional controls to restrict exposure to remediation efforts

Primary Assumptions

1. Approximately 95,000 bcy treated by ISS
2. Approximately 46,000 bcy treated by SEE
3. ACM in building is only in roofing
4. 2150 kw steam input
5. Capacity in exisitng natural gas line adjacent to the Site
6. Approximately 8 months design and construction, 6 months operation for SEE
7. Utilities in road are less than 5 feet deep
8. Existing borings and wells to be abandon to allow for SSE application
9. Short-term controls to restrict exposure to remediation efforts
10. Semiannual groundwater sampling of 10 wells for 2 years

Remedial Action Component	Units	No. of Units	Unit Cost	Cost	Total Cost
REMEDIAL ACTION					
Mobilization					
SSE contractor mobilization	LS	1	$600,000	$600,000	
					$600,000
Geoprobe installation, well abandonment, bench test					
Install Geoprobes	each	50	$2,500	$125,000	
Well and boring abandonment	each	20	$1,000	$20,000	
Bench Tests	LS	1	$20,000	$20,000	
Lab and Reporting	LS	1	$26,000	$26,000	
					$191,000
Short-term Institutional Controls	each	1	$25,000	$25,000	
					$25,000
ISS					
Demolish building	est	1	$1,050,000	$1,050,000	
Building disposal	sq ft	65,000	$2.50	$162,500	
ISS	bcy	95,000	$70	$6,650,000	
Relocation of utilities in excavation area	est	1	$200,000	$200,000	
					$7,862,500
SEE					
Install wells	each	100	$4,000	$400,000	
Injection and extraction piping	ft	4500	$100	$450,000	
Steam Plant	LS	1	$500,000	$500,000	
Utility connection	ls	1	$80,000	$80,000	
Water Treatment system	LS	1	$20,000	$20,000	
Discharge permitting	LS	1	$15,000	$15,000	
Labor for system operation	month	6	$100,000	$600,000	
Utility cost	month	6	$40,000	$240,000	
Carbon Useage	lbs	30,000	$2.00	$60,000	
Product disposal	tons	3	$400.00	$1,200	
System decommisioning	LS	1	$240,000	$240,000	
					$2,606,200
Post remediation monitoring well installation					
Install wells	each	10	$4,000	$40,000	
Lab and reporting	LS	1	$30,000	$30,000	
					$70,000
Decommissioning					
Monitoring Well Decommissioning[1]	each	10	$2,000	$20,000	
					(See NPV)
Subtotal					$11,354,700

Remedial Action Component		Units	No. of Units	Unit Cost	Cost	Total Cost
Project Management	6%					$681,282
Design and permitting	10%					$1,135,470
Construction management	8%					$908,376
Taxes	10%					$1,135,470
Contingency	25%					$2,838,675
Remedial Action Subtotal (Rounded to nearest $10,000)						**$18,050,000**
Monitoring and Maintenance						
Semi annual groundwater monitoring and sampling (yr 1-2)[1]		yr	2	$10,000	$20,000	
Annual reporting (yr 1)[1]		yr	1	$6,000	$6,000	
Final Report		yr	1	$12,000	$12,000	
Subtotal NPV (see below)						$56,000
Taxes	10%					$5,600
Contingency	20%					$11,200
Monitoring and Maintenance Subtotal (Rounded to nearest $10,000)						**$70,000**
REMEDIAL ACTION ESTIMATED TOTAL (Rounded to nearest $100,000)						**$18,100,000**

[1] Year 1 value shown

Year	**Monitoring**	**O&M**	**Carbon**	**Decom**	**Reporting**	
SUM NPV:	$19,461	$0	$0	$19,354	$17,483	**$56,000**
1	$0	$0	$0	$0	$0	
2	$10,000	$0	$0	$0	$6,000	
3	$10,000	$0	$0	$20,000	$12,000	

Notes:

Discount rate = 1.1%

OMB Circular No. A-94 (Executive office of the President, office of Management and Budget, and 2013 Discount Rates memo dated 1-24-2013)

Total NPV shown is rounded to nearest $1,000

Creosote/Fuel Oil Area - Alternative 7

Hotspot Soil Removal (on-property) and Bioremediation on- and off-property

Excavation and off-site disposal of contaminated on-property soil to 9 feet bgs and Bioremediation (Bio) on- and off-property

Remedy Components:

1. Construction contractor mobilization
2. Install Monitoring wells and Geoprobes
3. Perform Bio pilot testing on property
4. Demolish portions of the main manufacturing building for access to impacted soil for excavation
5. Install sheet-pile shoring or (other methods) to allow for soil excavation
6. Excavation of shallow soils to a depth of 9 feet below grade, hauling and off-site disposal
7. Building demolition, soil excavation, backfill, compaction, slab replacement, and partial building replacement.
8. Install Bioremediation system for deep on-property impacts and shallow and deep off-property impacts
9. Operate Bioremediation System for 5 years
10. Construction Management
11. Short-term institutional controls to restrict exposure to soil/remediation efforts

Primary Assumptions

1. On-property soil excavation is estimated at 12,000 bcy (approximately 350ft x 100ft, by 9 feet depth)
2. Building removal 20 feet back from excavation retangle for access (36,000 square feet)
3. Additional assessment, bioremediation pilot testing set-up, perform pilot testing for one year
4. ACM in building is only in roofing
5. Building demolition, shoring installation, excavation, backfilling, and partial building replacement will require 1 year to complete followed by Bioremediation
6. 3 feet of clean overburden, 10% of impacted soil requires special disposal
7. 150 cfm AI, 240 cfm SVE, 10,000 lb carbon consumed, 40 gpm NNS (described in Alternative 2)
8. Two injections of NNS at 125,000 lbs each
9. Groundwater sampling of 10 wells for 10 years (5 years semi-annually, 5 years annually)
10. Institutional controls restricting soil exposure and soil management plan (off-property)

Remedial Action Component	Units	No. of Units	Unit Cost	Cost	Total Cost
REMEDIAL ACTION					
Mobilization					
Mobilization	est	1	$50,000	$50,000	
					$50,000
Monitoring Well and Geoprobe installation					
Install monitoring wells	each	10	$4,000	$40,000	
Install Geoprobes	est	1	$40,000	$40,000	
Lab and Reporting	est	1	$20,000	$20,000	
					$100,000
Site Controls / Institutional Controls (off-property)	est	1	$20,000	$20,000	
					$20,000
Excavation					
Demolish building	est	1	$921,000	$921,000	
Building disposal	sq ft	39,200	$2.50	$98,000	
Well abandonment	ea	3	$2,000	$6,000	
Shoring installation	ln ft	1,950	$350	$682,500	
Dewatering system	est	1	$100,000	$100,000	
Relocation of utilities in excavation area	est	1	$200,000	$200,000	
Excavation	bcy	12,000	$6	$72,000	
Disposal 3 to 9 feet regular waste (90%)	ton	10,080	$55	$554,400	
Disposal 3 to 9 feet persistent waste (10%)	ton	1,120	$400	$448,000	
Place and compact clean overburden	bcy	4,000	$5	$19,998	
Provide, place, and compact clean fill	bcy	8,000	$25	$200,000	
					$3,301,898
Bio Pilot testing					
Install wells	each	4	$6,000	$24,000	
Install vertical recirculation well	each	1	$8,000	$8,000	
Testing Labor	month	6	$12,000	$72,000	
Equipment Rental and setup	month	6	$10,000	$60,000	
NNS chemicals	lbs	2,000	$33	$66,800	
Temporary power supply	LS	1	$10,000	$10,000	
Carbon vessels	each	2	$4,000	$8,000	
Install post test borings	LS	1	$10,000	$10,000	
Lab and Reporting	LS	1	$40,000	$40,000	
					$298,800

Remedial Action Component		Units	No. of Units	Unit Cost	Cost	Total Cost
Bioremediation System						
AI wells		each	19	$3,000	$57,000	
NNS wells		each	9	$4,000	$36,000	
Vertical mixing wells		each	5	$8,000	$40,000	
Submersible pumps and headworks		each	10	$5,000	$50,000	
Trenching and Piping		feet	2,000	$110	$220,000	
Road Bore		LS	1	$40,000	$40,000	
Blowers and Enclosure		LS	1	$130,000	$130,000	
NNS addtion system		LS	1	$60,000	$60,000	
NNS chemicals		lbs	250,000	$3.40	$850,000	
NNS addition labor		LS	2	$35,000	$70,000	
Electrical Service		LS	1	$40,000	$40,000	
						$1,593,000
Decommissioning						
Monitoring Well Decommissioning[1]		each	42	$2,000	$84,000	
						(See NPV)
Subtotal						$5,363,698
Project Management	6%					$321,822
Design and permitting	10%					$536,370
Construction management	8%					$429,096
Taxes	10%					$536,370
Contingency	25%					$1,340,925
Remedial Action Subtotal (Rounded to nearest $10,000)						**$8,530,000**
Monitoring and Maintenance						
Semi-annual groundwater monitoring and sampling (yr 1-5)[1]		yr	5	$10,000	$50,000	
Groundwater monitoring and sampling - annual (yrs 6-10)[1]		yr	5	$5,000	$25,000	
Annual reporting (year 1-2)[1]		yr	2	$10,000	$20,000	
Annual reporting (yrs 3 - 10)[1]		yr	8	$4,000	$32,000	
Bio systems O&M, electrical, equipment repair		yr	5	$32,000	$160,000	
5 year review report (every 5 yrs)[1]		yr	2	$12,000	$24,000	
Subtotal NPV (see below)						$381,000
Taxes	10%					$38,100
Contingency	20%					$76,200
Monitoring and Maintenance Subtotal (Rounded to nearest $10,000)						**$500,000**
REMEDIAL ACTION ESTIMATED TOTAL (Rounded to nearest $100,000)						**$9,000,000**

[1] Year 1 value shown

SUM NPV:	$70,523	$153,168	$19,377	$74,476	$63,534	**$381,000**
Year	**Monitoring**	**O&M**	**Carbon**	**Decom**	**Reporting**	
1	$0	$0	$2,000	$0	$0	
2	$10,000	$32,000	$6,000	$0	$10,000	
3	$10,000	$32,000	$6,000	$0	$10,000	
4	$10,000	$32,000	$4,000	$0	$4,000	
5	$10,000	$32,000	$2,000	$0	$4,000	
6	$10,000	$32,000	$0	$0	$12,000	
7	$5,000	$0	$0	$0	$4,000	
8	$5,000	$0	$0	$0	$4,000	
9	$5,000	$0	$0	$0	$4,000	
10	$5,000	$0	$0	$0	$4,000	
11	$5,000	$0	$0	$84,000	$12,000	

Notes:

Discount rate = 1.1%

OMB Circular No. A-94 (Executive office of the President, office of Management and Budget, and 2013 Discount Rates memo dated 1-24-2013)

Total NPV shown is rounded to nearest $1,000

Woodlife Area - Alternative 1

Engineering Controls, Institutional Controls, an Long-Term Groundwater Monitoring

Engineering Controls (EC) consisting of surface pavement, Institutional Controls (IC), Long-Term Monitoring to confirm groundwater plume stability

Remedy Components:

1 Pavement Inspection
2 Install and Repair Pavement
3 Install Monitoring Wells
4 Groundwater monitoring for 20 years to confirm plume stability
5 Engeering controls (surface capping) to limit direct exposure and Institutional controls to restrict exposure to soil

Primary Assumptions

1 Area is primarily paved, inspections will be completed to comfirm pavement is in satisfactory condition
2 Installation of four additional groundwater monitoring wells
3 Groundwater sampling of 6 wells for 20 years (2 years semiannually, 18 years annually)
4 Institutional controls restricting soil exposure and soil management plan

Remedial Action Component	Units	No. of Units	Unit Cost	Cost	Total Cost
REMEDIAL ACTION					
Asphalt Pavement					
Pavement	sf	3,000	$3.78	$11,340	
Inspections	each	20	$1,000	$20,000	
					$31,340
Surveying					
Cap area for I.C. and monitoring wells	estimate	1	$2,000	$2,000	
					$2,000
Monitoring Well installation					
Install monitoring wells	each	4	$4,000	$16,000	
Lab and Reporting	est	1	$20,000	$20,000	
					$36,000
Decommissioning					
Monitoring Well Decommissioning[1]	each	6	$2,000	$12,000	
					(See NPV)
Institutional Controls	each	1	$25,000	$25,000	
					$25,000
Subtotal					$94,340
Project Management 6%					$5,660
Design and permitting 5%					$4,717
Construction management 8%					$7,547
Taxes 10%					$9,434
Contingency 15% (EPA 540-R-00-002)					$14,151
Remedial Action Subtotal (Rounded to nearest $10,000)					**$140,000**
Monitoring and Maintenance					
Semiannual groundwater monitoring and sampling (yr 1-2)[1]	yr	2	$10,000	$20,000	
Groundwater monitoring and sampling - annual (yrs 3-20)[1]	yr	18	$5,000	$90,000	
Annual reporting (year 1-2)[1]	yr	2	$10,000	$20,000	
Annual reporting (yrs 3 - 20)[1]	yr	18	$4,000	$72,000	
5 year review report (every 5 yrs)[1]	yr	4	$12,000	$48,000	
Subtotal NPV (see below)					$213,000
Taxes 10%					$21,300
Contingency 20%					$42,600
Monitoring and Maintenance Subtotal (Rounded to nearest $10,000)					**$280,000**
REMEDIAL ACTION ESTIMATED TOTAL (Rounded to nearest $10,000)					**$420,000**

[1] Year 1 value shown

Remedial Action Component	Units	No. of Units	Unit Cost	Cost	Total Cost

SUM NPV:	$99,163	$0	$0	$9,642	$104,343	**$213,000**
Year	**Monitoring**	**O&M**	**Carbon**	**Decom**	**Reporting**	
1	$10,000	$0	$0	$0	$10,000	
2	$10,000	$0	$0	$0	$10,000	
3	$5,000	$0	$0	$0	$4,000	
4	$5,000	$0	$0	$0	$4,000	
5	$5,000	$0	$0	$0	$4,000	
6	$5,000	$0	$0	$0	$12,000	
7	$5,000	$0	$0	$0	$4,000	
8	$5,000	$0	$0	$0	$4,000	
9	$5,000	$0	$0	$0	$4,000	
10	$5,000	$0	$0	$0	$4,000	
11	$5,000	$0	$0	$0	$4,000	
12	$5,000	$0	$0	$0	$12,000	
13	$5,000	$0	$0	$0	$4,000	
14	$5,000	$0	$0	$0	$4,000	
15	$5,000	$0	$0	$0	$4,000	
16	$5,000	$0	$0	$0	$4,000	
17	$5,000	$0	$0	$0	$4,000	
18	$5,000	$0	$0	$0	$12,000	
19	$5,000	$0	$0	$0	$4,000	
20	$5,000	$0	$0	$12,000	$4,000	

Notes:

Discount rate = 1.1%

OMB Circular No. A-94 (Executive office of the President, office of Management and Budget, and 2013 Discount Rates memo dated 1-24-2013)

Total NPV shown is rounded to nearest $1,000

Woodlife Area - Alternative 2

Soil Removal

Soil Removal, confirmation sampling, and post removal groundwater monitoring

Remedy Components:

1. Excavation contractor mobilization
2. Install wall supports for building stability during soil excavation
3. Excavation of shallow soils to an estimated depth of 7 feet with disposal
4. Backfill and building repair
5. Construction management and oversight
6. Monitoring well installation
7. Short-term site controls during excavation

Primary Assumptions

1. Soil excavation is 6,900 bcy (estimate)
2. Proposed soil excavation is limited to 7 feet bgs based on sampling completed
3. Limited clean overburden soil, not used for backfill source
4. Soil waste can be disposed as special waste at an approved landfill
5. Groundwater sampling of 6 wells for 4 years (semi-annual sampling) following removal
6. Short-term site controls during remedial action

Remedial Action Component	Units	No. of Units	Unit Cost	Cost	Total Cost
REMEDIAL ACTION					
Remedial action contractor					
Mobilization	each	1	$10,000	$10,000	
Sediment and erosion control	L.S.	1	$2,000	$2,000	
Building wall support for excavation under building (estimate)	lf	170	$500	$85,000	
Pavement Removal	sy	2,955	$5.40	$15,957	
Excavation	bcy	6,900	$4.00	$27,600	
Excavated soil hauling and landfill disposal	tons	7,728	$55	$425,040	
Provide, place, and compact clean fill	bcy	6,900	$20	$138,000	
					$703,597
Excavation Dewatering					
Equipment (Baker tanks, bag filter unit, pump, tank cleanup)	month	2	$10,000	$20,000	
Activated carbon drums and disposal	est	1	$8,000	$8,000	
Discharge permits / monitoring	est	1	$5,000	$5,000	
					$33,000
Soil Confirmation Testing					
Sample Collection/Field Oversight	day	20	$1,200	$24,000	
Dioxins/Furans analytical testing	each	30	$750	$22,500	
					$46,500
Asphalt Pavement					
Pavement	sf	26,600	$3.78	$100,548	
Replant unpaved area (grass seed)	estimate	1	$500	$500	
					$101,048
Surveying					
Cap area / monitoring wells	estimate	1	$2,000	$2,000	
					$2,000
Monitoring Well installation					
Install monitoring wells	each	4	$4,000	$16,000	
Lab and Reporting	LS	1	$20,000	$20,000	
					$36,000
Decommissioning					
Monitoring Well Decommissioning[1]	each	6	$2,000	$12,000	
					(See NPV)
Short-term Site Controls	est	1	$10,000	$10,000	
					$10,000
Subtotal					$932,145

Project Management	6%		$55,929
Design and permitting	10%		$93,215
Construction management	8%		$74,572
Taxes	10%		$93,215
Contingency	30%	(EPA 540-R-00-002)	$279,644
Remedial Action Subtotal (Rounded to nearest $10,000)			**$1,530,000**

Remedial Action Component	Units	No. of Units	Unit Cost	Cost	Total Cost
Monitoring and Maintenance					
Semiannual groundwater monitoring and sampling (yr 1-4)[1]	yr	4	$10,000	$40,000	
Groundwater monitoring and sampling - annual (yrs 5-10)[1]	yr	0	$5,000	$0	
Annual reporting (year 1-4)[1]	yr	4	$10,000	$40,000	
Annual reporting (yrs 4-10)[1]	yr	0	$4,000	$0	
O&M	yr	0	$0	$0	
5 year review report (every 5 yrs)[1]	yr	0	$12,000	$0	
Subtotal NPV (see below)					$89,000
Taxes 10%					$8,900
Contingency 20%					$17,800
Monitoring and Maintenance Subtotal (Rounded to nearest $10,000)					**$120,000**
REMEDIAL ACTION ESTIMATED TOTAL (Rounded to nearest $100,000)					**$1,700,000**

[1] Year 1 value shown

SUM NPV:	$38,924	$0	$0	$11,486	$38,924	**$89,000**
Year	**Monitoring**	**O&M**		**Decom**	**Reporting**	
1	$10,000	$0		$0	$10,000	
2	$10,000	$0		$0	$10,000	
3	$10,000	$0		$0	$10,000	
4	$10,000	$0		$12,000	$10,000	
5	$0	$0		$0	$0	
6	$0	$0		$0	$0	
7	$0	$0		$0	$0	
8	$0	$0		$0	$0	
9	$0	$0		$0	$0	
10	$0	$0		$0	$0	
11	$0	$0		$0	$0	
12	$0	$0		$0	$0	

Notes:

Discount rate = 1.1%

OMB Circular No. A-94 (Executive office of the President, office of Management and Budget, and 2013 Discount Rates memo dated 1-24-2013)

Total NPV shown is rounded to nearest $1,000

APPENDIX N

SUMMARY OF MARINE FS COSTS

Description: Contains a summary of the cost assumptions and the detailed cost estimates used to conduct the DCA.

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ANCHOR QEA

Memorandum

March 30, 2021

To: Nathan Soccorsy, Anchor QEA

From: Jason Cornetta, Anchor QEA

cc: Scott Miller, SLR

Re: Updated Summary of Cost Assumptions Used in the 2020 JELD-WEN, Inc. Former Nord Door Facility Feasibility Study

This memorandum summarizes the unit cost and volume assumptions used to estimate quantities and costs for the seven remedial alternatives (M1, M2, M3, M4, M5, M6, and M7) evaluated in the 2020 Draft Final Feasibility Study for the JELD-WEN, Inc. Former Nord Door Facility, in Everett, Washington. The assumptions presented herein are based on recent similar sediment remediation project experience and contractor bids for Puget Sound projects. They include equipment usage, production rates, limitations of intertidal construction conditions, and best professional judgement.

Basis for Unit Costs and Assumptions

Table N-1 provides a summary of unit costs used to develop cost estimates for the seven remedial alternatives, along with assumptions for the major construction components and indirect construction costs. Comments regarding the source or basis for these assumptions are also included.

Excavation of intertidal sediment, capping, and backfill placement costs generally assume relatively uninhibited site access from the uplands. Equipment and production rate assumptions are generally consistent with those typically achieved during similar sediment remediation projects in Puget Sound, recognizing the constraints of shallow water, limited tide cycles for work to be performed in the dry, and equipment access on soft, saturated intertidal sediments. The actual production rates that can be achieved are dependent on the selected remediation contractor’s equipment, experience, and means and methods, as well as site conditions encountered during construction.

Because the remedial areas are accessible to land-based equipment during low tide, unit costs generally assume that work can be performed in the dry with land-based construction equipment during low tide windows. Access using marine equipment is limited by the shallow water depths and was assumed to be infeasible. Where excavation or demolition activities are adjacent to steeper upland slopes, it is assumed that some degree of temporary shoring will be necessary to facilitate safe removal of structures and sediment. Where dredge cuts are deeper than 4 feet (Alternatives M6 and M7) it is assumed that some removal work will require excavation dewatering.

Sediment Excavation/Dredging and Material Placement Assumptions

In addition to the unit cost assumptions summarized in Table N-1, the total cost of each remedial alternative will be a function of the area of remediation and/or volume of material addressed. Table N-2 presents the assumptions used to develop the excavation volumes and material placement quantities for each of the seven remedial alternative cost estimates.

Disposal and Beneficial Reuse Assumptions

Disposal assumptions do not consider adjacent upland areas on the site, or any beneficial reuse capacity that may be associated with those areas. The upland capacity and regulatory requirements for suitability of excavated intertidal sediments to be used as backfill in upland excavations will be further evaluated during remedial design. While preliminary evaluations indicate that the upland area adjacent to the site could provide capacity for beneficial reuse opportunities, the disposal assumption used in this Feasibility Study is that excavated intertidal sediments would be sent off site for disposal in an upland Subtitle D landfill.

The Snohomish River has been identified as a potential source of beneficial reuse backfill, cap, and cover materials; however, the availability and quantity of Snohomish River beneficial reuse material is currently unknown. Further evaluation of this potential source is required during remedial design. In general, the costs for the various EMNR, capping, and backfill materials is highly dependent on location of the source and availability. For the purposes of this Feasibility Study, costs for these materials assume that a locally available source or sources, with sufficient quantities, exists at the time of construction.

Indirect Costs

To estimate indirect construction costs associated with construction monitoring/management activities, estimated production rates for the primary construction activities were used to determine construction durations. These construction durations were used in conjunction with monthly unit costs and best professional judgement, to estimate the major indirect construction costs for the seven remedial alternatives. Indirect construction costs included in these estimates are as follows:

- Predesign investigation
- Project management
- Engineering design and support during construction
- Permitting
- Construction management
- Environmental monitoring during construction
- Verification sampling
- Institutional controls
- Long-term monitoring and maintenance of the selected alternative

No habitat mitigation costs are included in the Feasibility Study cost estimates. Any requirements for mitigation will be determined during the remedial design. Table N-1 provides a summary of unit cost assumptions for the major indirect costs.

Contingency Assumptions

In addition to the above assumptions, it is appropriate to apply a contingency to direct construction costs, reflecting the conceptual nature of the potential remedial alternatives and to account for changes in scope because remedial options are more completely defined during predesign investigations and remedial design. For purposes of estimating remedial costs, a contingency of 30% will be applied to the direct construction costs. No contingency is applied to indirect construction costs.

Total Alternative Costs

Total alternative costs are summarized in Table N-3. Alternative costs are the sum of direct construction costs and indirect construction costs.

Detailed Alternative Costs

Detailed alternative costs are summarized in Tables N-4 through N-10. Detailed alternative costs included the assumptions and calculated quantities associated with each of the seven alternatives.

Table N-1
Unit Cost Assumptions

Element	Unit Cost	Unit	Source and/or Comment
DIRECT CONSTRUCTION COSTS			
Mobilization	$200,000	Construction Season	Typical Puget Sound project experience. Multi-season projects will incur higher mobilization cost. Using a percentage of total construction costs would result in overestimate of true mobilization costs for the higher cost alternatives.
Demobilization	$100,000	Lump Sum	Typical Puget Sound project experience. Applied as a one-time cost at the end of the project.
Removal of piling and large woody debris	$250	Each	Based on recent project experience.
Processing, Transportation and disposal of creosote debris	$225	Ton	Based on recent project experience.
Prepare upland staging for dredged sediments	$150,000	Lump Sum	Based on recent project experience.
Prepare upland staging (no dredging)	$80,000	Lump Sum	Based on recent project experience.
Demolition of remnant barge structure	$30,000	Lump Sum	Based on recent project experience.
Demolition of bulkhead structures	$200,000	Lump Sum	Lump sum cost includes $95,000 for demolition and shoring estimate of $300/linear foot (350 linear feet). Below-grade extent of structures is unknown. Protection of utilities at top of slope is required. No available geotechnical data.
Shoreline protection at top of bank (hard armor)	$100	Linear Foot	Based on recent project experience for placing filter and armor layers on shoreline slopes. Armor size would be determined during remedial design.
Enhanced Monitored Natural Recovery			
Procure and transport beneficial reuse silty sand material	$15	Ton	Based on recent project experience, highly dependent on locally available sources at the time of construction. Assumes locally available source.
Place 12-inch-thick silty sand material	$30	Ton	Based on equipment and production rates for similar placement methods from recent project experience assuming low tide work on soft intertidal subgrades.
Dredge and Disposal			
Dredging: Land-based equipment	$35	Cubic yard	Based on equipment and production rates for similar excavation methods from recent

Table N-1
Unit Cost Assumptions

Element	Unit Cost	Unit	Source and/or Comment
			project experience assuming low tide work on soft intertidal subgrades.
Dredging: Slope shoring and protection of utilities/road	$500	Linear Foot	Higher per linear foot cost for excavation shoring and protection of utilities. No geotechnical data available.
Excavation dewatering	$80,000	Lump Sum	Based on best professional judgement. Areas with removal depths greater than 4 feet are assumed to require some dewatering to achieve design depths. It is assumed that water from excavation dewatering can be managed with the dredge material stockpile dewatering system and that excavation water would be pumped to this system; additional capacity may be required.
Sediment stockpiling	$5	Cubic yard	Based on recent project experience.
Dredge material stockpile dewatering and treatment	$12,500	Monthly	Equipment and labor costs for basic water management during sediment stockpile dewatering. Additional capacity and treatment requirements would be determined during remedial design.
Placing removed material as upland beneficial reuse material	$10	Cubic yard	Cost retained but no quantities included in the current estimates.
Dredged Material Transport and Disposal, Subtitle D	$83	Ton	Based on recent project experience.
Engineered Cap and Backfill			
Purchase and transport backfill material	$15	Ton	Based on recent project experience, highly dependent on locally available sources at the time of construction.
Place backfill material	$15	Ton	Based on equipment and production rates for similar placement methods from recent project experience assuming low tide work on soft intertidal subgrades.
Purchase and transport engineered cap material	$15	Ton	Based on recent project experience, highly dependent on locally available sources at the time of construction.
Place engineered cap material	$30	Ton	Based on equipment and production rates for similar placement methods from recent project experience assuming low tide work on soft intertidal subgrades.

Table N-1
Unit Cost Assumptions

Element	Unit Cost	Unit	Source and/or Comment
Environmental controls	$100,000	Each	Best professional judgement. One lump sum amount for capping and one lump sum amount for dredging. Assumes deployment of turbidity curtain around active construction areas as needed to control turbidity.
Bathymetric surveys and/or topographic surveys	$10,000	Each	Based on recent project experience. Surveys assumed to be bathymetric, topographic, or a combination of the two. Number of surveys based on components of each alternative including: • Pre- and post-construction • EMNR (1 to 3 separate areas or sub-SMAs) • Capping (3 layers for 3 separate areas or sub-SMAs) • Dredging and backfill (1 to 3 separate areas or sub-SMAs)
INDIRECT CONSTRUCTION COSTS			
Predesign investigation	$200,000	Lump Sum	Best professional judgement.
Project management	$42,100	Month	Assumes 1 staff level engineer full time, 1 principal engineer part time (60 hrs.), and 1 project assistant part time (60 hrs.).
Engineering and design	$208,000 (Alt. 2) to $1,720,000 (Alt. 8)	Lump Sum	Assumes engineering and design costs are approximately 5% of the direct construction costs.
Permitting	$100,000	Lump Sum	Best professional judgement.
Construction management support	$44,800	Month	Assumes 1 staff level engineer full time and 1 principal engineer part time (80 hrs.).
Environmental monitoring during construction	$34,400	Month	Assumes 1 staff level engineer full time and 1 principal engineer part time (40 hrs.).
Verification sampling	$10,000	Acre	Verification sampling only applied to dredged areas. Any additional sediment sample collection in nondredge areas would be included in the predesign investigation sampling.
Institutional controls	$16,500	Acre	Based on 2019 Snohomish County assessed value.

Table N-1
Unit Cost Assumptions

Element	Unit Cost	Unit	Source and/or Comment
Long-term monitoring	- $399,360 (Alt. M1) - $581,160 (Alts. M2, M3, M4) - $471,960 (Alt. M5) - $371,520 (Alt. M6) - No long-term monitoring included for Alt. M7)	Lump Sum	Assumes 6 monitoring events in years 1, 3, 5, 10, 15, and 30. Based on recent project experience, costs for each alternative include: - Physical Integrity monitoring: $10,000 per event (caps only) - EMNR/MNR sediment quality monitoring: $1,600/acre each event - Engineered cap sediment quality monitoring: $6,600/acre each event - Cap maintenance and repair: $2,000/acre

Table N-2
Area and Volume Assumptions

Element	Assumption	Source and/or Comment
Conversion between tons and cubic yards, sediment and sand	1.5 tons per cubic yard	Typical assumption for silty and sandy sediments (EMNR material, and backfill material)
EMNR cover thickness	6-inch-thick sand layer	Nominal 6-inch-thick layer with a 6-inch over-placement tolerance
Engineered cap thickness	2-foot-thick layer	Volume increased by 0.5 foot for losses and over-placement tolerance
Backfill	Varies	Equal to dredge volume
Dredging neat line thickness	Varies	Assumed overall average; volume increased by 2% scaling factor based on recent USEPA and USACE guidance
Dredging over-depth allowance thickness	0.25 foot	No scaling factor applied

Table N-3
Summary of Alternative Costs

Task	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative7
Mobilization and Demobilization	$ 300,000	$ 300,000	$ 300,000	$ 500,000	$ 500,000	$ 500,000	$ 900,000
Site Preparation	$ 1,040,000	$ 1,040,000	$ 1,110,000	$ 1,110,000	$ 1,110,000	$ 1,110,000	$ 1,110,000
Enhanced Natural Recovery	$ -	$ 599,638	$ 599,638	$ 599,638	$ 561,523	$ 599,638	$ -
Dredging and Disposal	$ -	$ -	$ 1,828,438	$ 2,476,164	$ 3,949,980	$ 4,485,198	$ 17,776,576
Engineered Cap/Backfill	$ -	$ 795,582	$ 795,582	$ 795,582	$ 1,015,686	$ 1,096,686	$ 4,653,374
Environmental Controls	$ -	$ 100,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 100,000
Bathymetric Surveys	$ 20,000	$ 140,000	$ 180,000	$ 200,000	$ 200,000	$ 200,000	$ 90,000
Subtotal Construction Costs	**$ 1,360,000**	**$ 2,975,220**	**$ 5,013,659**	**$ 5,881,385**	**$ 7,537,189**	**$ 8,191,523**	**$ 24,629,950**
Construction Contingency & WSST	**$ 537,200**	**$ 1,175,212**	**$ 1,980,395**	**$ 2,323,147**	**$ 2,977,190**	**$ 3,235,652**	**$ 9,728,830**
Total Construction Cost	$ 1,897,200	$ 4,150,433	$ 6,994,054	$ 8,204,532	$ 10,514,379	$ 11,427,175	$ 34,358,780
Pre-Design Sampling	$ -	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000
Project Management	$ 97,802	$ 97,802	$ 239,723	$ 276,824	$ 313,115	$ 324,003	$ 794,544
Engineering and Design	$ 94,860	$ 207,522	$ 349,703	$ 410,227	$ 525,719	$ 571,359	$ 1,717,939
Permitting	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000
Construction Management Support	$ 104,074	$ 210,921	$ 255,098	$ 294,577	$ 333,196	$ 344,782	$ 845,501
Environmental Monitoring During Construction	$ 79,914	$ 161,958	$ 195,878	$ 226,193	$ 255,847	$ 264,743	$ 649,224
Verification Sampling	$ -	$ -	$ 25,000	$ 29,000	$ 25,000	$ 29,000	$ 166,000
Institutional Controls	$ -	$ 47,850	$ 47,850	$ 47,850	$ 7,755	$ -	$ -
Long-Term Monitoring	$ 399,360	$ 581,160	$ 581,160	$ 581,160	$ 471,960	$ 371,520	$ -
Habitat Mitigation Costs							
Total Non-Construction Cost	**$ 876,009**	**$ 1,707,620**	**$ 1,994,412**	**$ 2,165,831**	**$ 2,232,592**	**$ 2,205,407**	**$ 4,473,208**
Total Cost	**$ 2,773,209**	**$ 5,858,053**	**$ 8,988,466**	**$ 10,370,363**	**$ 12,746,971**	**$ 13,632,582**	**$ 38,831,988**

Table N-4

Alternative M1 Cost Estimate

Technology/Construction Task Element	Unit Price	Unit	Quantity	Total Cost
Direct Construction Costs				
Mobilization and Demobilization				
Mobilization	$ 200,000	Season	1	$ 200,000
Demobilization	$ 100,000	LS	1	$ 100,000
Site Preparation				
Removal of Piling and Large Woody Debris	$ 250	EA	200	$ 50,000
Processing, Transportation and Disposal of Woody Debris	$ 225	TON	2000	$ 450,000
Prepare upland staging for dredged sediments	$ 150,000	CY	0	$ -
Prepare upland staging (no dredging)	$ 80,000	LS	1	$ 80,000
Demolition of Remnant Barge Structure	$ 30,000	LS	1	$ 30,000
Demolition of Bulkhead Structure	$ 200,000	LS	1	$ 200,000
Shoreline protection at top of bank	$ 100	LF	2300	$ 230,000
Enhanced Monitored Natural Recovery				
Procure and Transport Beneficial Reuse Silty Sand Material	$ 15	TON	0	$ -
Place 12-inch thick Silty Sand Material	$ 30	TON	0	$ -
Dredge and Disposal				
Dredging - Land Based Equipment	$ 35	CY	0	$ -
Dredging - Slope shoring and protection of utilities/road	$ 500	LF	0	$ -
Dredging - Excavation Dewatering	$ 80,000	LS	0	$ -
Sediment stockpiling	$ 5	CY	0	$ -
Dredge material dewatering and treatment	$ 12,500	Monthly	0	$ -
Placing Upland Beneficial Reuse Material	$ 10	CY	0	$ -
Dredged Material Transport and Disposal - Subtitle D	$ 83	TON	0	$ -
Backfill and Engineered Cap				
Purchase and Transport Backfill Material	$ 15	TON	0	$ -
Place Backfill Material	$ 15	TON	0	$ -
Purchase & Transport Engineered Cap Material	$ 15	TON	0	$ -
Place Engineered Cap Material	$ 30	TON	0	$ -
Environmental Controls	$ 100,000	LS	0	$ -
Bathymetric/Topographic Surveys	$ 10,000	LS	2	$ 20,000
Subtotal Direct Construction Costs				$ 1,360,000
Contingency	30%	Percent		$ 408,000
WSST	9.5%	Percent		$ 129,200
Total Direct Construction Cost				$ 1,897,200
Indirect Construction Costs				
Pre-design sampling	$ 200,000	LS	0	$ -
Project Management	$ 42,100	Monthly	2.3	$ 97,802
Engineering and Design	$ 94,860	LS	1	$ 94,860
Permitting	$ 100,000	LS	1	$ 100,000
Construction Management Support	$ 44,800	Monthly	2.3	$ 104,074
Environmental Monitoring During Construction	$ 34,400	Monthly	2.3	$ 79,914
Verification Sampling	$ 10,000	LS	0	$ -
Institutional Controls	$ 16,500	Acre	0	$ -
Long Term Monitoring	$ 399,360	LS	1	$ 399,360
Total Indirect Construction Costs				$ 876,009

Table N-4
Alternative M1 Cost Estimate

Grand Total Cost (Total Direct + Total Indirect)				**$ 2,773,209**
Construction Duration	**Daily Rate**	**Quantity**	**Unit**	**Months**
Removal of Piling and Large Woody Debris	10	100	Ea	0.5
Demolition	1	22	Ea	1.0
Prepare upland staging for dredged sediments	1	3	Ea	0.1
Rip rap armored shoreline	150	2300	LF	0.7
Place 12-inch thick Silty Sand Material	600	0	TONS	0
Temporary Shoring	40	0	LF	0
Dredging - Land Based Equipment	500	0	CY	0
Place Backfill Material	1200	0	TONS	0
Place Engineered Cap Material	600	0	Tons	0
Total Duration				2.3

Notes:
LF: Linear Foot
CY: Cubic yard
Ea: Each
LS: Lump sum

These estimates are developed using current and generally accepted engineering cost estimation methods. Note that these estimates are based on assumptions concerning future events and actual costs may be affected by known and unknown risks including, but not limited to, changes in general economic and business conditions, site conditions that were unknown to Anchor QEA, LLC at the time the estimates were performed, future changes in site conditions, regulatory or enforcement policy changes, and delays in performance. Actual costs may vary from these estimates and such variations may be material. Anchor QEA, LLC is not licensed as accountants or securities attorneys and, therefore, make no representations that these costs form an appropriate basis for complying with financial reporting requirements for such costs.

Table N-5
Alternative M2 Cost Estimate

Technology/Construction Task Element	Unit Price	Unit	Quantity	Total Cost
Direct Construction Costs				
Mobilization and Demobilization				
Mobilization	$ 200,000	Season	1	$ 200,000
Demobilization	$ 100,000	LS	1	$ 100,000
Site Preparation				
Removal of Piling and Large Woody Debris	$ 250	EA	200	$ 50,000
Processing, Transportation and Disposal of Woody Debris	$ 225	TON	2000	$ 450,000
Prepare upland staging for dredged sediments	$ 150,000	CY	0	$ -
Prepare upland staging (no dredging)	$ 80,000	LS	1	$ 80,000
Demolition of Remnant Barge Structure	$ 30,000	LS	1	$ 30,000
Demolition of Bulkhead Structure	$ 200,000	LS	1	$ 200,000
Shoreline protection at top of bank	$ 100	LF	2300	$ 230,000
Enhanced Monitored Natural Recovery				
Procure and Transport Beneficial Reuse Silty Sand Material	$ 15	TON	13325	$ 199,879
Place 12-inch thick Silty Sand Material	$ 30	TON	13325	$ 399,759
Dredge and Disposal				
Dredging - Land Based Equipment	$ 35	CY	0	$ -
Dredging - Slope shoring and protection of utilities/road	$ 500	LF	0	$ -
Dredging - Excavation Dewatering	$ 80,000	LS	0	$ -
Sediment stockpiling	$ 5	CY	0	$ -
Dredge material dewatering and treatment	$ 12,500	Monthly	0	$ -
Placing Upland Beneficial Reuse Material	$ 10	CY	0	$ -
Dredged Material Transport and Disposal - Subtitle D	$ 83	TON	0	$ -
Backfill and Engineered Cap				
Purchase and Transport Backfill Material	$ 15	TON	0	$ -
Place Backfill Material	$ 15	TON	0	$ -
Purchase & Transport Engineered Cap Material	$ 15	TON	17680	$ 265,194
Place Engineered Cap Material	$ 30	TON	17680	$ 530,388
Environmental Controls	$ 100,000	LS	1	$ 100,000
Bathymetric/Topographic Surveys	$ 10,000	LS	14	$ 140,000
Subtotal Direct Construction Costs				$ 2,975,220
Contingency	30%	Percent		$ 892,566
WSST	9.5%	Percent		$ 282,646
Total Direct Construction Cost				$ 4,150,433
Indirect Construction Costs				
Pre-design sampling	$ 200,000	LS	1	$ 200,000.00
Project Management	$ 42,100	Monthly	4.7	$ 198,210
Engineering and Design	$ 207,522	LS	1	$ 207,522
Permitting	$ 100,000	LS	1	$ 100,000
Construction Management Support	$ 44,800	Monthly	4.7	$ 210,921
Environmental Monitoring During Construction	$ 34,400	Monthly	4.7	$ 161,958
Verification Sampling	$ 10,000	LS	0	$ -
Institutional Controls	$ 16,500	Acre	2.9	$ 47,850
Long Term Monitoring	$ 581,160	LS	1	$ 581,160
Total Indirect Construction Costs				$ 1,707,620

Table N-5
Alternative M2 Cost Estimate

Grand Total Cost (Total Direct + Total Indirect)				**$ 5,858,053**
	Daily Rate	**Quantity**	**Unit**	**Months**
Removal of Piling and Large Woody Debris	10	100	Ea	0.5
Demolition	1	22	Ea	1.0
Prepare upland staging for dredged sediments	1	3	Ea	0.1
Rip rap armored shoreline	150	2300	LF	0.7
Place 12-inch thick Silty Sand Material	600	13325.29838	TONS	1.0
Temporary Shoring	40	0	LF	0
Dredging - Land Based Equipment	500	0	CY	0
Place Backfill Material	1200	0	TONS	0
Place Engineered Cap Material	600	17680	Tons	1.4
Total Duration				4.7

Notes:

LF: Linear Foot

CY: Cubic yard

Ea: Each

LS: Lump sum

These estimates are developed using current and generally accepted engineering cost estimation methods. Note that these estimates are based on assumptions concerning future events and actual costs may be affected by known and unknown risks including, but not limited to, changes in general economic and business conditions, site conditions that were unknown to Anchor QEA, LLC at the time the estimates were performed, future changes in site conditions, regulatory or enforcement policy changes, and delays in performance. Actual costs may vary from these estimates and such variations may be material. Anchor QEA, LLC is not licensed as accountants or securities attorneys and, therefore, make no representations that these costs form an appropriate basis for complying with financial reporting requirements for such costs.

Table N-6

Alternative M3 Cost Estimate

Technology/Construction Task Element	Unit Price	Unit	Quantity	Total Cost
Direct Construction Costs				
Mobilization and Demobilization				
Mobilization	$ 200,000	Season	1	$ 200,000
Demobilization	$ 100,000	LS	1	$ 100,000
Site Preparation				
Removal of Piling and Large Woody Debris	$ 250	EA	200	$ 50,000
Processing, Transportation and Disposal of Woody Debris	$ 225	TON	2000	$ 450,000
Prepare upland staging for dredged sediments	$ 150,000	CY	1	$ 150,000
Prepare upland staging (no dredging)	$ 80,000	LS	0	$ -
Demolition of Remnant Barge Structure	$ 30,000	LS	1	$ 30,000
Demolition of Bulkhead Structure	$ 200,000	LS	1	$ 200,000
Shoreline protection at top of bank	$ 100	LF	2300	$ 230,000
Enhanced Monitored Natural Recovery				
Procure and Transport Beneficial Reuse Silty Sand Material	$ 15	TON	13325	$ 199,879
Place 12-inch thick Silty Sand Material	$ 30	TON	13325	$ 399,759
Dredge and Disposal				
Dredging - Land Based Equipment	$ 35	CY	10,682	$ 373,885
Dredging - Slope shoring and protection of utilities/road	$ 500	LF	0	$ -
Dredging - Excavation Dewatering	$ 80,000	LS	0	$ -
Sediment stockpiling	$ 5	CY	10,682	$ 53,412
Dredge material dewatering and treatment	$ 12,500	Monthly	5.7	$ 71,177
Placing Upland Beneficial Reuse Material	$ 10	CY	0	$ -
Dredged Material Transport and Disposal - Subtitle D	$ 83	TON	16,024	$ 1,329,964
Backfill and Engineered Cap				
Purchase and Transport Backfill Material	$ 15	TON	0	$ -
Place Backfill Material	$ 15	TON	0	$ -
Purchase & Transport Engineered Cap Material	$ 15	TON	17680	$ 265,194
Place Engineered Cap Material	$ 30	TON	17680	$ 530,388
Environmental Controls	$ 100,000	LS	2	$ 200,000.00
Bathymetric/Topographic Surveys	$ 10,000	LS	18	$ 180,000
Subtotal Direct Construction Costs				$ 5,013,659
Contingency	30%	Percent		$ 1,504,098
WSST	9.5%	Percent		$ 476,298
Total Direct Construction Cost				$ 6,994,054
Indirect Construction Costs				
Pre-design sampling	$ 200,000	LS	1	$ 200,000
Project Management	$ 42,100	Monthly	5.7	$ 239,723
Engineering and Design	$ 349,703	LS	1	$ 349,703
Permitting	$ 100,000	LS	1	$ 100,000
Construction Management Support	$ 44,800	Monthly	5.7	$ 255,098
Environmental Monitoring During Construction	$ 34,400	Monthly	5.7	$ 195,878
Verification Sampling	$ 10,000	LS	2.5	$ 25,000.0
Institutional Controls	$ 16,500	Acre	2.9	$ 47,850
Long Term Monitoring	$ 581,160	LS	1	$ 581,160
Total Indirect Construction Costs				$ 1,994,412

Table N-6
Alternative M3 Cost Estimate

Grand Total Cost (Total Direct + Total Indirect)				**$ 8,988,466**
Construction Duration	**Daily Rate**	**Quantity**	**Unit**	**Months**
Removal of Piling and Large Woody Debris	10	100	Ea	0.5
Demolition	1	22	Ea	1.0
Prepare upland staging for dredged sediments	1	3	Ea	0.1
Rip rap armored shoreline	150	2300	LF	0.7
Place 12-inch thick Silty Sand Material	600	13325.29838	TONS	1
Temporary Shoring	40	0	LF	0
Dredging - Land Based Equipment	500	10,682	CY	1
Place Backfill Material	1200	0	TONS	0
Place Engineered Cap Material	600	17680	Tons	1.4
Total Duration				5.7

Notes:

LF: Linear Foot

CY: Cubic yard

Ea: Each

LS: Lump sum

These estimates are developed using current and generally accepted engineering cost estimation methods. Note that these estimates are based on assumptions concerning future events and actual costs may be affected by known and unknown risks including, but not limited to, changes in general economic and business conditions, site conditions that were unknown to Anchor QEA, LLC at the time the estimates were performed, future changes in site conditions, regulatory or enforcement policy changes, and delays in performance. Actual costs may vary from these estimates and such variations may be material. Anchor QEA, LLC is not licensed as accountants or securities attorneys and, therefore, make no representations that these costs form an appropriate basis for complying with financial reporting requirements for such costs.

Table N-7

Alternative M4 Cost Estimate

Technology/Construction Task Element	Unit Price	Unit	Quantity	Total Cost
Direct Construction Costs				
Mobilization and Demobilization				
Mobilization	$ 200,000	Season	2	$ 400,000
Demobilization	$ 100,000	LS	1	$ 100,000
Site Preparation				
Removal of Piling and Large Woody Debris	$ 250	EA	200	$ 50,000
Processing, Transportation and Disposal of Woody Debris	$ 225	TON	2000	$ 450,000
Prepare upland staging for dredged sediments	$ 150,000	LS	1	$ 150,000
Prepare upland staging creosote debris processing	$ 80,000	LS	0	$ -
Demolition of Remnant Barge Structure	$ 30,000	LS	1	$ 30,000
Demolition of Bulkhead Structure	$ 200,000	LS	1	$ 200,000
Shoreline protection at top of bank	$ 100	LF	2300	$ 230,000
Enhanced Monitored Natural Recovery				
Procure and Transport Beneficial Reuse Silty Sand Material	$ 15	TON	13,325	$ 199,879
Place 12-inch thick Silty Sand Material	$ 30	TON	13,325	$ 399,759
Dredge and Disposal				
Dredging - Land Based Equipment	$ 35	CY	12,729	$ 445,526
Dredging - Slope shoring and protection of utilities/road	$ 500	LF	600	$ 300,000
Dredging - Excavation Dewatering	$ 80,000	LS	0	$ -
Sediment stockpiling	$ 5	CY	12,729	$ 63,647
Dredge material dewatering and treatment	$ 12,500	Monthly	6.6	$ 82,192
Placing Upland Beneficial Reuse Material	$ 10	CY	0	$ -
Dredged Material Transport and Disposal - Subtitle D	$ 83	TON	19,094	$ 1,584,799
Backfill and Engineered Cap				
Purchase and Transport Backfill Material	$ 15	TON	0	$ -
Place Backfill Material	$ 15	TON	0	$ -
Purchase & Transport Engineered Cap Material	$ 15	TON	17,680	$ 265,194
Place Engineered Cap Material	$ 30	TON	17,680	$ 530,388
Environmental Controls	$ 100,000	LS	2	$ 200,000
Bathymetric/Topographic Surveys	$ 10,000	LS	20	$ 200,000
Subtotal Direct Construction Costs				$ 5,881,385
Contingency	30%	Percent		$ 1,764,415
WSST	9.5%	Percent		$ 558,732
Total Direct Construction Cost				$ 8,204,532
Indirect Construction Costs				
Pre-design sampling	$ 200,000	LS	1	$ 200,000
Project Management	$ 42,100	Monthly	6.6	$ 276,824
Engineering and Design	$ 410,227	LS	1	$ 410,227
Permitting	$ 100,000	LS	1	$ 100,000
Construction Management Support	$ 44,800	Monthly	6.6	$ 294,577
Environmental Monitoring During Construction	$ 34,400	Monthly	6.6	$ 226,193
Verification Sampling	$ 10,000	Acre	2.9	$ 29,000
Institutional Controls	$ 16,500	LS	2.9	$ 47,850
Long Term Monitoring	$ 581,160	LS	1	$ 581,160
Total Indirect Construction Costs				$ 2,165,831

Table N-7
Alternative M4 Cost Estimate

Grand Total Cost (Total Direct + Total Indirect)				**$ 10,370,363**
Construction Duration	**Daily Rate**	**Quantity**	**Unit**	**Months**
Removal of Piling and Large Woody Debris	10	100	Ea	0.5
Demolition	1	22	Ea	1.0
Prepare upland staging for dredged sediments	1	3	Ea	0.1
Rip rap armored shoreline	150	2300	LF	0.7
Place 12-inch thick Silty Sand Material	600	13,325	TONS	1.0
Temporary Shoring	40	600	LF	0.7
Dredging - Land Based Equipment	500	12,729	CY	1.2
Place Backfill Material	1200	0	Tons	0
Place Engineered Cap Material	600	17,680	Tons	1.4
Total Duration				6.6

Notes:

LF: Linear Foot

CY: Cubic yard

Ea: Each

LS: Lump sum

These estimates are developed using current and generally accepted engineering cost estimation methods. Note that these estimates are based on assumptions concerning future events and actual costs may be affected by known and unknown risks including, but not limited to, changes in general economic and business conditions, site conditions that were unknown to Anchor QEA, LLC at the time the estimates were performed, future changes in site conditions, regulatory or enforcement policy changes, and delays in performance. Actual costs may vary from these estimates and such variations may be material. Anchor QEA, LLC is not licensed as accountants or securities attorneys and, therefore, make no representations that these costs form an appropriate basis for complying with financial reporting requirements for such costs.

Table N-8

Alternative M5 Cost Estimate

Technology/Construction Task Element	Unit Price	Unit	Quantity	Total Cost
Direct Construction Costs				
Mobilization and Demobilization				
Mobilization	$ 200,000	Season	2	$ 400,000
Demobilization	$ 100,000	LS	1	$ 100,000
Site Preparation				
Removal of Piling and Large Woody Debris	$ 250	EA	200	$ 50,000
Processing, Transportation and Disposal of Woody Debris	$ 225	TON	2000	$ 450,000
Prepare upland staging for dredged sediments	$ 150,000	LS	1	$ 150,000
Prepare upland staging creosote debris processing	$ 80,000	LS	0	$ -
Demolition of Remnant Barge Structure	$ 30,000	LS	1	$ 30,000
Demolition of Bulkhead Structure	$ 200,000	LS	1	$ 200,000
Shoreline protection at top of bank	$ 100	LF	2300	$ 230,000
Enhanced Monitored Natural Recovery				
Procure and Transport Beneficial Reuse Silty Sand Material	$ 15	TON	12,478	$ 187,174
Place 12-inch thick Silty Sand Material	$ 30	TON	12,478	$ 374,349
Dredge and Disposal				
Dredging - Land Based Equipment	$ 35	CY	21,623	$ 756,811
Dredging - Slope shoring and protection of utilities/road	$ 500	LF	600	$ 300,000
Dredging - Excavation Dewatering	$ 80,000	LS	0	$ -
Sediment stockpiling	$ 5	CY	21,623	$ 108,116
Dredge material dewatering and treatment	$ 12,500	Monthly	7.4	$ 92,968
Placing Upland Beneficial Reuse Material	$ 10	CY	0	$ -
Dredged Material Transport and Disposal - Subtitle D	$ 83	TON	32,435	$ 2,692,085
Backfill and Engineered Cap				
Purchase and Transport Backfill Material	$ 15	TON	29,592	$ 443,878
Place Backfill Material	$ 15	TON	29,592	$ 443,878
Purchase & Transport Engineered Cap Material	$ 15	TON	2,843	$ 42,643
Place Engineered Cap Material	$ 30	TON	2,843	$ 85,286
Environmental Controls	$ 100,000	LS	2	$ 200,000
Bathymetric/Topographic Surveys	$ 10,000	LS	20	$ 200,000
Subtotal Direct Construction Costs				$ 7,537,189
Contingency	30%	Percent		$ 2,261,157
WSST	9.5%	Percent		$ 716,033
Total Direct Construction Cost				$ 10,514,379
Indirect Construction Costs				
Pre-design sampling	$ 200,000	LS	1	$ 200,000
Project Management	$ 42,100	Monthly	7.4	$ 313,115
Engineering and Design	$ 525,719	LS	1	$ 525,719
Permitting	$ 100,000	LS	1	$ 100,000
Construction Management Support	$ 44,800	Monthly	7.4	$ 333,196
Environmental Monitoring During Construction	$ 34,400	Monthly	7.4	$ 255,847
Verification Sampling	$ 10,000	Acre	2.5	$ 25,000
Institutional Controls	$ 16,500	LS	0.47	$ 7,755
Long Term Monitoring	$ 471,960	LS	1	$ 471,960
Total Indirect Construction Costs				$ 2,232,592

Table N-8
Alternative M5 Cost Estimate

Grand Total Cost (Total Direct + Total Indirect)				**$ 12,746,971**
Construction Duration	**Daily Rate**	**Quantity**	**Unit**	**Months**
Removal of Piling and Large Woody Debris	10	100	Ea	0.5
Demolition	1	22	Ea	1.0
Prepare upland staging for dredged sediments	1	3	Ea	0.1
Rip rap armored shoreline	150	2300	LF	0.7
Place 12-inch thick Silty Sand Material	600	12,478	TONS	1.0
Temporary Shoring	40	600	LF	0.7
Dredging - Land Based Equipment	500	21,623	CY	2.0
Place Backfill Material	1200	32,435	Tons	1.2
Place Engineered Cap Material	600	2,843	Tons	0.2
Total Duration				7.4

Notes:

LF: Linear Foot

CY: Cubic yard

Ea: Each

LS: Lump sum

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Table N-9

Alternative M6 Cost Estimate

Technology/Construction Task Element	Unit Price	Unit	Quantity	Total Cost
Direct Construction Costs				
Mobilization and Demobilization				
Mobilization	$ 200,000	Season	2	$ 400,000
Demobilization	$ 100,000	LS	1	$ 100,000
Site Preparation				
Removal of Piling and Large Woody Debris	$ 250	EA	200	$ 50,000
Processing, Transportation and Disposal of Woody Debris	$ 225	TON	2000	$ 450,000
Prepare upland staging for dredged sediments	$ 150,000	LS	1	$ 150,000
Prepare upland staging creosote debris processing	$ 80,000	LS	0	$ -
Demolition of Remnant Barge Structure	$ 30,000	LS	1	$ 30,000
Demolition of Bulkhead Structure	$ 200,000	LS	1	$ 200,000
Shoreline protection at top of bank	$ 100	LF	2300	$ 230,000
Enhanced Monitored Natural Recovery				
Procure and Transport Beneficial Reuse Silty Sand Material	$ 15	TON	13,325	$ 199,879
Place 12-inch thick Silty Sand Material	$ 30	TON	13,325	$ 399,759
Dredge and Disposal				
Dredging - Land Based Equipment	$ 35	CY	24,371	$ 852,978
Dredging - Slope shoring and protection of utilities/road	$ 500	LF	600	$ 300,000
Dredging - Excavation Dewatering	$ 80,000	LS	1	$ 80,000
Sediment stockpiling	$ 5	CY	24,371	$ 121,854
Dredge material dewatering and treatment	$ 12,500	Monthly	8	$ 96,200
Placing Upland Beneficial Reuse Material	$ 10	CY	0	$ -
Dredged Material Transport and Disposal - Subtitle D	$ 83	TON	36,556	$ 3,034,166
Backfill and Engineered Cap				
Purchase and Transport Backfill Material	$ 15	TON	36,556	$ 548,343
Place Backfill Material	$ 15	TON	36,556	$ 548,343
Purchase & Transport Engineered Cap Material	$ 15	TON	0	$ -
Place Engineered Cap Material	$ 30	TON	0	$ -
Environmental Controls	$ 100,000	LS	2	$ 200,000
Bathymetric/Topographic Surveys	$ 10,000	LS	20	$ 200,000
Subtotal Direct Construction Costs				$ 8,191,523
Contingency	30%	Percent		$ 2,457,457
WSST	9.5%	Percent		$ 778,195
Total Direct Construction Cost				$ 11,427,175
Indirect Construction Costs				
Pre-design sampling	$ 200,000	LS	1	$ 200,000
Project Management	$ 42,100	Monthly	7.70	$ 324,003
Engineering and Design	$ 571,359	LS	1	$ 571,359
Permitting	$ 100,000	LS	1	$ 100,000
Construction Management Support	$ 44,800	Monthly	7.70	$ 344,782
Environmental Monitoring During Construction	$ 34,400	Monthly	7.70	$ 264,743
Verification Sampling	$ 10,000	Acre	2.9	$ 29,000
Institutional Controls	$ 16,500	LS	0	$ -
Long Term Monitoring	$ 371,520	LS	1	$ 371,520
Total Indirect Construction Costs				$ 2,205,407

Table N-9
Alternative M6 Cost Estimate

Grand Total Cost (Total Direct + Total Indirect)				**$ 13,632,582**
Construction Duration	**Daily Rate**	**Quantity**	**Unit**	**Months**
Removal of Piling and Large Woody Debris	10	100	Ea	0.5
Demolition	1	22	Ea	1.0
Prepare upland staging for dredged sediments	1	3	Ea	0.1
Rip rap armored shoreline	150	2300	LF	0.7
Place 12-inch thick Silty Sand Material	600	13,325	TONS	1.0
Temporary Shoring	40	600	LF	0.7
Dredging - Land Based Equipment	500	24,371	CY	2.2
Place Backfill Material	1200	36556.21258	Tons	1.4
Place Engineered Cap Material	600	0	Tons	0.0
Total Duration				7.7

Notes:

LF: Linear Foot

CY: Cubic yard

Ea: Each

LS: Lump sum

These estimates are developed using current and generally accepted engineering cost estimation methods. Note that these estimates are based on assumptions concerning future events and actual costs may be affected by known and unknown risks including, but not limited to, changes in general economic and business conditions, site conditions that were unknown to Anchor QEA, LLC at the time the estimates were performed, future changes in site conditions, regulatory or enforcement policy changes, and delays in performance. Actual costs may vary from these estimates and such variations may be material. Anchor QEA, LLC is not licensed as accountants or securities attorneys and, therefore, make no representations that these costs form an appropriate basis for complying with financial reporting requirements for such costs.

Table N-10
Alternative M7 Cost Estimate

Technology/Construction Task Element	Unit Price	Unit	Quantity	Total Cost
Direct Construction Costs				
Mobilization and Demobilization				
Mobilization	$ 200,000	Season	4	$ 800,000
Demobilization	$ 100,000	LS	1	$ 100,000
Site Preparation				
Removal of Piling and Large Woody Debris	$ 250	EA	200	$ 50,000
Processing, Transportation and Disposal of Woody Debris	$ 225	TON	2000	$ 450,000
Prepare upland staging for dredged sediments	$ 150,000	LS	1	$ 150,000
Prepare upland staging creosote debris processing	$ 80,000	LS	0	$ -
Demolition of Remnant Barge Structure	$ 30,000	LS	1	$ 30,000
Demolition of Bulkhead Structure	$ 200,000	LS	1	$ 200,000
Shoreline protection at top of bank	$ 100	LF	2300	$ 230,000
Enhanced Monitored Natural Recovery				
Procure and Transport Beneficial Reuse Silty Sand Material	$ 15	TON	0	$ -
Place 12-inch thick Silty Sand Material	$ 30	TON	0	$ -
Dredge and Disposal				
Dredging - Land Based Equipment	$ 35	CY	103,408	$ 3,619,291
Dredging - Slope shoring and protection of utilities/road	$ 500	LF	900	$ 450,000
Dredging - Excavation Dewatering	$ 80,000	LS	1	$ 80,000
Sediment stockpiling	$ 5	CY	103,408	$ 517,042
Dredge material dewatering and treatment	$ 12,500	Monthly	19	$ 235,910
Placing Upland Beneficial Reuse Material	$ 10	CY	0	$ -
Dredged Material Transport and Disposal - Subtitle D	$ 83	TON	155,112	$ 12,874,334
Backfill and Engineered Cap				
Purchase and Transport Backfill Material	$ 15	TON	155,112	$ 2,326,687
Place Backfill Material	$ 15	TON	155,112	$ 2,326,687
Purchase & Transport Engineered Cap Material	$ 15	TON	0	$ -
Place Engineered Cap Material	$ 30	TON	0	$ -
Environmental Controls	$ 100,000	LS	1	$ 100,000
Bathymetric/Topographic Surveys	$ 10,000	LS	9	$ 90,000
Subtotal Direct Construction Costs				$ 24,629,950
Contingency	30%	Percent		$ 7,388,985
WSST	9.5%	Percent		$ 2,339,845
Total Direct Construction Cost				$ 34,358,780
Indirect Construction Costs				
Pre-design sampling	$ 200,000	LS	1	$ 200,000
Project Management	$ 42,100	Monthly	18.9	$ 794,544
Engineering and Design	$ 1,717,939	LS	1	$ 1,717,939
Permitting	$ 100,000	Acre	1	$ 100,000
Construction Management Support	$ 44,800	Monthly	18.9	$ 845,501
Environmental Monitoring During Construction	$ 34,400	Monthly	18.9	$ 649,224
Verification Sampling	$ 10,000	Acre	16.6	$ 166,000
Institutional Controls	$ 16,500	LS	0	$ -
Long Term Monitoring	$ -	LS	1	$ -
Total Indirect Construction Costs				$ 4,473,208

Table N-10

Alternative M7 Cost Estimate

Grand Total Cost (Total Direct + Total Indirect)				**$ 38,831,988**
Construction Duration	**Daily Rate**	**Quantity**	**Unit**	**Months**
Removal of Piling and Large Woody Debris	10	100	Ea	0.5
Demolition	1	22	Ea	1.0
Prepare upland staging for dredged sediments	1	3	Ea	0.1
Rip rap armored shoreline	150	2300	LF	0.7
Place 12-inch thick Silty Sand Material	600	0	TONS	0.0
Temporary Shoring	40	900	LF	1.0
Dredging - Land Based Equipment	500	103,408	CY	9.5
Place Backfill Material	1200	155112	Tons	6.0
Place Engineered Cap Material	600	0	CY	0.0
Total Duration				18.9

Notes:

LF: Linear Foot

CY: Cubic yard

Ea: Each

LS: Lump sum

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APPENDIX O

CORRESPONDENCE WITH ECOLOGY

Description: Contains the Ecology comment documents and associated JELD-WEN comment response documents for the previously submitted draft versions of the RI/FS that used in the development of the final RI/FS document.

June 19, 2020; Ecology email with Comments on the 2020 Revised Draft RI/FS and Attachments for Ecology Recommended Alternatives.

From: Alam, Mahbub (ECY) <MALA461@ECY.WA.GOV>
Sent: June 19, 2020 5:23 PM
To: Dwayne Arino (Darino@jeldwen.com)
Cc: R. Scott Miller; Nathan Soccorsy; Edwards, Susannah (ECY); Adolphson, Peter (ECY)
Subject: Ecology Comments on 2020 Revised Draft Remedial Investigation/Feasibility Study [Site Name: JELD-WEN, Inc.; FSID: 2757]
Attachments: EcologyCommentsJW-RIFS20200619.pdf; DRAFT_T10.1-1_Creosote Area DCA_EcyEdited.xlsx; DRAFT_Appendix M_Creosote Area Remediation Costs_EcyEdited.xlsx; Pages from Attachments_ 06-07-2017-email response to DraftRIFS discussion.pdf; 5. Table 10.2-1_May_2020_EcyEdited.xlsx; 7. Tables N.3 through N.12_JELD WEN Cost Estimates_May_2020_EcyEdited.xlsx; DRAFT 2020 Revised RIFS Report_Jeld Wen Former Nord Door Facility_043020_EcyEdits&Comments.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Re: Site Name: JELD-WEN, Inc.; FSID: 2757

Hi, Dwayne:
Attached find Ecology's comments on the 2020 revised draft RI/FS for the JELD-WEN site (FSID: 2757).
Ecology appreciates JELD-WEN's efforts that went into production of the 2020 revised draft document. It appears Ecology and JELD-WEN has some differences in the recommended cleanup technology for both upland and marine cleanup. Along with this comment submittal, Ecology has proposed recommended alternatives for both upland and marine areas that we believe are most permanent to the extent practicable. These alternatives do not employ new technology but they have been tweaked from the alternatives submitted by JELD-WEN in the RI/FS document. JELD-WEN will revise the RI/FS document based on Ecology recommended alternatives.
The following attachments are provided with this email.

1. Technical memo describing Ecology Comments on the RI/FS document (pdf file)
2. Ecology edited upland creosote/fuel oil impact area DCA matrix and analysis (excel file)
3. Ecology edited upland creosote/fuel oil impact area cost estimate (excel file)
4. Cross-section of creosote/fuel oil area showing mass removal (pdf file)
5. Ecology edited marine area DCA matrix and analysis (excel file)
6. Ecology edited marine area cost estimate (excel file)
7. Redline RI/FS text document showing Ecology edits and comments (pdf file)

Agreed Order provides 15 days for comment incorporation. As such, a Draft Final version of the RI/FS document incorporating all comments is due to Ecology on July 06, 2020. However, given these are substantive comments, Ecology will consider a longer time for comment incorporation. JELD-WEN will request for any time extension for comment incorporation by Friday, June 26.

Ecology is available to meet on teleconference, if there are any questions or concerns. Let me know as soon as possible, if you would like a meeting.
Thank you for your continued cooperation on this project.

Sincerely,

Mahbub Alam, PhD, PE
Environmental Engineer, Toxics Cleanup Program
Department of Ecology
PO Box 47600, Olympia, WA 98504-7600

DEPARTMENT OF ECOLOGY

Toxics Cleanup Program

TO: Dwayne Arino, P.E., JELD-WEN, Inc.

FROM: Mahbub Alam, PhD, PE, Cleanup Project Manager

DATE: June 19, 2020

SUBJECT: Ecology Comments on 2020 Revised Draft Remedial Investigation/Feasibility Study
Site Name: JELD-WEN, Inc.; FSID: 2757

Name of Document	2020 Revised Draft Remedial Investigation/Feasibility Study
Date	April 2020
Owner	JELD-WEN, Inc.
Prepared By	SLR International Corporation and Anchor QEA, LLC
Reviewed By	Mahbub Alam, PhD, PE Susannah Edwards

Ecology would like to thank JELD-WEN for submitting the 2020 revised Remedial Investigation/Feasibility Study (RI/FS) on April 30, 2020. Ecology has reviewed the document per the requirements of Model Toxics Control Act (MTCA) regulation 173-340 WAC and Sediment Management Standards (SMS) regulation 173-204 WAC. The following are Ecology's comments.

Upland Section Comments

1. Upland FS Alternatives (Woodlife Area)

For the Woodlife Area contaminated with Dioxins and Furan (D/F), Ecology agrees with the recommended Alternative 2 that proposed to remove most impacted soil. This Alternative will excavate 0 to 5 feet bgs (below ground surface) over an approximately 22,000 square feet area. However, this removal will not result in achieving cleanup level after construction as the precise depth and area of contamination have not been clearly established through RI sampling. For example, at GP-501, the concentration of D/F was 115 ppt at 5 feet (One of the only two 5 feet deep sample). No information beyond 5 feet bgs is available. Remedial design (RD) sampling could be used to limit the area and depth of excavation during design.

In addition, it is not clear why excavation boundary does not include GP-512 area, which measured 114 ppt at 1' depth. This area may be within the Port of Everett (Port) Bay Wood site. Jeld-Wen needs to cleanup the Site contamination regardless of property ownership. Jeld-Wen is encouraged to coordinate with the Port for cleanup in the Area. Note that the Port is conducting an interim action in that area (the Area that received discharge from North Truck Bay Sump) to remove D/F contaminated soil. It would be beneficial to coordinate with Bay Wood's interim action project.

Since some contamination will be left in place and institutional and engineering control including monitored natural attenuation (MNA) will be used, it is necessary to establish a remediation level (REL) for D/F. Confirmation sampling values (side-wall and depth) post-excavation will be compared against the REL. Using the REL approach, it may not be necessary to excavate up to 5 feet in all areas. However, at some locations, depending on the results of confirmation sampling, deeper excavations may be necessary. A REL based on 5X above D/F cleanup level (26 ppt) can be used at this location.

2. Upland FS Alternatives (Creosote/TPH Area)

Ecology does not agree with JELD-WEN's recommended Alternative 2 of *in-situ* bioremediation (ISB) with sub-slab depressurization (SSD) as the most protective and permanent cleanup for the area. As a cleanup technology, ISB involves a great deal of uncertainty and may not work well with free phase products. Ecology believes excavation of contaminated soil and off-site disposal/ex-situ treatment to the extent practicable is the most permanent and protective cleanup for this site. Soil removal with offsite disposal will also be consistent with cleanup of other nearby cleanup sites in the Port Gardner Bay including recent directives with Exxon Mobil and Kimberly Clark Worldwide site.

To move this RI/FS forward, Ecology developed an Alternative, which is a hybrid between Alternative 2 and 4. This new Ecology Alternative 7 will involve excavation of approximately 12,000 cu yard of on-property shallow soil about 9 feet bgs and off-site disposal. Jeld-Wen can opt for *ex-situ* treatment and reuse the soil onsite, after meeting the remediation level. This excavation volume is based on removal of 85% of contaminant mass found through soil boring and chemistry data (SLR provided this data about 3 years ago and the data are attached to this tech memo). This hotspot area soil removal will be followed by ISB, SSD, and MNA. Ecology believes ISB may work best after hotspots are removed or treated *ex-situ*. The revised DCA matrix with cost estimate spreadsheet is attached with this tech memo. Jeld-Wen is expected to take this narrative explanation and the benefit scores Ecology provided in the Disproportionate Cost Analysis (DCA) matrix and change/modify the language in the text of respective FS alternatives section.

Since contamination will be left in place, it is necessary to establish a REL. Per MTCA, RELs may be defined as concentration or other methods of identification. For the Creosote/TPH area, it may be practical to establish REL based on physical characteristics of the soils (for example, no visual free product, no staining/color, no odor, and PID reading below certain threshold).

3. Eligible Remedial Action Cost

FS Alternative 4 in upland creosote/TPH area described a building reconstruction cost of $5.2 M plus. Building reconstruction is not an eligible remedial action cost unless it is necessary for the remedy to work. Ecology determined this cost is not eligible remedial action cost and must be removed from cost estimates.

4. Preliminary cleanup level (PCL)

Ecology has coordinated with SLR on PCL tables after the RI/FS submittal. Per our Agreement, revise the PCL Table and all other data Tables to reflect the revised PCL values

5. Ground Water to Surface Water Pathway & CSM

At several locations of the document, it is stated that there is no migration or transport of COCs to marine environment. As Ecology provided in earlier comments on this issue and discussed in detail with SLR, the RI/FS text needs to change based on the following narrative.

The ground water to surface water pathway is complete based on detections of upland COCs in shoreline wells, however, this does not appear to be any concern to surface water or sediment since some COCs detection are sporadic (below PQL) and TPH are below PCL.

Marine Section Comments

6. Alternatives Scoring Process for the Marine Area

Scoring Process

Thank you for providing detailed information in the April 2020 Draft RI/FS Report that explains JELD-WEN's alternatives scoring process. After reviewing the 2016 Draft Final RI/FS Ecology requested that JELD-WEN provide a more transparent process within the document so we could understand how scores were assigned to each of the alternatives. In particular, Ecology requested that JELD-WEN provide a description of risk reduction, and potential for future re-exposure or releases for each alternative. We suggested the Port Gamble Upland Mill Site Draft FS Report could be referred to as an example of a recent report that included such information. After reviewing the April 2020 submittal, however, Ecology has identified some significant concerns regarding the scoring process.

First, to fully understand Ecology's concerns, it is important to note that the Sediment Management Areas (SMAs) are defined in the FS by contaminant concentrations in the top 1 foot of sediment (the preliminary point of compliance). SMA-3 contains sediment with the highest concentrations of PCBs and/or dioxins/furans (dioxin) and greatest cleanup level exceedances for those contaminants. SMA-3 encompasses the smallest area of the Site (2.9 acres). SMA-2 is based on the dioxin concentration protective of direct contact for humans, and on an area and concentration that if remediated in addition to SMA-3 achieves the site-wide human health-based cleanup level for PCBs. All of SMA-2 exceeds cleanup levels for either PCBs or dioxin. SMA-2 encompasses the second largest area of the Site (5.5 acres). SMA-1 contains the lowest comparative concentrations of dioxins and PCBs, however, concentrations of both contaminants exceed cleanup levels in SMA-1. SMA-1 encompasses the largest area of the Site (8.2 acres).

Ecology has outlined below our concerns with the fundamental logic developed by JELD-WEN to score the marine alternatives:

I. For each of the six MTCA alternatives scoring criterion, various technologies were scored based on their effectiveness at meeting the criteria within each Sediment Management Area (SMA). (The six criteria are permanence, protectiveness, long-term effectiveness, management of short-term risks, technical and administrative implementability and consideration of public concerns.) The effectiveness of each technology at meeting the criterion within each SMA was evaluated independently of actions taken in other SMAs. For example, Monitored Natural Recovery (MNR) was assigned a 10 in meeting the permanence criterion in SMA-1, regardless of whether the technology selected for SMA-2 was also MNR, or if it was something much more permanent, such as full removal. This is inconsistent with MTCA (WAC 173-340-360). Adding to our confusion, JELD-WEN scored MNR as the most permanent action evaluated for SMA-1, even more permanent than full removal. Removal or destruction typically provide greater environmental benefit than other technologies, which keep contaminants on-site regardless of any SMA designation. The scores for each technology were then added together to develop the overall score for each alternative. This disconnected scoring process does not take into account the interactions between various remedial technologies for a given alternative.

   The alternatives should be scored holistically based on how well each criterion is met with the unique combination of technologies selected for each alternative.

II. The scoring template incorporated area-weighting. The technology score assigned to each SMA was multiplied by the area in which the technology would be used. That is, the most weight was given to actions in SMA-1 because it encompasses the largest area, regardless of the fact that it contains lower concentrations than SMA-2 or SMA-3. The least amount of weight was given to actions in SMA-3 despite the fact that SMA-3 contains the highest level of cleanup level exceedances. This approach devalued any hotspot/mass removal. Again, this is inconsistent with the intent and purpose of the disproportionate cost analysis and MTCA. Ecology prioritizes mass destruction or removal over leaving contaminants in place, as it is viewed as providing the greatest environmental benefit with the most permanent cleanup.

The flawed outcome of the technology-based and area-weighted scoring process is demonstrated clearly by the fact the no action alternative (M-1) resulted in a score of 5.4 in the residual risk category (a sub category of permanence) and a total weighted benefits score of 7.2 out of 10. Ecology is not assigning any score to this alternative because it does not meet the minimum requirements for cleanup actions (173-340-360(2) WAC). Another example: For the residual risk (mass removal) subcriterion, M-2, an alternative that does not include any permanent destruction or removal of contaminated sediment from the site received a score of 8.4. Alternative M-8, which results in removal of all sediment above cleanup levels received a score of 9.0. The scoring process results in a similarly small spread of benefits scores for many of the criteria, despite substantial differences in remedial actions selected across the range of alternatives. This scoring process clearly undervalues more effective, permanent cleanups.

Ecology Revisions

For the reasons stated above, Ecology revised the narrative for each alternative within the scoring template provided (Table 10.2-1), and has rescored each alternative using the revised narrative. Ecology removed the area-weighting factor as well as the technology-based scoring process. Instead, we scored each alternative by evaluating the combined impact of remedial actions in SMA-1, SMA-2, and SMA-3 for each alternative. This scoring is both consistent with MTCA (WAC 173-340-360) and with numerous other cleanups conducted throughout the state. While JELD-WEN's scoring resulted in nearly identical total weighted benefits scores for Alternatives M-2 through M-7, Ecology's scoring process resulted in a larger spread of benefits scores and reflect the risk reduction and increased certainty achieved by successively more permanent cleanup options. Alternatives that included removal and upland disposal of contaminated sediment were generally assigned greater benefits (with the exception of the short-term risk category) relative to those that relied on in-place containment of contaminated sediment. This is most apparent in the long-term effectiveness category, consistent with WAC 173-204-570(4). We did not score M-1 as it does not meet MTCA/SMS minimum requirements (i.e. it is not protective of human health and the environment, cleanup standards will not be met within a reasonable timeframe, it is not permanent to the maximum extent practicable).

It's important also to note that the boundaries of the sediment management areas are defined by cleanup level exceedances within the preliminary point of compliance (the top 1 foot – which is the biologically active zone). It is critical to understand, however, that contaminants exceeding cleanup levels are also present below the top 1 foot in some areas. These deeper exceedances can often pose on-going and potential future risks to humans and wildlife even if the sediment within the point of compliance is remediated and initially meets cleanup levels (e.g. erosion, climate change impacts, upward contaminant migration, and seismic events are examples of forces that may result in exposure).

Preferred Alternative Analysis

Based on Ecology's revised scores, Alternative 7 provides the greatest benefits, Alternative 8 provides the second greatest benefits, and Alternative 6 the third greatest benefits. Alternatives 6 and 7 cost/benefit ratio are not disproportionate to less costly alternatives evaluated.

Upon further review of Alternatives 6 and 7, Ecology has identified a hybrid alternative that further increases benefits without being disproportionately more costly. This alternative includes full removal of contaminants in SMA-3 south side, and a 2-foot removal in SMA-3 inlet. Full removal in SMA-3 south side results in a reduced need for long-term maintenance and monitoring of that area. Long-term maintenance and monitoring costs are expected to be substantially reduced compared to alternatives that rely heavily on engineered capping. The alternative also includes greater removal of sediment contaminated with PCBs above the cleanup level in the knoll area (i.e. an additional 0.35 acres removing some areas below the benthic cleanup level but above the human-health based cleanup level). This alternative will result in reduced risk of a pathway to the upland groundwater as had been identified in the upland RI. Ecology anticipates the additional removal will further reduce risks to overlying surface water as well. This approach is consistent with the statement in the Upland FS that *cleanup of knoll fill area groundwater contamination for PCBs will be addressed by the marine cleanup selected alternative* (Section 8.4.3).

The details of this hybrid alternative are:

- Removal and engineered cap: 0.47 acres x 2 foot depth (SMA-3 inlet)

- Removal and backfill: 1.9 acres x 4 foot depth (SMA-3 south side)
- Removal and backfill: 0.9 acres x 2 foot depth (SMA-3 knoll and partial SMA-2 knoll of approximately 0.35 acres)
- EMNR: 5.2 acres
- MNR: 8.2 acres

The cost for this alternative is estimated to be $12.7 M. The revised DCA matrix with narrative and cost estimate are attached to this tech memo. Jeld-Wen will take this narrative and make appropriate changes in the FS.

7. Long-Term Maintenance and Monitoring Costs

In Ecology's experience long-term maintenance and monitoring costs can be substantial depending on the level of contamination left in place, and site-specific factors such as erosional forces. It was difficult to assess the long-term maintenance and monitoring costs (LTMM) as they were presented as a lump sum under "Long-Term Maintenance" in the cost spreadsheet. However, we noticed these costs did not differ greatly for many of the alternatives. These costs may differ more greatly between alternatives depending on assumptions made regarding length of LTMM, and whether the alternative includes an engineered cap-on-grade vs a removal and engineered cap. Additionally, it is not apparent if costs associated with permanent land-use restrictions were considered.

Other Comments

8. Redline word document file

Ecology attached a redline word document that contains comments, edits, questions. Jeld-Wen will incorporate these edits and provide response to these edits/comments/questions, as necessary. Provide a redline version of the document to show how these edits/comments were incorporated in the next version of the document.

9. Figure Heading Text and Reference

Several Figures in section 5 (e.g., Figure 5.2-10 has the term "CSM" in Figure title). This Figure is not a conceptual site model (CSM) as CSM Figure has special requirement. Remove the term CSM from these Figures. In addition, there appears to be incorrect Figure references in the text. Check/correct all the Figure references in the text.

10. Cross-sectional Figure

Figure 5.2.4-1 and 5.2.4-2 shows cross-section data from different boring. It is necessary to show the cross-section line (AA' or BB') in a plan map showing all the boring locations.

11. REL Vs. RAL

Figure 6.2-1 and Figure 6.2-2 shows both REL and RAL. RAL is referenced at bottom next to SWAC. In addition, several areas of the text used Remedial Action Level (RAL) term. While RAL and Remediation Level (REL) are similar, RAL is used in Federal cleanup rules whereas REL is used in MTCA. Remove the term RAL and use consistent term REL per MTCA throughout the document.

Table 10.1-1
Creosote Area
Disproportional Cost Analysis Matrix

Criterion	Weighting	WAC Language	Scoring Criteria	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 7
				Sub-Slab Depressurization (SSD), Engineering Control (EC), Institutional Controls (IC)	In-Situ Bioremediation (ISB), SSD, MNA, EC, IC	In-Situ Chemical Oxidation (ISCO), SSD, MNA, IC	Soil Removal, ISB, MNA, IC	Thermal Treatment (TT), SSD, EC, IC	In-Situ Soil Stabilization/Solidification (ISS), TT, IC	Hotspot Soil Removal, ISB, MNA, IC
Protectiveness	30%	Overall protectiveness of human health and the environment, including the degree to which existing risks are reduced, time required to reduce risk at the facility and attain cleanup standards, on-site and offsite risks resulting from implementing the alternative, and improvement of the overall environmental quality.	Protection of human health and the environment is a threshold requirement. Alternative 1 does not meet MTCA minimum requirement for cleanup actions and therefore is not scored. Alternative 2 through 7 protects human health and environment by reducing the existing risk. Alternative 4 and 7 scores highest due to the greater degree of certainty associated with removal and the quicker risk reduction. Alternative 4 scores higher than 7 because of more contaminant mass removal resulting in shorter restoration timeframe. Alternative 6 reduces the mobility of contaminants but leaves them in place and removes contamination through thermal treatment from off property areas. Alternatives 2, 3, and 5 treat the majority of contamination from the Site with different degree of certainty and restoration timeframe with thermal treatment (Alternative 5) scores relatively higher being more effective and shorter restoration timeframe. Alternative 2 suffers from lesser degree of certainty and requires more active treatment time than alternative 5 and therefore scores lower among these. Alternative 3 addresses on property contamiantion but does not address off property contamination and therefore scores the lowest.							
			Score:		4.0	3.0	10.0	6.0	7.0	9.0
Permanence	20%	The degree to which the alternative permanently reduces the toxicity, mobility or volume of hazardous substances, including the adequacy of the alternative in destroying the hazardous substances, the reduction or elimination of hazardous substance releases and sources of releases, the degree of irreversibility of waste treatment process, and the characteristics and quantity of treatment residuals generated.	Alternatives are scored based on permanent removal of contaminants with higher scoring provided for alternatives that permanently reduce toxicity, mobility or volume. Alternative 1 is not scored as it does not meet minimum MTCA requirement for cleanup actions. Alternatives 4, 5 and 7 permanently remove or treat the majority of contamination on the Site. Alternative 4 and 7 removes most on-site contamination permanently and scores the highest. Alternative 4 scores slightly higher than 7 because of more soil mass removal resulting in more permanent solution. Alternative 5 provides more complete treatment of the volatile and semivolatile contaminants and therefore scores the next highest. Alternatives 2 and 6 also provide treatment or immobilizes contaminant but Alternative 2 is not very effective on higher ring PAHs. Alternative 6 scores higher due to the thermal treatment of the off property areas. Alternative 3 scores lowest as it leaves most contamination on off property soils.							
			Score:		4.0	3.0	9.0	7.0	6.0	8.0
Long-Term Effectiveness	20%	Long-term effectiveness includes the degree of certainty that the alternative will be successful, the reliability of the alternative during the period of time hazardous substances are expected to remain on-site at concentrations that exceed cleanup levels, the magnitude of residual risk with the alternative in place, and the effectiveness of controls required to manage treatment residues or remaining wastes.	Proven treatment technologies, site-tested treatment technologies, and technologies with a shorter restoration timeframe generally receive a higher ranking. Complex & less reliable treatment technologies and technologies requiring longer durations generally are ranked lower. Scores reflect MTCA's preferences for (in order) recycling, destruction/detoxification, immobilization/solidification, off-site disposal, isolation/containment, and institutional and engineering controls. Alternative 1 is not scored as it does not meet minimum MTCA requirement for cleanup actions. Alternative 4, 5, and 7 have simiar higher scores for long term effectives than other alternative. Alterntiave 5 could score very high due to more complete destruction of hazardous substances on Site but some degree of uncertainty exists whether this Alternative will be successful. Alternative 4 and 7 relies on off-site disposal which is a mature and proven technology used at most sites with Alternative 4 scoring slightly higher than 7 because of less magnitude of residual risk remaining on-site. Alternative 6 also scores very high due to immobilization and destruction technology but suffers from complexity. Alternatives 2 destroy contamination over a longer period that requires longer monitored natural attenuation. Reliability and the certainty of the technology to achieve cleanup level is slow and questionable. Alternative 3 also destroys contaminant quicker than Alternative 2 but it is not practical for off-property contamination and therefore receives the lowest score.							
			Score:		4.0	3.0	9.0	8.0	7.0	8.0
Management of Short-Term Risk	10%	The risk to human health and the environment associated with the alternative during construction and implementation, and the effectiveness of measures that will be taken to manage such risks.	Scoring for management of short term risks uses a relative scale to evaluate construction risks to human health and safety; larger more complex projects are considered to carry greater risk than simpler small projects. Technology-specific risks have been considered (e.g. thermal treatment has temperature related risks, excavation has cave-in, heave, and shoring risks, ISCO has chemical handling risks, etc.). If effective measures can be taken to minimize the risks, it will score relatively higher. Alternative 1 does not meet MTCA minimum requirement for cleanup actions and therefore is not scored. Alternative 2 includes modest installation risks for the enhanced bioremediation system (pumps and pipings) and operated for a longer period of time (cumulative health and safety consideration). This Alternative still receives the highest score comparing to other Alternative's construction risk. Alternative 3 ISCO treatment poses an elevated risk of worker injury handling and injecting high-ionic strength solution, as well as potential risk to near-surface utilities. Alterntnatives 4, 5, 6, and 7 can pose some short term risks that include high risks of worker injury that may include excavation failures, potentail burns or damage associated with high pressure steam, injuries associated with building demolition, and/or damage to near surface utilities. Therefore, these Alternatives score lower compared to Alternative 2. However, measures							
			Score:		8.0	7.0	4.0	6.0	4.0	5.0
Technical and Administrative Implementability	10%	Ability to be implemented including consideration of whether the alternative is technically possible, availability of necessary offsite facilities, services and materials, administrative and regulatory requirements, scheduling, size, complexity, monitoring requirements, access for construction operations and monitoring, and integration with existing facility operations and other current or potential remedial actions.	Scoring evaluates the overall difficulty of implementation each of the proposed alternatives. Alternative 1 is not scored as it does not meet minimum MTCA requirement for cleanup actions. Alternative 2, 3, 4, 5 and 7 are readily implementable with some degree of differences and score similar points. Alternatives 2, 3, & 5 use technologies that have been demonstrated to be effective for conditions observed at the Site and comprise projects of moderate size and complexity. Alternative 2 requires more active services while Alternative 3 requires chemical amendments that have become more difficult to procure and handle at the scale required for treatment. Alternative 5 also uses mature techology that has demonstrated efficacy at the Site, but may require a greater degree of complexity to construct and execute. Alternatives 4 and 7 represent proven technology (frequenly occuring) with available offsite facilities for disposal. Alternative 7 is less invasive than Alternative 4 and, therefore, scores slightly higher. Alternative 6 requires extensive, high-risk construction and therefore scores the lowest.							
			Score:		8.0	7.0	6.0	7.0	4.0	7.0
Consideration of Public Concerns	10%	Whether the community has concerns regarding the alternative and, if so, the extent to which the alternative addresses those concerns. This process includes concerns from individuals, community groups, local governments, tribes, federal and state agencies, or any other organization that may have an interest in or knowledge of the site.	Alteranatives were scored based on what public desires for cleanup in the area as commensurate with oth cleanups in the Port Gardner Bay. Alternative 1 does not meet MTCA minimum requirement for cleanup actions and therefore is not scored. Alternative 4 and 7 offer confirmatory removal of contamination from public's backyard with minor impact (active construction, hauling to offsite facilities) and therefore score highest from public point of view. Alternatives 2 and 5 offer active cleanup of contamination on Site with the least potential public impact, however, public are skeptical about biological treatment. Alternative 6 scores lowers than previous alternatives due to greater public impacts including keeping contamination in place, extended construction schedules and prolonged disruption to business activity on the Subject Property. Alternatives 3 scores the lowest based on public concern about injection of chemicals in groundwater and leaves contamination off property.							
			Score:		5.0	3.0	9.0	6.0	4.0	8.0
			Total Composite Benefit Score:		4.9	3.8	8.5	6.7	5.9	7.9
			Unit Cost (Dollars per Composite Benefit Score Increment):		$1,123,000	$2,079,000	$1,730,000	$1,762,000	$2,882,000	$950,000
			Cost (Millions of Dollars):		$5.5	$7.9	$14.7	$11.8	$17.0	$7.5
			Benefit Score to Cost Ratio		0.9	0.5	0.6	0.6	0.3	1.1

Creosote Area - Alternative 7

Hotspot Soil Removal (on-property) and Bioremediation on- and off-property

Excavation and off-site disposal of contaminated on-property soil to 9 feet bgs and Bioremediation (Bio) on- and off-property

Based on x-section figure 5.2.4-1 (85% TPH mass removal, previous SLR estimates), approx. 350 ft by 100 ft

	Area, sq ft	depth, ft	Vol, cu ft	Vol, cy	Ton
	35000	9	315000	11667	16333
Clean overburden	35000	3	105000	3889	5444
Soil disposal needed				7778	10889

Remedy Components:

1 Construction contractor mobilization
2 Install Monitoring wells and Geoprobes
3 Demolish portions of the main manufacturing building for access to impacted soil for excavation
4 Install sheet-pile shoring to allow for soil excavation. Other temporary shoring may be explored at cheaper cost
5 Excavation of shallow soils to a depth of 9 feet below grade, hauling and off-site disposal
6 Excavation backfill, compaction, slab replacement,~~and building construction (removed section of building~~) — Not eligible for remedial action cost
7 Install Bioremediation system for deep on-property impacts and shallow and deep off-property impacts
6 Operate Bioremediation System for 5 years
7 Construction Management
8 Short-term institutional controls to restrict exposure to soil/remediation efforts

Primary Assumptions

1 On-property soil excavation is estimated at 12,000 bcy [some area overlaps with excavation in woodlife area]
2 ACM in building is only in roofing
3 Excavation will require 3 month to complete followed by Bioremediation
4 3~~5~~ feet of clean overburden, 20% of impacted soil requires special disposal — 1. There appears to be 3 ft clean overburden in this area. 2. There is no huge pool of NAPL; this could be typical of disposal of TPH contamianted soil and may not require special disposal.
5 175 cfm AI, 300 cfm SVE, 10,000 lb carbon consumed, 45 gpm NNS (described in Alternative 2)
6 Two injections of NNS at 125,000 lbs each
7 Groundwater sampling of 10 wells for 10 years (5 years semi-annually, 5 years annually)
8 Institutional controls restricting soil exposure and soil management plan (off-property)

Remedial Action Component	Units	No. of Units	Unit Cost	Cost	Total Cost	Comment
REMEDIAL ACTION						
Mobilization						
Mobilization	LS	1	$50,000	$50,000		This cost can be less/ shared with Wood life area soil removal
					$50,000	
Monitoring Well and Geoprobe installation						
Install monitoring wells	each	10	$4,000	$40,000		
Install Geoprobes	est	1	$40,000	$40,000		
Lab and Reporting	est	1	$20,000	$20,000		
					$100,000	
Site Controls / Institutional Controls (off-property)	est	1	$20,000	$20,000		
					$20,000	
Hotspot Soil Removal						
Demolish building	sq ft	25,000	$5	$125,000		
Building disposal	sq ft	25,000	$2.50	$62,500		
Well abandonment	ea	3	$2,000	$6,000		
Shoring installation	ln ft	900	$350	$315,000		$350 unit cost based on 15-20 feet sheet pile wall at custom plywood site
Dewatering system	est	1	$100,000	$100,000		This cost could actually be less based on less water involved
Excavation	bcy	11,667	$6	$70,002		
Disposal 5 to 15 feet regular waste	ton	8,711	$55	$479,125		Note this disposal cost was $23/ton in the 2016 draft RI/FS
Disposal 5 to 15 feet persistent waste	ton	2,178	$400	$871,136		Ecology believes it may not be necessary to separate the waste for $400/ton disposal. However, Ecology did not remove this cost for planning purpose.
Place and compact clean overburden	bcy	3,889	$5	$19,443		
Provide, place, and compact clean fill	bcy	7,778	$25	$194,450		
					$2,242,656	
Bio Pilot testing						
Install wells	each	4	$6,000	$24,000		
Install vertical recirculation well	each	1	$8,000	$8,000		
Testing Labor	month	6	$12,000	$72,000		
Equipment Rental and setup	month	6	$10,000	$60,000		
NNS chemicals	lbs	2,000	$33	$66,800		
Temporary power supply	LS	1	$10,000	$10,000		
Carbon vessels	each	2	$4,000	$8,000		
Install post test borings	LS	1	$10,000	$10,000		
Lab and Reporting	LS	1	$40,000	$40,000		
					$298,800	
Bioremediation System						
AI wells	each	24	$3,000	$72,000		Adjusted number of AI & NNS wells between Alternative 2 & 4 based on removal of contaminant from hotspot area
NNS wells	each	10	$4,000	$40,000		Adjusted number of AI & NNS wells between Alternative 2 & 4 based on removal of contaminant from hotspot area
Vertical mixing wells	each	5	$8,000	$40,000		Kept same as alternative 2 for deep contamiantion
Submersible pumps and headworks	each	10	$5,000	$50,000		Adjusted proportionately between Alternative 2 and 4
Trenching and Piping	feet	2,400	$110	$264,000		Adjusted proportionately between Alternative 2 and 4
Road Bore	LS	1	$40,000	$40,000		Kept same as alternative 2
Blowers and Enclosure	LS	1	$130,000	$130,000		Adjusted proportionately between Alternative 2 and 4
NNS addtion system	LS	1	$60,000	$60,000		Adjusted proportionately between Alternative 2 and 4
NNS chemicals	lbs	250,000	$3.40	$850,000		Adjusted proportionately between Alternative 2 and 4
NNS addition labor	LS	2	$35,000	$70,000		Adjusted proportionately between Alternative 2 and 4
Electrical Service	LS	1	$40,000	$40,000		Kept same as alternative 2 but could be less
					$1,656,000	
SSD						Not present in alternative 4 but added for the area not excavated
Pilot testing	est	1	$9,204	$9,204		
System construction and equipment installation	est	1	$35,000	$35,000		Adjusted for reduced area coverage
					$44,204	
Decommissioning						
Monitoring Well Decommissioning[1]	each	42	$2,000	$84,000		Adjusted for reduced area coverage
					(See NPV)	
Subtotal					$4,411,660	
Project Management 6%					$264,700	
Design and permitting 10%					$441,166	
Construction management 8%					$352,933	
Taxes 10%					$441,166	
Contingency 25%					$1,102,915	

Remedial Action Component	Units	No. of Units	Unit Cost	Cost	Total Cost	Comment
Remedial Action Subtotal (Rounded to nearest $10,000)					**$7,010,000**	
Monitoring and Maintenance						
Semi-annual groundwater monitoring and sampling (yr 1-5)[1]	yr	5	$10,000	$50,000		
Groundwater monitoring and sampling - annual (yrs 6-10)[1]	yr	5	$5,000	$25,000		
Annual reporting (year 1-2)[1]	yr	2	$10,000	$20,000		
Annual reporting (yrs 3 - 10)[1]	yr	8	$4,000	$32,000		
Bio systems O&M, electrical, equipment repair	yr	5	$32,000	$160,000		
5 year review report (every 5 yrs)[1]	yr	2	$12,000	$24,000		
Subtotal NPV (see below)					$381,000	
Taxes 10%					$38,100	
Contingency 20%					$76,200	
Monitoring and Maintenance Subtotal (Rounded to nearest $10,000)					**$500,000**	
REMEDIAL ACTION ESTIMATED TOTAL (Rounded to nearest $100,000)					**$7,500,000**	

[1] Year 1 value shown

SUM NPV:	$70,523	$153,168	$19,568	$74,476	$63,534	**$381,000**
Year	**Monitoring**	**O&M**	**Carbon**	**Decom**	**Reporting**	
1	$0	$0	$8,000	$0	$0	
2	$10,000	$32,000	$6,000	$0	$10,000	
3	$10,000	$32,000	$4,000	$0	$10,000	
4	$10,000	$32,000	$2,000	$0	$4,000	
5	$10,000	$32,000	$0	$0	$4,000	
6	$10,000	$32,000	$0	$0	$12,000	
7	$5,000	$0	$0	$0	$4,000	
8	$5,000	$0	$0	$0	$4,000	
9	$5,000	$0	$0	$0	$4,000	
10	$5,000	$0	$0	$0	$4,000	
11	$5,000	$0	$0	$84,000	$12,000	

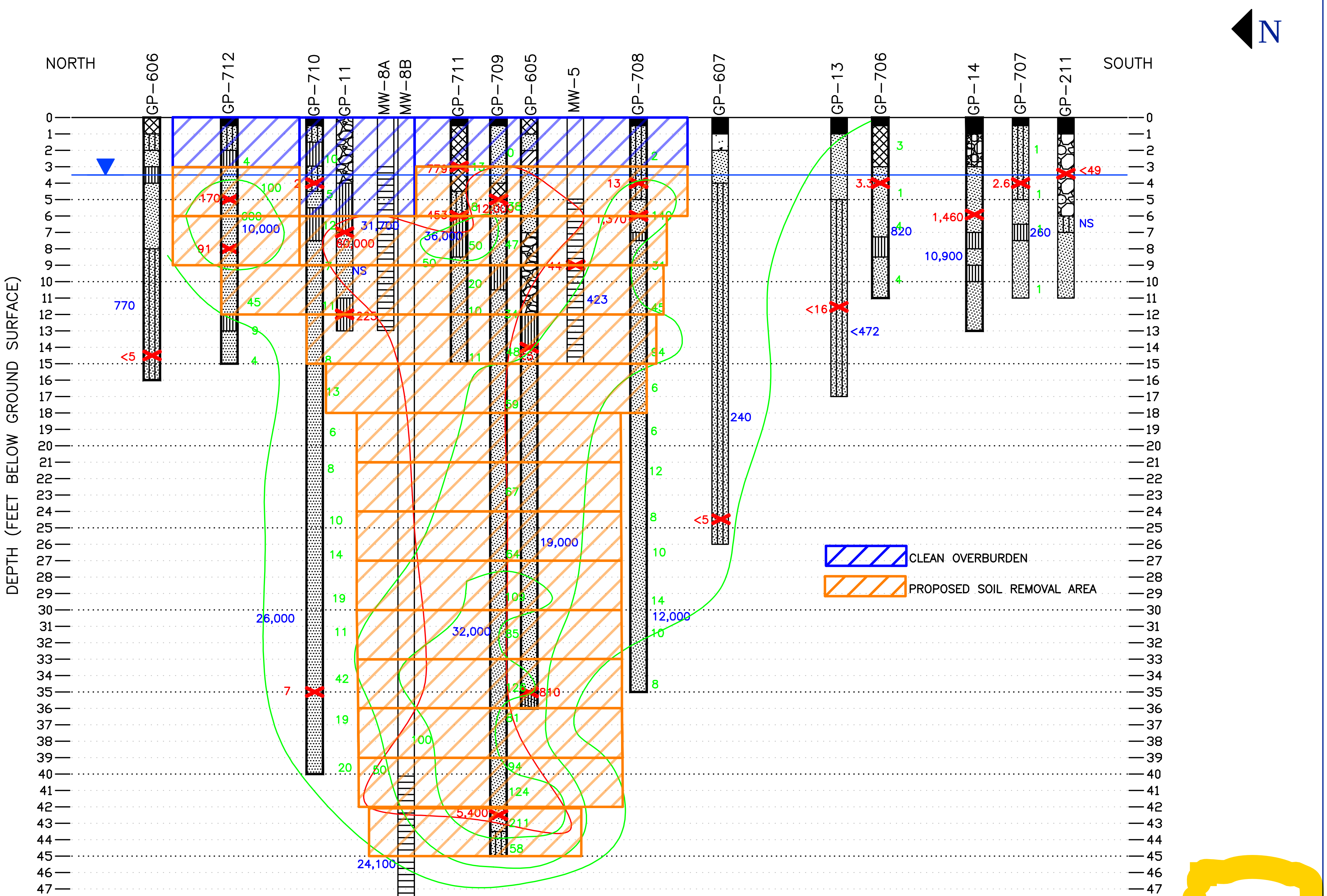
Notes:

Discount rate = 1.1%

OMB Circular No. A-94 (Executive office of the President, office of Management and Budget, and 2013 Discount Rates memo dated 1-24-2013)

Total NPV shown is rounded to nearest $1,000

Last Saved: June 01, 2017 8:43:22 AM by ckramer Drawing path: N:\Portland\Projects\JELD-WEN\JELD-WEN NORD DOOR\2015 Assessment\FIGURES\X SECTION_090815.dwg



Interval (feet)	Area (SQFT)	Volume (CUFT)	Avg Conc (mg/kg)	Dirty Mass Removed (Vol*Avg Conc)	Clean Mass Removal Needed (Vol)	% Removed	Cum % Removed
0-3	34453	103359	0	0	0	0%	0%
3-6	34453	103359	2,500	258398438	103359	12%	12%
3-6	6699	20098	0	0	0	0%	0%
6-9	35889	107666	15,000	1614990234	20098	73%	85%
9-12	34453	103359	135	13953516	0	1%	85%
12-15	28711	86133	112	9646875	0	0%	86%
15-18	25002	75007	500	37503662	0	2%	88%
18-21	21055	63164	500	31582031	0	1%	89%
21-24	21055	63164	500	31582031	0	1%	90%
24-27	21055	63164	500	31582031	0	1%	92%
27-30	21055	63164	500	31582031	0	1%	93%
30-33	21055	63164	500	31582031	0	1%	95%
33-36	21055	63164	500	31582031	0	1%	96%
36-39	21055	63164	500	31582031	0	1%	98%
39-42	21055	63164	500	31582031	0	1%	99%
42-45	15791	47373	500	23686523	0	1%	100%

APPROXIMATE HORIZONTAL SCALE
0 75 150 225'

APPROXIMATE VERTICAL SCALE
0 7.5 15 22.5'

NOTES

NOT ALL SAMPLE LOCATIONS PRESENTED ON THIS CROSS SECTION

NOT ALL SAMPLE ANALYTICAL RESULTS PRESENTED (LIMITED TO SOIL AND GROUNDWATER SAMPLES FOR TPH-Dx (DIESEL RANGE))

PCLs
2,000 MG/KG FOR SATURATED SOIL
500 UG/L FOR GROUNDWATER

LEGEND

▼		APPROXIMATE GROUNDWATER LEVEL
■	AS	ASPHALT
▨	CL	CLAY
⬚		CONCRETE
▦	GM	GRAVEL WITH SILT
▦	GP	GRAVEL AND SAND
▦	PT	PEAT
▥	ML	SILT
▩	SM	SILTY SAND
⬚	SP	SAND
☒		TOPSOIL
✕		SOIL SAMPLE LOCATION
200		SOIL ANALYTICAL RESULTS (TPH-Dx DIESEL RANGE IN MG/KG)
700		GROUNDWATER ANALYTICAL RESULTS (TPH-Dx DIESEL RANGE IN ug/L)
NS		NOT SAMPLED FOR SELECTED PARAMETER
25.2		PID READING IN PPM (700 SERIES GEOPROBE LOCATIONS ONLY)
—		PID CONTOURS IN PPM

FORMER E.A. NORD
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report
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Drawing
CROSS-SECTION FOR ONSITE SAMPLE LOCATIONS WITH TPH-DX ANALYTICAL RESULTS

Date June 1, 2017
Scale AS SHOWN
Fig. No.
File Name X SECTION_090815
Project No. 108.00228.00048

SLR

Table 10.2-1

Jeld-Wen Marine Disproportional Cost Analysis Matrix

					M-1	M-2	M-3	M-4a	M-4b	M-5	M-6	M-6.5
Criterion	**Weighting**	**Washington Administrative Code Language**	**Considerations for Site-Specific Evaluation**		**Source Control and Natural Recovery**	**Capping Focus: Armored Shoreline**	**Capping Focus: Soft Shoreline**	**Targeted Removal Focus: North Inlet Area (2-foot removal)**	**Targeted Removal Focus: North Inlet Area (4-foot removal)**	**Targeted Removal Focus: Southern Areas**	**Removal Focus**	**Removal Focus (SMA-3 and partial SMA-2 knoll)**
Protectiveness	30%	*Overall protectiveness of human health and the environment, including the degree to which existing risks are reduced, time required to reduce risk at the facility and attain cleanup standards, on-site and offsite risks resulting from implementing the alternative, and improvement of the overall environmental quality.*	Protection of Human Health	Narrative	Does not achieve human health cleanup standards (cleanup levels not met within top 1 foot of sediment on a SWAC basis) throughout the marine areas of the site in a reasonable timeframe. Does not meet MTCA minimum threshold requirements.	Achieves human health cleanup standards (cleanup levels met within top 1 foot of sediment on a SWAC basis) throughout the marine areas of the site immediately following construction. Scores lower than alternatives that include removal because of risks from contamination remaining on site above cleanup levels in SMA-1, SMA-2, and SMA-3.	Achieves human health cleanup standards (cleanup levels met within top 1 foot of sediment on a SWAC basis) throughout the marine areas of the site immediately following construction. Scores lower than alternatives that include removal because of risks from contamination remaining on site above cleanup levels in SMA-1 and SMA-2, and SMA-3.	Achieves human health cleanup standards (cleanup levels met within top 1 foot of sediment on a SWAC basis) throughout the marine areas of the site immediately following construction. Partial removal in inlet reduces risks compared to M-2 and M-3. Scores lower than M-4b through M-8 because greater amount of contamination remains on site above cleanup levels, particularly in SMA-3.	Achieves human health cleanup standards (cleanup levels met within top 1 foot of sediment on a SWAC basis) throughout the marine areas of the site immediately following construction. Removal in inlet to 4 foot depth reduces risks compared to M-2, M-3, and M-4a. Scores lower than M-6, M-7 and M-8 because greater amount of contamination remains on site above cleanup levels, particularly in SMA-3.	Achieves human health cleanup standards (cleanup levels met within top 1 foot of sediment on a SWAC basis) throughout the marine areas of the site immediately following construction. Scores lower than M-6, M-7 and M-8 because greater amount of contamination remains on site above cleanup levels, particularly in SMA-3.	Achieves human health cleanup standards (cleanup levels met within top 1 foot of sediment on a SWAC basis) throughout the marine areas of the site immediately following construction. Removal of top 2-feet across SMA-3 reduces risks. Scores lower than M-7 and M-8 because contamination remains above cleanup levels in SMA-1, SMA-2, and below 2 feet in SMA-3.	Achieves human health cleanup standards (cleanup levels met within top 1 foot of sediment on a SWAC basis) throughout the marine areas of the site immediately following construction. Contaminants fully removed from SMA-3 southern side results in substantial risk reduction. Scores higher than M-6 because of partial removal in SMA-2 knoll. Scores lower than M-8 becuase contaminants remain on site above cleanups levels in SMA-1 and SMA-2.
				Score	n/a	4.0	4.0	5.0	6.0	6.0	7.0	9.0
			Protection of the Environment	Narrative	Does not eliminate ecological risks associated with COPC releases to marine areas of the site in a reasonable timeframe. Unacceptable risks to benthic community remain. Does not meet MTCA minimum threshold requirements.	Achieves cleanup standards protective of ecological receptors for COPC throughout the marine areas of the site immediately following construction. However scores lower than M-4a through M-8 because sediment exceeding benthic criteria for PCBs remains on site in the knoll area; risks remain from contamination left in place above cleanup levels, particularly in SMA-3.	Achieves cleanup standards protective of ecological receptors for COPC throughout the marine areas of the site immediately following construction. However scores lower than M-4a through M-8 because sediment exceeding benthic criteria for PCBs remains on site in the knoll area; risks remain from contamination left in place above cleanup levels, particularly in SMA-3.	Achieves cleanup standards protective of ecological receptors for COPC throughout the marine areas of the site immediately following construction. Partial removal in inlet reduces risk. However scores lower than M-4b through M-8 because sediment exceeding benthic criteria for PCBs remains on site in the knoll area; risks remain from contamination left in place above cleanup levels, particularly in SMA-3.	Achieves cleanup standards protective of ecological receptors for COPC throughout the marine areas of the site immediately following construction. Partial removal in inlet reduces risk. However scores lower than M-5 through M-8 because sediment exceeding benthic criteria for PCBs remains on site in the knoll area; risks remain from contamination left in place above cleanup levels, particularly in SMA-3.	Achieves cleanup standards protective of ecological receptors for COPC throughout the marine areas of the site immediately following construction. Sediment exceeding benthic criteria for PCBs removed from knoll area. Some risks remain from contamination left in place, particularly in SMA-3 inlet area and contamination deeper than 2 feet in the southern areas.	Achieves cleanup standards protective of ecological receptors for COPC throughout the marine areas of the site immediately following construction. Removal of top 2-feet across SMA-3 reduces risks. Sediment exceeding benthic criteria for PCBs is removed from knoll area. Scores lower than M7 and M-8 because contamination remains above cleanup levels in SMA-1, SMA-2, and below 2 feet in SMA-3.	Achieves cleanup standards protective of ecological receptors for COPC throughout the marine areas of the site immediately following construction. Contaminants fully removed from SMA-3 southern side results in substantial risk reduction. Scores higher than M-6 because of partial removal in SMA-2 knoll. Scores lower than M-8 becuase contaminants remain on site above cleanups levels in SMA-1 and SMA-2.
				Score	n/a	4.0	4.0	5.0	6.0	7.0	7.0	9.0
			Total	**Score**	**n/a**	**4.0**	**4.0**	**5.0**	**6.0**	**6.5**	**7.0**	**9.0**
Permanence	20%	*The degree to which the alternative permanently reduces the toxicity, mobility or volume of hazardous substances, including the adequacy of the alternative in destroying the hazardous substances, the reduction or elimination of hazardous substance releases and sources of releases, the degree of irreversibility of waste treatment process, and the characteristics and quantity of treatment residuals generated.*	Certainty and Reliability	Narrative	Lowest certainty and reliability; MNR as the sole remedial action is uncertain and not reliable.	Greater comparative risk of remedy failure due to use of engineered cap-on-grade across all of SMA-3, and no removal of underlying contaminants exceeding cleanup levels. MNR in SMA-1 and EMNR in SMA-2 rely on an extended timeframe to achieve a permanent reduction in toxicity or volume of hazardous substances.	Greater comparative risk of remedy failure due to use of engineered cap-on-grade across all of SMA-3, and no removal of underlying contaminants exceeding cleanup levels. MNR in SMA-1 and EMNR in SMA-2 rely on an extended timeframe to achieve a permanent reduction in toxicity or volume of hazardous substances.	Partial removal in SMA-3 inlet increases certainty and reliability of capping technology. Some risk from cap failure, particularly on the southern side of the site where engineered cap-on-grade is used with no underlying contaminant removal. MNR in SMA-1 and EMNR in SMA-2 rely on an extended timeframe to achieve a permanent reduction in toxicity or volume of hazardous substances.	Removal to 4-foot depth in SMA-3 inlet increases certainty and reliability of capping technology. Some potential risk from cap failure. MNR in SMA-1 and EMNR in SMA-2 have high certainty and reliability. Partial removal in SMA-3 (inlet) increases certainty and reliability. MNR in SMA-1 and EMNR in SMA-2 rely on an extended timeframe to achieve a permanent reduction in toxicity or volume of hazardous substances.	Some potential risk from cap failure. MNR in SMA-1 and EMNR in SMA-2 have high certainty and reliability. Partial removal in SMA-3 (south shoreline) increases certainty and reliability. Some uncertainty exists regarding the long-term performance of MNR in SMA-1 and EMNR in SMA-2.	Partial removal (top 2 feet) in SMA-3 increases certainty and reliability. Some potential risk from cap failure in SMA-3. MNR in SMA-1 and EMNR in SMA-2 rely on an extended timeframe to achieve a permanent reduction in toxicity or volume of hazardous substances.	Full removal in SMA-3 southern areas increases certainty and reliability. Partial removal (top 2 feet) in SMA-3 inlet and portions of SMA-2 knoll increases certainty and reliability. Some potential risk from cap failure in SMA-3 inlet. MNR in SMA-1 and EMNR in SMA-2 rely on an extended timeframe to achieve a permanent reduction in toxicity or volume of hazardous substances.
				Score	n/a	4.0	4.0	5.0	6.0	7.0	8.0	9.0
			Residual Risks (Mass Removal)	Narrative	Cresote pilings would be removed; does not otherwise result in mass removal from any SMA. Unacceptable risks would remain because permanent remedial actions are not incorporated.	Capping on-grade in SMA-3 does not provide mass removal. EMNR in SMA-2 and MNR in SMA-1 do not provide mass removal. Risks are elevated compared to alternatives that remove contaminant mass from the Site.	Capping on-grade in SMA-3 does not provide mass removal. EMNR in SMA-2 and MNR in SMA-1 do not provide mass removal. Risks are elevated compared to alternatives that remove contaminant mass from the Site.	Partial removal in SMA-3 inlet provides targeted mass removal. Capping on-grade in SMA-3 southern side does not provide mass removal. EMNR in SMA-2 and MNR in SMA-1 do not provide mass removal. Risks are elevated compared to alternatives that remove greater contaminant mass from the Site.	Deeper partial removal in SMA-3 inlet provides targeted mass removal. Capping on-grade in SMA-3 southern side does not provide mass removal. EMNR in SMA-2 and MNR in SMA-1 do not provide mass removal. Risks are elevated compared to alternatives that remove greater contaminant mass from the Site.	Capping on-grade in SMA-3 inlet does not provide mass removal. Removal to 2-feet within SMA-3 southern side provides targeted mass removal of "hotspot" areas. EMNR in SMA-2 and MNR in SMA-1 do not provide mass removal. Risks are elevated compared to alternatives that remove greater contaminant mass from the Site.	Removal of top 2 feet of sediment within all of SMA-3 results in targeted mass removal of "hotspot" areas; contamination above cleanup levels remains at depth in some areas of SMA-3. EMNR in SMA-2 and MNR in SMA-1 do not provide mass removal. Risks are elevated compared to alternatives that remove greater contaminant mass from the Site.	Full removal in SMA-3 southern areas and portions of SMA-2 knoll results in additional targeted mass removal of "hotspot" areas. Contamination above cleanup levels remains at depth in some areas of SMA-3 inlet. Risks from contaminant concentrations following MNR in SMA-1 and EMNR in SMA-2 are not reduced by additional mass removal.
				Score	n/a	2.0	2.0	3.0	4.0	6.0	8.0	9.0
			Total	**Score**	**n/a**	**3.0**	**3.0**	**4.0**	**5.0**	**6.5**	**8.0**	**9.0**
Long-Term Effectiveness	20%	*Long-term effectiveness includes the degree of certainty that the alternative will be successful, the reliability of the alternative during the period of time hazardous substances* ***are expected to remain on-site at concentrations that exceed cleanup levels,*** *the magnitude of residual risk with the alternative in place, and the effectiveness of controls required to manage treatment residues or remaining wastes.*	Climate Change Factors, including Erosion; Biological Processes; Seismic Events; Human Disturbance	Narrative	Greatest potential for future exposure or releases from climate change-related risks (sea level rise/increased storm intensities) in SMA-2 and SMA-3.	Potential for future exposure or releases from contaminant migration, climate-related risks and other disturbances, particularly for cap-on-grade areas (SMA-3). Climate change evaluations would be considered during design for engineered cap-on-grade design. Some uncertainty exists regarding the long-term performance of MNR in SMA-1 and EMNR in SMA-2.	Potential for future exposure or releases from contaminant migration, climate-related risks and other disturbances, particularly for cap-on-grade areas (SMA-3). Climate change evaluations would be considered during design for engineered cap-on-grade design. Some uncertainty exists regarding the long-term performance of MNR in SMA-1 and EMNR in SMA-2.	Partial removal in SMA-3 inlet reduces vulnerablity to climate change and other disturbances. Some potential for future exposure or releases from climate-related risks, particularly for capped areas in SMA-3. Climate change evaluations would be considered for engineered cap-on-grade design. Some uncertainty exists regarding the long-term performance of MNR in SMA-1 and EMNR in SMA-2.	Partial removal to a 4-foot depth in SMA-3 inlet reduces vulnerablity to climate change and other disturbances. Some potential for future exposure or releases from climate-related risks, particularly for capped areas in SMA-3. Climate change evaluations would be considered for engineered cap-on-grade design. Some uncertainty exists regarding the long-term performance of MNR in SMA-1 and EMNR in SMA-2.	Partial removal in the SMA-3 southern area reduces vulnerability to climate change and other disturbances. Some potential for future exposure or releases from climate-related risks, particularly for capped areas in SMA-3. Climate change evaluations would be considered for engineered cap-on-grade design. Some uncertainty exists regarding the long-term performance of MNR in SMA-1 and EMNR in SMA-2.	Partial removal (top 2 feet) in SMA-3 reduces vulnerablity to climate change and other disturbances. Some potential for future exposure or releases from climate-related risks, particularly for capped areas in SMA-3. Climate change evaluations would be considered for engineered cap-on-grade design. Some uncertainty exists regarding the long-term performance of MNR in SMA-1 and EMNR in SMA-2.	Full removal in SMA-3 southern areas and portions of SMA-2 knoll substantially decreases vulnerability to climate change and other disturbances. Some potential for future exposure or releases in SMA-3 inlet. Some uncertainty exists regarding the long-term performance of MNR in SMA-1 and EMNR in SMA-2.
			Total	**Score**	**n/a**	**2.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**8.0**
Management of Short-Term Risk	10%	*The risk to human health and the environment associated with the alternative during construction and implementation, and the effectiveness of measures that will be taken to manage such risks.*	Risk to Human Health and Safety During Construction	Narrative	No active construction and no associated risk to human health and safety.	Includes risks from constructing thick caps in SMA-3 and applying a thin-layer cap in SMA-2. Risks are reduced compared to alternatives that incorporate sediment removal.	Includes risks from partial removal and engineered cap construction in SMA-3 and from construction of a thin-layer cap in SMA-2. Risks are reduced compared to alternatives with deeper removal depths and/or greater volumes of sediment removal.	Includes risks from partial removal and engineered cap construction in SMA-3 and from construction of a thin-layer cap in SMA-2. Risks are reduced compared to alternatives with deeper removal depths and/or greater volumes of sediment removal.	Includes risks from partial removal and engineered cap construction in SMA-3 and from construction of a thin-layer cap in SMA-2. Risks are reduced compared to alternatives with deeper removal depths and/or greater volumes of sediment removal.	Includes risks from partial removal and engineered cap construction in SMA-3 and from construction of a thin-layer cap in SMA-2. Risks are reduced compared to alternatives with deeper removal depths and/or greater volumes of sediment removal.	Includes risks from partial removal and capping in SMA-3 and from construction of a thin-layer cap in SMA-2.	Includes risks from full removal in SMA-3 southern side and partial SMA-2 knoll area and from construction of a thin-layer cap in SMA-2. Risks not as great as M-7 or M-8.
			Total	**Score**	**n/a**	**8.0**	**8.0**	**8.0**	**7.0**	**7.0**	**7.0**	**6.0**
Technical and Administrative Implementability	10%	*Ability to be implemented including consideration of whether the alternative is technically possible, availability of necessary offsite facilities, services and materials, administrative and regulatory requirements, scheduling, size, complexity, monitoring requirements, access for construction operations and monitoring, and integration with existing facility operations and other current or potential remedial actions.*	Technical Feasibility	Narrative	Few technical challenges, however, does not meet minimum regulatory threshold requirements.	Engineered cap design must function in-perpetuity; may require extensive long-term monitoring and maintanence efforts, which could disprupt future site operations. Technology has been used at other sites in Puget Sound and experienced contractors and materials are locally available. Impacts to public may occur during construction; construction duration expected to be shorter than alternatives that include removal and cap/backfill.	Engineered cap design must function in-perpetuity; may require extensive long-term monitoring and maintanence efforts, which could disprupt future site operations. Technology has been used at other sites in Puget Sound and experienced contractors and materials are locally available. Impacts to public may occur during construction; construction duration expected to be shorter than alternatives that include removal and cap/backfill.	Some technical challenges associated with removal in the inlet; proven technology and locally available experienced contractors and materials. Engineered cap design must function in-perpetuity; may require extensive long-term monitoring and maintanence efforts, which could disprupt future site operations.	Some technical challenges associated with deeper removal in the inlet; proven technology and locally available experienced contractors and materials. Engineered cap design must function in-perpetuity; may require extensive long-term monitoring and maintanence efforts, which could disprupt future site operations.	Some technical challenges associated with removal on unstable intertidal subgrades; proven technology and locally available experienced contractors and materials. Engineered cap design must function in-perpetuity; may require extensive long-term monitoring and maintanence efforts, which could disprupt future site operations.	Some technical challenges associated with removal in the inlet; proven technology and locally available experienced contractors and materials. Fewer long-term monitoring and maintanence requirements expected than Alternatives M-2 through M-5.	Some technical challenges associated with removal in the inlet; proven technology and locally available experienced contractors and materials. Fewer long-term monitoring and maintanence requirements expected than Alternatives M-2 through M-6.
				Score	n/a	5.0	5.0	6.0	6.0	6.0	8.0	8.0
			Administrative Feasibility	Narrative	No difficult permit requirements, however, does not meet minimum regulatory threshold requirements.	Cap-on-grade may be more difficult to permit; long-term monitoring and maintanence greater with caps, particularly cap-on-grade areas. Caps may require institutional controls (restrictive covenants). Mitigation may be required for impacts to natural resources during construction.	Cap-on-grade may be more difficult to permit; long-term monitoring and maintanence greater with caps, particularly cap-on-grade areas. Caps may require institutional controls (restrictive covenants). Mitigation may be required for impacts to natural resources during construction.	Cap-on-grade may be more difficult to permit; long-term monitoring and maintanence greater with caps, particularly cap-on-grade areas. Caps may require institutional controls (restrictive covenants). Mitigation may be required for impacts to natural resources during construction.	Cap-on-grade may be more difficult to permit; long-term monitoring and maintanence greater with caps, particularly cap-on-grade areas. Caps may require institutional controls (restrictive covenants). Mitigation may be required for impacts to natural resources during construction.	Cap-on-grade may be more difficult to permit; long-term monitoring and maintanence greater with caps, particularly cap-on-grade areas. Caps may require institutional controls (restrictive covenants). Mitigation may be required for impacts to natural resources during construction.	Difficult permit requirements not anticipated. Caps may require institutional controls (restrictive covenants). Mitigation may be required for impacts to natural resources during construction.	Difficult permit requirements not anticipated. Caps may require institutional controls (restrictive covenants). Mitigation may be required for impacts to natural resources during construction.
				Score	n/a	3.0	3.0	5.0	5.0	6.0	8.0	8.0
			Total	**Score**	**n/a**	**4.0**	**4.0**	**5.5**	**5.5**	**6.0**	**8.0**	**8.0**
Consideration of Public Concerns	10%	*Whether the community has concerns regarding the alternative and, if so, the extent to which the alternative addresses those concerns. This process includes concerns from individuals, community groups, local governments, tribes, federal and state agencies, or any other organization that may have an interest in or knowledge of the site.*	Balance the Public Desire for Environmental Cleanup and Sustainable Local Economic Conditions	Narrative	Unlikely to satisfy public desire for active cleanup of the Site.	Leaving contamination in place (no removal) likely to be a concern to the public. Some impacts to public may occur during construction (e.g. traffic restrictions on West Marine View Dr.). Construction duration expected to be shorter than removal and cap alternatives.	Leaving contamination in place (no removal) likely to be a concern to the public. Some impacts to public may occur during construction (e.g. traffic restrictions on West Marine View Dr.). Construction duration expected to be shorter than removal and cap alternatives.	Greater balance than M-2 and M-3 between public desire for active cleanup with concerns over economic impacts and disruption to the local community (e.g. noise, traffic). Public may be concerned about risks from contamination left in place.	Greater balance than M-2 and M-3 between public desire for active cleanup with concerns over economic impacts and disruption to the local community (e.g. noise, traffic). Public may be concerned about risks from contamination left in place.	Greater balance than M-2 and M-3 between public desire for active cleanup with concerns over economic impacts and disruption to the local community (e.g. noise, traffic). Public may be concerned about risks from contamination left in place.	Greater balance between public desire for active cleanup with concerns over economic impacts and disruption to the local community (e.g. noise, traffic).	Greater balance between public desire for active cleanup with concerns over economic impacts and disruption to the local community (e.g. noise, traffic).
			Total	**Score**	**n/a**	**3.0**	**3.0**	**5.0**	**5.0**	**5.0**	**8.0**	**9.0**
				Total Weighted Benefits	**n/a**	**3.7**	**3.7**	**4.8**	**5.4**	**6.1**	**7.2**	**8.4**

Table 10.2-1
Jeld-Wen Marine Disproportional Cost Analysis Matrix

Criterion	Weighting	Washington Administrative Code Language	Considerations for Site-Specific Evaluation	M-1	M-2	M-3	M-4a	M-4b	M-5	M-6	M-6.5
				Source Control and Natural Recovery	Capping Focus: Armored Shoreline	Capping Focus: Soft Shoreline	Targeted Removal Focus: North Inlet Area (2-foot removal)	Targeted Removal Focus: North Inlet Area (4-foot removal)	Targeted Removal Focus: Southern Areas	Removal Focus	Removal Focus (SMA-3 and partial SMA-2 knoll)
Cost				$2,773,000	$5,858,000	$7,028,000	$7,282,000	$7,839,000	$8,988,000	$10,370,000	$12,679,709

Table 10.2-1
Jeld-Wen Marine Disproportional Cost Analysis Matrix

					M-7	**M-8**
Criterion	**Weighting**	**Washington Administrative Code Language**	**Considerations for Site-Specific Evaluation**		**Full Removal Focus**	**Full Removal**
Protectiveness	30%	*Overall protectiveness of human health and the environment, including the degree to which existing risks are reduced, time required to reduce risk at the facility and attain cleanup standards, on-site and offsite risks resulting from implementing the alternative, and improvement of the overall environmental quality.*	Protection of Human Health	Narrative	Achieves human health cleanup standards (cleanup levels met within top 1 foot of sediment on a SWAC basis) throughout the marine areas of the site immediately following construction. Contaminants fully removed from SMA-3 results in substantial risk reduction. Scores lower than M-8 because contamination remains on site above cleanup levels in SMA-1 and SMA-2.	Achieves human health cleanup standards throughout the marine areas of the site immediately following construction.
				Score	9.0	10.0
			Protection of the Environment	Narrative	Achieves cleanup standards protective of ecological receptors for COPC throughout the marine areas of the site immediately following construction. Contaminants fully removed from SMA-3 results in substantial risk reduction. Scores lower than M-8 because contamination remains on Site above cleanup levels in SMA-1 and SMA-2.	Eliminates ecological risks associated COPC throughout the marine areas of the site immediately following construction.
				Score	9.0	10.0
			Total	**Score**	**9.0**	**10.0**
Permanence	20%	*The degree to which the alternative permanently reduces the toxicity, mobility or volume of hazardous substances, including the adequacy of the alternative in destroying the hazardous substances, the reduction or elimination of hazardous substance releases and sources of releases, the degree of irreversibility of waste treatment process, and the characteristics and quantity of treatment residuals generated.*	Certainty and Reliability	Narrative	Full removal in SMA-3 increases certainty and reliability; no potential risk from cap failure. MNR in SMA-1 and EMNR in SMA-2 have high certainty and reliability. Scores lower than M-8 becuase MNR in SMA-1 and EMNR in SMA-2 rely on an extended timeframe to achieve a permanent reduction in toxicity or volume of hazardous substances.	Complete removal provides lowest potential for future exposure or releases.
				Score	9.0	10.0
			Residual Risks (Mass Removal)	Narrative	Full removal in SMA-3 results in substantial mass removal. Risks from contaminant concentrations following MNR in SMA-1 and EMNR in SMA-2 are not reduced by additional mass removal.	Complete removal provides the highest COPC mass reduction in SMA-1, SMA-2 and SMA-3; however, dredging residuals from removal in all three SMAs result in higher overall residual contamination.
				Score	9.0	9.5
			Total	**Score**	**9.0**	**9.8**
Long-Term Effectiveness	20%	*Long-term effectiveness includes the degree of certainty that the alternative will be successful, the reliability of the alternative during the period of time hazardous substances* ***are expected to remain on-site at concentrations that exceed cleanup levels,*** *the magnitude of residual risk with the alternative in place, and the effectiveness of controls required to manage treatment residues or remaining wastes.*	Climate Change Factors, including Erosion; Biological Processes; Seismic Events; Human Disturbance	Narrative	Complete removal in SMA-3 substantially descreases potential for future exposure or releases. Some uncertainty exists regarding the long-term performance of MNR in SMA-1 and EMNR in SMA-2.	Complete removal provides lowest potential for future exposure or releases; climate change does not increase risk of future exposure or releases.
			Total	**Score**	**8.0**	**10.0**
Management of Short-Term Risk	10%	*The risk to human health and the environment associated with the alternative during construction and implementation, and the effectiveness of measures that will be taken to manage such risks.*	Risk to Human Health and Safety During Construction	Narrative	Includes risks from full removal in SMA-3 and from construction of a thin-layer cap in SMA-2. Risks not as great as M-8.	Alternative with the most active and intensive construction and highest associated risk.
			Total	**Score**	**5.0**	**3.0**
Technical and Administrative Implementability	10%	*Ability to be implemented including consideration of whether the alternative is technically possible, availability of necessary offsite facilities, services and materials, administrative and regulatory requirements, scheduling, size, complexity, monitoring requirements, access for construction operations and monitoring, and integration with existing facility operations and other current or potential remedial actions.*	Technical Feasibility	Narrative	Technical challenges associated with deepest removal in the inlet; however, uses proven technology and locally experienced contractors and materials are available. Fewer long-term monitoring and maintanence requirements expected than Alternatives M-2 through M-6.	Technical challenges include large excavation footprints on tidally influenced mudflat, deepest cuts, slope stability shoring requirements. No institutional control or long-term maintanence and monitoring requirements.
				Score	7.0	3.0
			Administrative Feasibility	Narrative	No difficult institutional controls or long-term maintanance and monitoring requirements. Difficult permit requirements not anticipated. Mitigation may be required for impacts to natural resources during construction.	No institutional controls or long-term maintanance and monitoring requirements. May pose some permitting challenges due to large disturbance area. Mitigation may be required for impacts to natural resources during construction.
				Score	9.0	8.0
			Total	**Score**	**8.0**	**5.5**
Consideration of Public Concerns	10%	*Whether the community has concerns regarding the alternative and, if so, the extent to which the alternative addresses those concerns. This process includes concerns from individuals, community groups, local governments, tribes, federal and state agencies, or any other organization that may have an interest in or knowledge of the site.*	Balance the Public Desire for Environmental Cleanup and Sustainable Local Economic Conditions	Narrative	Balances public desire for active cleanup with concerns over economic impacts and disruption to the local community (e.g. noise, traffic).	Would satisfy public desire for complete removal, but high cost, economic impacts, and disruption to the community from construction may be more of a concern for the public.
			Total	**Score**	**8.0**	**3.0**
				Total Weighted Benefits	**8.2**	**8.1**

Table 10.2-1
Jeld-Wen Marine Disproportional Cost Analysis Matrix

Criterion	Weighting	Washington Administrative Code Language	Considerations for Site-Specific Evaluation	M-7	M-8
				Full Removal Focus	Full Removal
			Cost	$13,633,000	$38,832,000

Table N-3

Summary of Alternative Costs

Task	Alternative 1	Alternative 2	Alternative 3	Alternative 4a	Alternative 4b	Alternative 5	Alternative 6	Alternative 7	Alternative 8
Mobilization and Demobilization	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 500,000	$ 500,000	$ 900,000
Site Preparation	$ 1,040,000	$ 1,040,000	$ 1,776,000	$ 1,110,000	$ 1,110,000	$ 1,110,000	$ 1,110,000	$ 1,110,000	$ 1,110,000
Enhanced Natural Recovery	$ -	$ 599,638	$ 599,638	$ 599,638	$ 599,638	$ 599,638	$ 599,638	$ 599,638	$ -
Dredging and Disposal	$ -	$ -	$ -	$ 706,577	$ 1,008,904	$ 1,828,438	$ 2,476,164	$ 4,485,198	$ 17,776,576
Engineered Cap/Backfill	$ -	$ 795,582	$ 795,582	$ 795,582	$ 853,577	$ 795,582	$ 795,582	$ 1,096,686	$ 4,653,374
Environmental Controls	$ -	$ 100,000	$ 100,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 100,000
Bathymetric Surveys	$ 20,000	$ 140,000	$ 150,000	$ 160,000	$ 160,000	$ 180,000	$ 200,000	$ 200,000	$ 90,000
Subtotal Construction Costs	**$ 1,360,000**	**$ 2,975,220**	**$ 3,721,220**	**$ 3,871,797**	**$ 4,232,119**	**$ 5,013,659**	**$ 5,881,385**	**$ 8,191,523**	**$ 24,629,950**
Construction Contingency & WSST	**$ 537,200**	**$ 1,175,212**	**$ 1,469,882**	**$ 1,529,360**	**$ 1,671,687**	**$ 1,980,395**	**$ 2,323,147**	**$ 3,235,652**	**$ 9,728,830**
Total Construction Cost	$ 1,897,200	$ 4,150,433	$ 5,191,103	$ 5,401,157	$ 5,903,806	$ 6,994,054	$ 8,204,532	$ 11,427,175	$ 34,358,780
Pre-Design Sampling	$ -	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000
Project Management	$ 97,802	$ 198,210	$ 225,089	$ 235,310	$ 245,511	$ 239,723	$ 276,824	$ 324,003	$ 794,544
Engineering and Design	$ 94,860	$ 207,522	$ 259,555	$ 270,058	$ 295,190	$ 349,703	$ 410,227	$ 571,359	$ 1,717,939
Permitting	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000
Construction Management Support	$ 104,074	$ 210,921	$ 239,525	$ 250,401	$ 261,257	$ 255,098	$ 294,577	$ 344,782	$ 845,501
Environmental Monitoring During Construction	$ 79,914	$ 161,958	$ 183,921	$ 192,273	$ 200,608	$ 195,878	$ 226,193	$ 264,743	$ 649,224
Verification Sampling	$ -	$ -	$ -	$ 4,000	$ 4,000	$ 25,000	$ 29,000	$ 29,000	$ 166,000
Institutional Controls	$ -	$ 47,850	$ 47,850	$ 47,850	$ 47,850	$ 47,850	$ 47,850	$ -	$ -
Long-Term Monitoring	$ 399,360	$ 581,160	$ 581,160	$ 581,160	$ 581,160	$ 581,160	$ 581,160	$ 371,520	$ -
Habitat Mitigation Costs									
Total Non-Construction Cost	**$ 876,009**	**$ 1,707,620**	**$ 1,837,099**	**$ 1,881,052**	**$ 1,935,576**	**$ 1,994,412**	**$ 2,165,831**	**$ 2,205,407**	**$ 4,473,208**
Total Cost	**$ 2,773,209**	**$ 5,858,053**	**$ 7,028,202**	**$ 7,282,210**	**$ 7,839,382**	**$ 8,988,466**	**$ 10,370,363**	**$ 13,632,582**	**$ 38,831,988**

Table N-4

Alternative M1 Cost Estimate

Technology/Construction Task Element	Unit Price	Unit	Quantity	Total Cost
Direct Construction Costs				
Mobilization and Demobilization				
Mobilization	$ 200,000	Season	1	$ 200,000
Demobilization	$ 100,000	LS	1	$ 100,000
Site Preparation				
Removal of Piling and Large Woody Debris	$ 250	EA	200	$ 50,000
Processing, Transportation and Disposal of Woody Debris	$ 225	TON	2000	$ 450,000
Prepare upland staging for dredged sediments	$ 150,000	CY	0	$ -
Prepare upland staging (no dredging)	$ 80,000	LS	1	$ 80,000
Demolition of Remnant Barge Structure	$ 30,000	LS	1	$ 30,000
Demolition of Bulkhead Structure	$ 200,000	LS	1	$ 200,000
Shoreline protection at top of bank	$ 100	LF	2300	$ 230,000
Enhanced Monitored Natural Recovery				
Procure and Transport Beneficial Reuse Silty Sand Material	$ 15	TON	0	$ -
Place 12-inch thick Silty Sand Material	$ 30	TON	0	$ -
Dredge and Disposal				
Dredging - Land Based Equipment	$ 35	CY	0	$ -
Dredging - Slope shoring and protection of utilities/road	$ 500	LF	0	$ -
Dredging - Excavation Dewatering	$ 80,000	LS	0	$ -
Sediment stockpiling	$ 5	CY	0	$ -
Dredge material dewatering and treatment	$ 12,500	Monthly	0	$ -
Placing Upland Beneficial Reuse Material	$ 10	CY	0	$ -
Dredged Material Transport and Disposal - Subtitle D	$ 83	TON	0	$ -
Backfill and Engineered Cap				
Purchase and Transport Backfill Material	$ 15	TON	0	$ -
Place Backfill Material	$ 15	TON	0	$ -
Purchase & Transport Engineered Cap Material	$ 15	TON	0	$ -
Place Engineered Cap Material	$ 30	TON	0	$ -
Environmental Controls	$ 100,000	LS	0	$ -
Bathymetric/Topographic Surveys	$ 10,000	LS	2	$ 20,000
Subtotal Direct Construction Costs				$ 1,360,000
Contingency	30%	Percent		$ 408,000
WSST	9.5%	Percent		$ 129,200
Total Direct Construction Cost				$ 1,897,200
Indirect Construction Costs				
Pre-design sampling	$ 200,000	LS	0	$ -
Project Management	$ 42,100	Monthly	2.3	$ 97,802
Engineering and Design	$ 94,860	LS	1	$ 94,860
Permitting	$ 100,000	LS	1	$ 100,000
Construction Management Support	$ 44,800	Monthly	2.3	$ 104,074
Environmental Monitoring During Construction	$ 34,400	Monthly	2.3	$ 79,914
Verification Sampling	$ 10,000	LS	0	$ -
Institutional Controls	$ 16,500	Acre	0	$ -
Long Term Monitoring	$ 399,360	LS	1	$ 399,360
Total Indirect Construction Costs				$ 876,009
Grand Total Cost (Total Direct + Total Indirect)				**$ 2,773,209**

Construction Duration	Daily Rate	Quantity	Unit	Months
Removal of Piling and Large Woody Debris	10	100	Ea	0.5
Demolition	1	22	Ea	1.0
Prepare upland staging for dredged sediments	1	3	Ea	0.1
Rip rap armored shoreline	150	2300	LF	0.7
Place 12-inch thick Silty Sand Material	600	0	TONS	0
Temporary Shoring	40	0	LF	0
Dredging - Land Based Equipment	500	0	CY	0
Place Backfill Material	1200	0	TONS	0
Place Engineered Cap Material	600	0	Tons	0
Total Duration				2.3

Table N-4

Alternative M1 Cost Estimate

Notes:
LF: Linear Foot
CY: Cubic yard
Ea: Each
LS: Lump sum

These estimates are developed using current and generally accepted engineering cost estimation methods. Note that these estimates are based on assumptions concerning future events and actual costs may be affected by known and unknown risks including, but not limited to, changes in general economic and business conditions, site conditions that were unknown to Anchor QEA, LLC at the time the estimates were performed, future changes in site conditions, regulatory or enforcement policy changes, and delays in performance. Actual costs may vary from these estimates and such variations may be material. Anchor QEA, LLC is not licensed as accountants or securities attorneys and, therefore, make no representations that these costs form an appropriate basis for complying with financial reporting requirements for such costs.

Table N-5

Alternative M2 Cost Estimate

Technology/Construction Task Element	Unit Price	Unit	Quantity	Total Cost
Direct Construction Costs				
Mobilization and Demobilization				
Mobilization	$ 200,000	Year	1	$ 200,000
Demobilization	$ 100,000	LS	1	$ 100,000
Site Preparation				
Removal of Piling and Large Woody Debris	$ 250	EA	200	$ 50,000
Processing, Transportation and Disposal of Woody Debris	$ 225	TON	2000	$ 450,000
Prepare upland staging for dredged sediments	$ 150,000	CY	0	$ -
Prepare upland staging creosote debris processing	$ 80,000	LS	1	$ 80,000
Demolition of Remnant Barge Structure	$ 30,000	LS	1	$ 30,000
Demolition of Bulkhead Structure	$ 200,000	LS	1	$ 200,000
Shoreline protection at top of bank	$ 100	LF	2300	$ 230,000
Enhanced Monitored Natural Recovery				
Procure and Transport Beneficial Reuse Silty Sand Material	$ 15	TON	13,325	$ 199,879
Place 12-inch thick Silty Sand Material	$ 30	TON	13,325	$ 399,759
Dredge and Disposal				
Dredging - Land Based Equipment	$ 35	CY	0	$ -
Dredging - Slope shoring and protection of utilities/road	$ 500	LF	0	$ -
Dredging - Excavation Dewatering	$ 80,000	LS	0	$ -
Sediment stockpiling	$ 5	CY	0	$ -
Dredge material dewatering and treatment	$ 12,500	Monthly	0	$ -
Placing Upland Beneficial Reuse Material	$ 10	CY	0	$ -
Dredged Material Transport and Disposal - Subtitle D	$ 83	TON	0	$ -
Backfill and Engineered Cap				
Purchase and Transport Backfill Material	$ 15	TON	0	$ -
Place Backfill Material	$ 15	TON	0	$ -
Purchase & Transport Engineered Cap Material	$ 15	TON	17,680	$ 265,194
Place Engineered Cap Material	$ 30	TON	17,680	$ 530,388
Environmental Controls	$ 100,000	LS	1	$ 100,000
Bathymetric/Topographic Surveys	$ 10,000	LS	14	$ 140,000
Subtotal Direct Construction Costs				$ 2,975,220
Contingency	30%	Percent		$ 892,566
WSST	9.5%	Percent		$ 282,646
Total Direct Construction Cost				$ 4,150,433
Indirect Construction Costs				
Pre-design sampling	$ 200,000	LS	1	$ 200,000
Project Management	$ 42,100	Monthly	4.7	$ 198,210
Engineering and Design	$ 207,522	LS	1	$ 207,522
Permitting	$ 100,000	LS	1	$ 100,000
Construction Management Support	$ 44,800	Monthly	4.7	$ 210,921
Environmental Monitoring During Construction	$ 34,400	Monthly	4.7	$ 161,958
Verification Sampling	$ 10,000	LS	0	$ -
Institutional Controls	$ 16,500	Acre	2.9	$ 47,850
Long Term Monitoring	$ 581,160	LS	1	$ 581,160
Total Indirect Construction Costs				$ 1,707,620
Grand Total Cost (Total Direct + Total Indirect)				**$ 5,858,053**

Table N-5

Alternative M2 Cost Estimate

Construction Duration	Daily Rate	Quantity	Unit	Months
Removal of Piling and Large Woody Debris	10	100	Ea	0.5
Demolition	1	22	Ea	1.0
Prepare upland staging	1	3	Ea	0.1
Rip rap armored shoreline	150	2300	LF	0.7
Place 12-inch thick Silty Sand Material	600	13325	TONS	1.0
Temporary Shoring	40	0	LF	0.0
Dredging - Land Based Equipment	500	0	CY	0
Place Backfill Material	1200	0	Tons	0
Place Engineered Cap Material	600	17680	CY	1.4
Total Duration				4.7

Notes:
LF: Linear Foot
CY: Cubic yard
Ea: Each
LS: Lump sum

These estimates are developed using current and generally accepted engineering cost estimation methods. Note that these estimates are based on assumptions concerning future events and actual costs may be affected by known and unknown risks including, but not limited to, changes in general economic and business conditions, site conditions that were unknown to Anchor QEA, LLC at the time the estimates were performed, future changes in site conditions, regulatory or enforcement policy changes, and delays in performance. Actual costs may vary from these estimates and such variations may be material. Anchor QEA, LLC is not licensed as accountants or securities attorneys and, therefore, make no representations that these costs form an appropriate basis for complying with financial reporting requirements for such costs.

Table N-6

Alternative M3 Cost Estimate

Technology/Construction Task Element	Unit Price	Unit	Quantity	Total Cost
Direct Construction Costs				
Mobilization and Demobilization				
Mobilization	$ 200,000	Year	1	$ 200,000
Demobilization	$ 100,000	Year	1	$ 100,000
Site Preparation				
Removal of Piling and Large Woody Debris	$ 250	EA	200	$ 50,000
Processing, Transportation and Disposal of Woody Debris	$ 225	TON	2000	$ 450,000
Prepare upland staging for dredged sediments	$ 150,000	CY	0	$ -
Prepare upland staging creosote debris processing	$ 80,000	LS	1	$ 80,000
Demolition of Remnant Barge Structure	$ 30,000	LS	1	$ 30,000
Demolition of Bulkhead Structure	$ 200,000	LS	1	$ 200,000
Shoreline protection at top of bank	$ 420	LF	2300	$ 966,000
Enhanced Monitored Natural Recovery				
Procure and Transport Beneficial Reuse Silty Sand Material	$ 15	TON	13,325	$ 199,879
Place 12-inch thick Silty Sand Material	$ 30	TON	13,325	$ 399,759
Dredge and Disposal				
Dredging - Land Based Equipment	$ 35	CY	0	$ -
Dredging - Slope shoring and protection of utilities/road	$ 500	LF	0	$ -
Dredging - Excavation Dewatering	$ 80,000	LS	0	$ -
Sediment stockpiling	$ 5	CY	0	$ -
Dredge material dewatering and treatment	$ 12,500	Monthly	0.0	$ -
Placing Upland Beneficial Reuse Material	$ 10	CY	0	$ -
Dredged Material Transport and Disposal - Subtitle D	$ 83	TON	0	$ -
Backfill and Engineered Cap				
Purchase and Transport Backfill Material	$ 15	TON	0	$ -
Place Backfill Material	$ 15	TON	0	$ -
Purchase & Transport Engineered Cap Material	$ 15	TON	17,680	$ 265,194
Place Engineered Cap Material	$ 30	TON	17,680	$ 530,388
Environmental Controls	$ 100,000	LS	1	$ 100,000
Bathymetric/Topographic Surveys	$ 10,000	LS	15	$ 150,000
Subtotal Direct Construction Costs				$ 3,721,220
Contingency	30%	Percent		$ 1,116,366
WSST	9.5%	Percent		$ 353,516
Total Direct Construction Cost				$ 5,191,103
Indirect Construction Costs				
Pre-design sampling	$ 200,000	LS	1	$ 200,000
Project Management	$ 42,100	Monthly	5.3	$ 225,089
Engineering and Design	$ 259,555	LS	1	$ 259,555
Permitting	$ 100,000	LS	1	$ 100,000
Construction Management Support	$ 44,800	Monthly	5.3	$ 239,525
Environmental Monitoring During Construction	$ 34,400	Monthly	5.3	$ 183,921
Verification Sampling	$ 10,000	LS	0	$ -
Institutional Controls	$ 16,500	Acres	2.9	$ 47,850
Long Term Monitoring	$ 581,160	LS	1	$ 581,160
Total Indirect Construction Costs				$ 1,837,099
Grand Total Cost (Total Direct + Total Indirect)				**$ 7,028,202**

Table N-6
Alternative M3 Cost Estimate

Construction Duration	Daily Rate	Quantity	Unit	Months
Removal of Piling and Large Woody Debris	10	100	Ea	0.5
Demolition	1	22	Ea	1.0
Prepare upland staging for dredged sediments	1	3	Ea	0.1
Rip rap armored shoreline	150	0	LF	0.0
Place 12-inch thick Silty Sand Material	600	13,325	TONS	1.0
Temporary Shoring	40	0	LF	0.0
Dredging - Land Based Equipment	500	0	CY	0.0
Place Backfill Material	1200	35000	Tons	1.3
Place Engineered Cap Material	600	17,680	CY	1.4
Total Duration				5.3

Notes:
LF: Linear Foot
CY: Cubic yard
Ea: Each
LS: Lump sum

These estimates are developed using current and generally accepted engineering cost estimation methods. Note that these estimates are based on assumptions concerning future events and actual costs may be affected by known and unknown risks including, but not limited to, changes in general economic and business conditions, site conditions that were unknown to Anchor QEA, LLC at the time the estimates were performed, future changes in site conditions, regulatory or enforcement policy changes, and delays in performance. Actual costs may vary from these estimates and such variations may be material. Anchor QEA, LLC is not licensed as accountants or securities attorneys and, therefore, make no representations that these costs form an appropriate basis for complying with financial reporting requirements for such costs.

Table N-7
Alternative M4a Cost Estimate

Technology/Construction Task Element	Unit Price	Unit	Quantity	Total Cost
Direct Construction Costs				
Mobilization and Demobilization				
Mobilization	$ 200,000	Year	1	$ 200,000
Demobilization	$ 100,000	LS	1	$ 100,000
Site Preparation				
Removal of Piling and Large Woody Debris	$ 250	EA	200	$ 50,000
Processing, Transportation and Disposal of Woody Debris	$ 225	TON	2000	$ 450,000
Prepare upland staging for dredged sediments	$ 150,000	CY	1	$ 150,000
Prepare upland staging creosote debris processing	$ 80,000	LS	0	$ -
Demolition of Remnant Barge Structure	$ 30,000	LS	1	$ 30,000
Demolition of Bulkhead Structure	$ 200,000	LS	1	$ 200,000
Shoreline protection at top of bank	$ 100	LF	2300	$ 230,000
Enhanced Monitored Natural Recovery				
Procure and Transport Beneficial Reuse Silty Sand Material	$ 15	TON	13,325	$ 199,879
Place 12-inch thick Silty Sand Material	$ 30	TON	13,325	$ 399,759
Dredge and Disposal				
Dredging - Land Based Equipment	$ 35	CY	2,047	$ 71,641
Dredging - Slope shoring and protection of utilities/road	$ 500	LF	600	$ 300,000
Dredging - Excavation Dewatering	$ 80,000	LS	0	$ -
Sediment stockpiling	$ 5	CY	2,047	$ 10,234
Dredge material dewatering and treatment	$ 12,500	Monthly	6	$ 69,866
Placing Upland Beneficial Reuse Material	$ 10	CY	0	$ -
Dredged Material Transport and Disposal - Subtitle D	$ 83	TON	3,070	$ 254,836
Backfill and Engineered Cap				
Purchase and Transport Backfill Material	$ 15	TON	0	$ -
Place Backfill Material	$ 15	TON	0	$ -
Purchase & Transport Engineered Cap Material	$ 15	TON	17,680	$ 265,194
Place Engineered Cap Material	$ 30	TON	17,680	$ 530,388
Environmental Controls	$ 100,000	LS	2	$ 200,000
Bathymetric/Topographic Surveys	$ 10,000	LS	16	$ 160,000
Subtotal Direct Construction Costs				$ 3,871,797
Contingency	30%	Percent		$ 1,161,539
WSST	9.5%	Percent		$ 367,821
Total Direct Construction Cost				$ 5,401,157
Indirect Construction Costs				
Pre-design sampling	$ 200,000	LS	1	$ 200,000
Project Management	$ 42,100	Monthly	5.6	$ 235,310
Engineering and Design	$ 270,058	LS	1	$ 270,058
Permitting	$ 100,000	LS	1	$ 100,000
Construction Management Support	$ 44,800	Monthly	5.6	$ 250,401
Environmental Monitoring During Construction	$ 34,400	Monthly	5.6	$ 192,273
Verification Sampling	$ 10,000	Acre	0.4	$ 4,000
Institutional Controls	$ 16,500	LS	2.9	$ 47,850
Long Term Monitoring	$ 581,160	LS	1	$ 581,160
Total Indirect Construction Costs				$ 1,881,052
Grand Total Cost (Total Direct + Total Indirect)				**$ 7,282,210**

Table N-7
Alternative M4a Cost Estimate

Construction Duration	**Daily Rate**	**Quantity**	**Unit**	**Months**
Removal of Piling and Large Woody Debris	10	100	Ea	0.5
Demolition	1	22	Ea	1.0
Prepare upland staging for dredged sediments	1	3	Ea	0.1
Rip rap armored shoreline	150	2300	LF	0.7
Place 12-inch thick Silty Sand Material	600	13,325	TONS	1.0
Temporary Shoring	40	600	LF	0.7
Dredging - Land Based Equipment	500	2,047	CY	0.2
Place Backfill Material	1200	0	Tons	0.00
Place Engineered Cap Material	600	17,680	Tons	1.4
Total Duration				5.6

Notes:
LF: Linear Foot
CY: Cubic yard
Ea: Each
LS: Lump sum

These estimates are developed using current and generally accepted engineering cost estimation methods. Note that these estimates are based on assumptions concerning future events and actual costs may be affected by known and unknown risks including, but not limited to, changes in general economic and business conditions, site conditions that were unknown to Anchor QEA, LLC at the time the estimates were performed, future changes in site conditions, regulatory or enforcement policy changes, and delays in performance. Actual costs may vary from these estimates and such variations may be material. Anchor QEA, LLC is not licensed as accountants or securities attorneys and, therefore, make no representations that these costs form an appropriate basis for complying with financial reporting requirements for such costs.

Table N-8

Alternative M4b Cost Estimate

Technology/Construction Task Element	Unit Price	Unit	Quantity	Total Cost
Direct Construction Costs				
Mobilization and Demobilization				
Mobilization	$ 200,000	Year	1	$ 200,000
Demobilization	$ 100,000	LS	1	$ 100,000
Site Preparation				
Removal of Piling and Large Woody Debris	$ 250	EA	200	$ 50,000
Processing, Transportation and Disposal of Woody Debris	$ 225	TON	2000	$ 450,000
Prepare upland staging for dredged sediments	$ 150,000	CY	1	$ 150,000
Prepare upland staging creosote debris processing	$ 80,000	LS	0	$ -
Demolition of Remnant Barge Structure	$ 30,000	LS	1	$ 30,000
Demolition of Bulkhead Structure	$ 200,000	LS	1	$ 200,000
Shoreline protection at top of bank	$ 100	LF	2300	$ 230,000
Enhanced Monitored Natural Recovery				
Procure and Transport Beneficial Reuse Silty Sand Material	$ 15	TON	13,325	$ 199,879
Place 12-inch thick Silty Sand Material	$ 30	TON	13,325	$ 399,759
Dredge and Disposal				
Dredging - Land Based Equipment	$ 35	CY	3,866	$ 135,321
Dredging - Slope shoring and protection of utilities/road	$ 500	LF	600	$ 300,000
Dredging - Excavation Dewatering	$ 80,000	LS	0	$ -
Sediment stockpiling	$ 5	CY	3,866	$ 19,332
Dredge material dewatering and treatment	$ 12,500	Monthly	6	$ 72,895
Placing Upland Beneficial Reuse Material	$ 10	CY	0	$ -
Dredged Material Transport and Disposal - Subtitle D	$ 83	TON	5,799	$ 481,356
Backfill and Engineered Cap				
Purchase and Transport Backfill Material	$ 15	TON	1,933	$ 28,997
Place Backfill Material	$ 15	TON	1,933	$ 28,997
Purchase & Transport Engineered Cap Material	$ 15	TON	17,680	$ 265,194
Place Engineered Cap Material	$ 30	TON	17,680	$ 530,388
Environmental Controls	$ 100,000	LS	2	$ 200,000
Bathymetric/Topographic Surveys	$ 10,000	LS	16	$ 160,000
Subtotal Direct Construction Costs				$ 4,232,119
Contingency	30%	Percent		$ 1,269,636
WSST	9.5%	Percent		$ 402,051
Total Direct Construction Cost				$ 5,903,806
Indirect Construction Costs				
Pre-design sampling	$ 200,000	LS	1	$ 200,000
Project Management	$ 42,100	Monthly	5.8	$ 245,511
Engineering and Design	$ 295,190	LS	1	$ 295,190
Permitting	$ 100,000	LS	1	$ 100,000
Construction Management Support	$ 44,800	Monthly	5.8	$ 261,257
Environmental Monitoring During Construction	$ 34,400	Monthly	5.8	$ 200,608
Verification Sampling	$ 10,000	Acre	0.4	$ 4,000
Institutional Controls	$ 16,500	LS	2.9	$ 47,850
Long Term Monitoring	$ 581,160	LS	1	$ 581,160
Total Indirect Construction Costs				$ 1,935,576
Grand Total Cost (Total Direct + Total Indirect)				**$ 7,839,382**
Construction Duration	**Daily Rate**	**Quantity**	**Unit**	**Months**
Removal of Piling and Large Woody Debris	10	100	Ea	0.5
Demolition	1	22	Ea	1.0
Prepare upland staging for dredged sediments	1	3	Ea	0.1
Rip rap armored shoreline	150	2300	LF	0.7
Place 12-inch thick Silty Sand Material	600	13,325	TONS	1.0
Temporary Shoring	40	600	LF	0.7
Dredging - Land Based Equipment	500	3,866	CY	0.4
Place Backfill Material	1200	1933.157	Tons	0.07
Place Engineered Cap Material	600	17,680	Tons	1.4
Total Duration				5.8

Table N-8
Alternative M4b Cost Estimate

Notes:
LF: Linear Foot
CY: Cubic yard
Ea: Each
LS: Lump sum

These estimates are developed using current and generally accepted engineering cost estimation methods. Note that these estimates are based on assumptions concerning future events and actual costs may be affected by known and unknown risks including, but not limited to, changes in general economic and business conditions, site conditions that were unknown to Anchor QEA, LLC at the time the estimates were performed, future changes in site conditions, regulatory or enforcement policy changes, and delays in performance. Actual costs may vary from these estimates and such variations may be material. Anchor QEA, LLC is not licensed as accountants or securities attorneys and, therefore, make no representations that these costs form an appropriate basis for complying with financial reporting requirements for such costs.

Table N-9

Alternative M5 Cost Estimate

Technology/Construction Task Element	Unit Price	Unit	Quantity	Total Cost
Direct Construction Costs				
Mobilization and Demobilization				
Mobilization	$ 200,000	Season	1	$ 200,000
Demobilization	$ 100,000	LS	1	$ 100,000
Site Preparation				
Removal of Piling and Large Woody Debris	$ 250	EA	200	$ 50,000
Processing, Transportation and Disposal of Woody Debris	$ 225	TON	2000	$ 450,000
Prepare upland staging for dredged sediments	$ 150,000	LS	1	$ 150,000
Prepare upland staging creosote debris processing	$ 80,000	LS	0	$ -
Demolition of Remnant Barge Structure	$ 30,000	LS	1	$ 30,000
Demolition of Bulkhead Structure	$ 200,000	LS	1	$ 200,000
Shoreline protection at top of bank	$ 100	LF	2300	$ 230,000
Enhanced Monitored Natural Recovery				
Procure and Transport Beneficial Reuse Silty Sand Material	$ 15	TON	13,325	$ 199,879
Place 12-inch thick Silty Sand Material	$ 30	TON	13,325	$ 399,759
Dredge and Disposal				
Dredging - Land Based Equipment	$ 35	CY	10,682	$ 373,885
Dredging - Slope shoring and protection of utilities/road	$ 500	LF	0	$ -
Dredging - Excavation Dewatering	$ 80,000	LS	0	$ -
Sediment stockpiling	$ 5	CY	10,682	$ 53,412
Dredge material dewatering and treatment	$ 12,500	Monthly	6	$ 71,177
Placing Upland Beneficial Reuse Material	$ 10	CY	0	$ -
Dredged Material Transport and Disposal - Subtitle D	$ 83	TON	16,024	$ 1,329,964
Backfill and Engineered Cap				
Purchase and Transport Backfill Material	$ 15	TON	0	$ -
Place Backfill Material	$ 15	TON	0	$ -
Purchase & Transport Engineered Cap Material	$ 15	TON	17,680	$ 265,194
Place Engineered Cap Material	$ 30	TON	17,680	$ 530,388
Environmental Controls	$ 100,000	LS	2	$ 200,000
Bathymetric/Topographic Surveys	$ 10,000	LS	18	$ 180,000
Subtotal Direct Construction Costs				$ 5,013,659
Contingency	30%	Percent		$ 1,504,098
WSST	9.5%	Percent		$ 476,298
Total Direct Construction Cost				$ 6,994,054
Indirect Construction Costs				
Pre-design sampling	$ 200,000	LS	1	$ 200,000
Project Management	$ 42,100	Monthly	5.7	$ 239,723
Engineering and Design	$ 349,703	LS	1	$ 349,703
Permitting	$ 100,000	LS	1	$ 100,000
Construction Management Support	$ 44,800	Monthly	5.7	$ 255,098
Environmental Monitoring During Construction	$ 34,400	Monthly	5.7	$ 195,878
Verification Sampling	$ 10,000	LS	2.5	$ 25,000
Institutional Controls	$ 16,500	LS	2.9	$ 47,850
Long Term Monitoring	$ 581,160	LS	1	$ 581,160
Total Indirect Construction Costs				$ 1,994,412
Grand Total Cost (Total Direct + Total Indirect)				**$ 8,988,466**

Table N-9
Alternative M5 Cost Estimate

Construction Duration	Daily Rate	Quantity	Unit	Months
Removal of Piling and Large Woody Debris	10	100	Ea	0.5
Demolition	1	22	Ea	1.0
Prepare upland staging for dredged sediments	1	3	Ea	0.1
Rip rap armored shoreline	150	2300	LF	0.7
Place 12-inch thick Silty Sand Material	600	13,325	TONS	1.0
Temporary Shoring	40	0	LF	0.0
Dredging - Land Based Equipment	500	10,682	CY	1.0
Place Backfill Material	1200	0	Tons	0.00
Place Engineered Cap Material	600	17,680	Tons	1.4
Total Duration				5.7

Notes:
LF: Linear Foot
CY: Cubic yard
Ea: Each
LS: Lump sum

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Table N-10
Alternative M6 Cost Estimate

Technology/Construction Task Element	Unit Price	Unit	Quantity	Total Cost
Direct Construction Costs				
Mobilization and Demobilization				
Mobilization	$ 200,000	Season	2	$ 400,000
Demobilization	$ 100,000	LS	1	$ 100,000
Site Preparation				
Removal of Piling and Large Woody Debris	$ 250	EA	200	$ 50,000
Processing, Transportation and Disposal of Woody Debris	$ 225	TON	2000	$ 450,000
Prepare upland staging for dredged sediments	$ 150,000	LS	1	$ 150,000
Prepare upland staging creosote debris processing	$ 80,000	LS	0	$ -
Demolition of Remnant Barge Structure	$ 30,000	LS	1	$ 30,000
Demolition of Bulkhead Structure	$ 200,000	LS	1	$ 200,000
Shoreline protection at top of bank	$ 100	LF	2300	$ 230,000
Enhanced Monitored Natural Recovery				
Procure and Transport Beneficial Reuse Silty Sand Material	$ 15	TON	13,325	$ 199,879
Place 12-inch thick Silty Sand Material	$ 30	TON	13,325	$ 399,759
Dredge and Disposal				
Dredging - Land Based Equipment	$ 35	CY	12,729	$ 445,526
Dredging - Slope shoring and protection of utilities/road	$ 500	LF	600	$ 300,000
Dredging - Excavation Dewatering	$ 80,000	LS	0	$ -
Sediment stockpiling	$ 5	CY	12,729	$ 63,647
Dredge material dewatering and treatment	$ 12,500	Monthly	6.6	$ 82,192
Placing Upland Beneficial Reuse Material	$ 10	CY	0	$ -
Dredged Material Transport and Disposal - Subtitle D	$ 83	TON	19,094	$ 1,584,799
Backfill and Engineered Cap				
Purchase and Transport Backfill Material	$ 15	TON	0	$ -
Place Backfill Material	$ 15	TON	0	$ -
Purchase & Transport Engineered Cap Material	$ 15	TON	17,680	$ 265,194
Place Engineered Cap Material	$ 30	TON	17,680	$ 530,388
Environmental Controls	$ 100,000	LS	2	$ 200,000
Bathymetric/Topographic Surveys	$ 10,000	LS	20	$ 200,000
Subtotal Direct Construction Costs				$ 5,881,385
Contingency	30%	Percent		$ 1,764,415
WSST	9.5%	Percent		$ 558,732
Total Direct Construction Cost				$ 8,204,532
Indirect Construction Costs				
Pre-design sampling	$ 200,000	LS	1	$ 200,000
Project Management	$ 42,100	Monthly	6.6	$ 276,824
Engineering and Design	$ 410,227	LS	1	$ 410,227
Permitting	$ 100,000	LS	1	$ 100,000
Construction Management Support	$ 44,800	Monthly	6.6	$ 294,577
Environmental Monitoring During Construction	$ 34,400	Monthly	6.6	$ 226,193
Verification Sampling	$ 10,000	Acre	2.9	$ 29,000
Institutional Controls	$ 16,500	LS	2.9	$ 47,850
Long Term Monitoring	$ 581,160	LS	1	$ 581,160
Total Indirect Construction Costs				$ 2,165,831
Grand Total Cost (Total Direct + Total Indirect)				**$ 10,370,363**

Construction Duration	Daily Rate	Quantity	Unit	Months
Removal of Piling and Large Woody Debris	10	100	Ea	0.5
Demolition	1	22	Ea	1.0
Prepare upland staging for dredged sediments	1	3	Ea	0.1
Rip rap armored shoreline	150	2300	LF	0.7
Place 12-inch thick Silty Sand Material	600	13,325	TONS	1.0
Temporary Shoring	40	600	LF	0.7
Dredging - Land Based Equipment	500	12,729	CY	1.2
Place Backfill Material	1200	0	Tons	0.00
Place Engineered Cap Material	600	17,680	Tons	1.4
Total Duration				6.6

Table N-10

Alternative M6 Cost Estimate

Notes:
LF: Linear Foot
CY: Cubic yard
Ea: Each
LS: Lump sum

These estimates are developed using current and generally accepted engineering cost estimation methods. Note that these estimates are based on assumptions concerning future events and actual costs may be affected by known and unknown risks including, but not limited to, changes in general economic and business conditions, site conditions that were unknown to Anchor QEA, LLC at the time the estimates were performed, future changes in site conditions, regulatory or enforcement policy changes, and delays in performance. Actual costs may vary from these estimates and such variations may be material. Anchor QEA, LLC is not licensed as accountants or securities attorneys and, therefore, make no representations that these costs form an appropriate basis for complying with financial reporting requirements for such costs.

Table N-11
Alternative M7 Cost Estimate

Technology/Construction Task Element	Unit Price	Unit	Quantity	Total Cost
Direct Construction Costs				
Mobilization and Demobilization				
Mobilization	$ 200,000	Season	2	$ 400,000
Demobilization	$ 100,000	LS	1	$ 100,000
Site Preparation				
Removal of Piling and Large Woody Debris	$ 250	EA	200	$ 50,000
Processing, Transportation and Disposal of Woody Debris	$ 225	TON	2000	$ 450,000
Prepare upland staging for dredged sediments	$ 150,000	LS	1	$ 150,000
Prepare upland staging creosote debris processing	$ 80,000	LS	0	$ -
Demolition of Remnant Barge Structure	$ 30,000	LS	1	$ 30,000
Demolition of Bulkhead Structure	$ 200,000	LS	1	$ 200,000
Shoreline protection at top of bank	$ 100	LF	2300	$ 230,000
Enhanced Monitored Natural Recovery				
Procure and Transport Beneficial Reuse Silty Sand Material	$ 15	TON	13,325	$ 199,879
Place 12-inch thick Silty Sand Material	$ 30	TON	13,325	$ 399,759
Dredge and Disposal				
Dredging - Land Based Equipment	$ 35	CY	24,371	$ 852,978
Dredging - Slope shoring and protection of utilities/road	$ 500	LF	600	$ 300,000
Dredging - Excavation Dewatering	$ 80,000	LS	1	$ 80,000
Sediment stockpiling	$ 5	CY	24,371	$ 121,854
Dredge material dewatering and treatment	$ 12,500	Monthly	8	$ 96,200
Placing Upland Beneficial Reuse Material	$ 10	CY	0	$ -
Dredged Material Transport and Disposal - Subtitle D	$ 83	TON	36,556	$ 3,034,166
Backfill and Engineered Cap				
Purchase and Transport Backfill Material	$ 15	TON	36,556	$ 548,343
Place Backfill Material	$ 15	TON	36,556	$ 548,343
Purchase & Transport Engineered Cap Material	$ 15	TON	0	$ -
Place Engineered Cap Material	$ 30	TON	0	$ -
Environmental Controls	$ 100,000	LS	2	$ 200,000
Bathymetric/Topographic Surveys	$ 10,000	LS	20	$ 200,000
Subtotal Direct Construction Costs				$ 8,191,523
Contingency	30%	Percent		$ 2,457,457
WSST	9.5%	Percent		$ 778,195
Total Direct Construction Cost				$ 11,427,175
Indirect Construction Costs				
Pre-design sampling	$ 200,000	LS	1	$ 200,000
Project Management	$ 42,100	Monthly	7.70	$ 324,003
Engineering and Design	$ 571,359	LS	1	$ 571,359
Permitting	$ 100,000	LS	1	$ 100,000
Construction Management Support	$ 44,800	Monthly	7.70	$ 344,782
Environmental Monitoring During Construction	$ 34,400	Monthly	7.70	$ 264,743
Verification Sampling	$ 10,000	Acre	2.9	$ 29,000
Institutional Controls	$ 16,500	LS	0	$ -
Long Term Monitoring	$ 371,520	LS	1	$ 371,520
Total Indirect Construction Costs				$ 2,205,407
Grand Total Cost (Total Direct + Total Indirect)				**$ 13,632,582**
Construction Duration	**Daily Rate**	**Quantity**	**Unit**	**Months**
Removal of Piling and Large Woody Debris	10	100	Ea	0.5
Demolition	1	22	Ea	1.0
Prepare upland staging for dredged sediments	1	3	Ea	0.1
Rip rap armored shoreline	150	2300	LF	0.7
Place 12-inch thick Silty Sand Material	600	13,325	TONS	1.0
Temporary Shoring	40	600	LF	0.7
Dredging - Land Based Equipment	500	24,371	CY	2.2
Place Backfill Material	1200	36556.213	Tons	1.41
Place Engineered Cap Material	600	0	Tons	0.0
Total Duration				7.7

Table N-11
Alternative M7 Cost Estimate

Notes:
LF: Linear Foot
CY: Cubic yard
Ea: Each
LS: Lump sum

These estimates are developed using current and generally accepted engineering cost estimation methods. Note that these estimates are based on assumptions concerning future events and actual costs may be affected by known and unknown risks including, but not limited to, changes in general economic and business conditions, site conditions that were unknown to Anchor QEA, LLC at the time the estimates were performed, future changes in site conditions, regulatory or enforcement policy changes, and delays in performance. Actual costs may vary from these estimates and such variations may be material. Anchor QEA, LLC is not licensed as accountants or securities attorneys and, therefore, make no representations that these costs form an appropriate basis for complying with financial reporting requirements for such costs.

Table N-12

Alternative M-8 Cost Estimate

Technology/Construction Task Element	Unit Price	Unit	Quantity	Total Cost
Direct Construction Costs				
Mobilization and Demobilization				
Mobilization	$ 200,000	Season	4	$ 800,000
Demobilization	$ 100,000	LS	1	$ 100,000
Site Preparation				
Removal of Piling and Large Woody Debris	$ 250	EA	200	$ 50,000
Processing, Transportation and Disposal of Woody Debris	$ 225	TON	2000	$ 450,000
Prepare upland staging for dredged sediments	$ 150,000	LS	1	$ 150,000
Prepare upland staging creosote debris processing	$ 80,000	LS	0	$ -
Demolition of Remnant Barge Structure	$ 30,000	LS	1	$ 30,000
Demolition of Bulkhead Structure	$ 200,000	LS	1	$ 200,000
Shoreline protection at top of bank	$ 100	LF	2300	$ 230,000
Enhanced Monitored Natural Recovery				
Procure and Transport Beneficial Reuse Silty Sand Material	$ 15	TON	0	$ -
Place 12-inch thick Silty Sand Material	$ 30	TON	0	$ -
Dredge and Disposal				
Dredging - Land Based Equipment	$ 35	CY	103,408	$ 3,619,291
Dredging - Slope shoring and protection of utilities/road	$ 500	LF	900	$ 450,000
Dredging - Excavation Dewatering	$ 80,000	LS	1	$ 80,000
Sediment stockpiling	$ 5	CY	103,408	$ 517,042
Dredge material dewatering and treatment	$ 12,500	Monthly	19	$ 235,910
Placing Upland Beneficial Reuse Material	$ 10	CY	0	$ -
Dredged Material Transport and Disposal - Subtitle D	$ 83	TON	155,112	$ 12,874,334
Backfill and Engineered Cap				
Purchase and Transport Backfill Material	$ 15	TON	155,112	$ 2,326,687
Place Backfill Material	$ 15	TON	155,112	$ 2,326,687
Purchase & Transport Engineered Cap Material	$ 15	TON	0	$ -
Place Engineered Cap Material	$ 30	TON	0	$ -
Environmental Controls	$ 100,000	LS	1	$ 100,000
Bathymetric/Topographic Surveys	$ 10,000	LS	9	$ 90,000
Subtotal Direct Construction Costs				$ 24,629,950
Contingency	30%	Percent		$ 7,388,985
WSST	9.5%	Percent		$ 2,339,845
Total Direct Construction Cost				$ 34,358,780
Indirect Construction Costs				
Pre-design sampling	$ 200,000	LS	1	$ 200,000
Project Management	$ 42,100	Monthly	18.9	$ 794,544
Engineering and Design	$ 1,717,939	LS	1	$ 1,717,939
Permitting	$ 100,000	Acre	1	$ 100,000
Construction Management Support	$ 44,800	Monthly	18.9	$ 845,501
Environmental Monitoring During Construction	$ 34,400	Monthly	18.9	$ 649,224
Verification Sampling	$ 10,000	Acre	16.6	$ 166,000
Institutional Controls	$ 16,500	LS	0	$ -
Long Term Monitoring	$ -	LS	1	$ -
Total Indirect Construction Costs				$ 4,473,208
Grand Total Cost (Total Direct + Total Indirect)				**$ 38,831,988**
Construction Duration	**Daily Rate**	**Quantity**	**Unit**	**Months**
Removal of Piling and Large Woody Debris	10	100	Ea	$ 0.5
Demolition	1	22	Ea	$ 1
Prepare upland staging for dredged sediments	1	3	Ea	$ 0.1
Rip rap armored shoreline	150	2300	LF	$ 1
Place 12-inch thick Silty Sand Material	600	0	TONS	$ -
Temporary Shoring	40	900	LF	$ 1
Dredging - Land Based Equipment	500	103,408	CY	$ 10
Place Backfill Material	1200	155112	Tons	$ 6
Place Engineered Cap Material	600	0	CY	$ -
Total Duration				$ 18.9

Table N-12

Alternative M-8 Cost Estimate

Notes:
LF: Linear Foot
CY: Cubic yard
Ea: Each
LS: Lump sum

These estimates are developed using current and generally accepted engineering cost estimation methods. Note that these estimates are based on assumptions concerning future events and actual costs may be affected by known and unknown risks including, but not limited to, changes in general economic and business conditions, site conditions that were unknown to Anchor QEA, LLC at the time the estimates were performed, future changes in site conditions, regulatory or enforcement policy changes, and delays in performance. Actual costs may vary from these estimates and such variations may be material. Anchor QEA, LLC is not licensed as accountants or securities attorneys and, therefore, make no representations that these costs form an appropriate basis for complying with financial reporting requirements for such costs.

Table N-10
Ecology Alternative 6.5 Cost Estimate

Technology/Construction Task Element	Unit Price	Unit	Quantity	Total Cost
Direct Construction Costs				
Mobilization and Demobilization				
Mobilization	$ 200,000	Season	2	$ 400,000
Demobilization	$ 100,000	LS	1	$ 100,000
Site Preparation				
Removal of Piling and Large Woody Debris	$ 250	EA	200	$ 50,000
Processing, Transportation and Disposal of Woody Debris	$ 225	TON	2000	$ 450,000
Prepare upland staging for dredged sediments	$ 150,000	LS	1	$ 150,000
Prepare upland staging creosote debris processing	$ 80,000	LS	0	$ -
Demolition of Remnant Barge Structure	$ 30,000	LS	1	$ 30,000
Demolition of Bulkhead Structure	$ 200,000	LS	1	$ 200,000
Shoreline protection at top of bank	$ 100	LF	2300	$ 230,000
Enhanced Monitored Natural Recovery				
Procure and Transport Beneficial Reuse Silty Sand Material	$ 15	TON	12,598	$ 188,970
Place 12-inch thick Silty Sand Material	$ 30	TON	12,598	$ 377,940
Dredge and Disposal				
Dredging - Land Based Equipment	$ 35	CY	21,601	$ 756,035
Dredging - Slope shoring and protection of utilities/road	$ 500	LF	600	$ 300,000
Dredging - Excavation Dewatering	$ 80,000	LS	0	$ -
Sediment stockpiling	$ 5	CY	21,601	$ 108,005
Dredge material dewatering and treatment	$ 12,500	Monthly	7.4	$ 92,500
Placing Upland Beneficial Reuse Material	$ 10	CY	0	$ -
Dredged Material Transport and Disposal - Subtitle D	$ 83	TON	32,401	$ 2,689,283
Backfill and Engineered Cap				
Purchase and Transport Backfill Material	$ 15	TON	32,401	$ 486,015
Place Backfill Material	$ 15	TON	32,401	$ 486,015
Purchase & Transport Engineered Cap Material	$ 15	TON	2,866	$ 42,990
Place Engineered Cap Material	$ 30	TON	2,866	$ 85,980
Environmental Controls	$ 100,000	LS	2	$ 200,000
Bathymetric/Topographic Surveys	$ 10,000	LS	20	$ 200,000
Subtotal Direct Construction Costs				$ 7,623,733
Contingency	30%	Percent		$ 2,287,120
WSST	9.5%	Percent		$ 724,255
Total Direct Construction Cost				$ 10,635,108
Indirect Construction Costs				
Pre-design sampling	$ 200,000	LS	1	$ 200,000
Project Management	$ 42,100	Monthly	7.4	$ 311,540
Engineering and Design	$ 410,227	LS	1	$ 410,227
Permitting	$ 100,000	LS	1	$ 100,000
Construction Management Support	$ 44,800	Monthly	7.4	$ 331,520
Environmental Monitoring During Construction	$ 34,400	Monthly	7.4	$ 254,560
Verification Sampling	$ 10,000	Acre	2.9	$ 29,000
Institutional Controls	$ 16,500	LS	0.47	$ 7,755
Long Term Monitoring	$ 400,000	LS	1	$ 400,000
Total Indirect Construction Costs				$ 2,044,602
Grand Total Cost (Total Direct + Total Indirect)				**$ 12,679,709**

Construction Duration	Daily Rate	Quantity	Unit	Months
Removal of Piling and Large Woody Debris	10	100	Ea	0.5
Demolition	1	22	Ea	1.0
Prepare upland staging for dredged sediments	1	3	Ea	0.1
Rip rap armored shoreline	150	2300	LF	0.7
Place 12-inch thick Silty Sand Material	600	12,598	TONS	1.0
Temporary Shoring	40	600	LF	0.7
Dredging - Land Based Equipment	500	21,601	CY	2.0
Place Backfill Material	1200	32401	Tons	1.25
Place Engineered Cap Material	600	2,866	Tons	0.2
Total Duration				7.4

Table N-10
Ecology Alternative 6.5 Cost Estimate

Notes:
LF: Linear Foot
CY: Cubic yard
Ea: Each
LS: Lump sum

These estimates are developed using current and generally accepted engineering cost estimation methods. Note that these estimates are based on assumptions concerning future events and actual costs may be affected by known and unknown risks including, but not limited to, changes in general economic and business conditions, site conditions that were unknown to Anchor QEA, LLC at the time the estimates were performed, future changes in site conditions, regulatory or enforcement policy changes, and delays in performance. Actual costs may vary from these estimates and such variations may be material. Anchor QEA, LLC is not licensed as accountants or securities attorneys and, therefore, make no representations that these costs form an appropriate basis for complying with financial reporting requirements for such costs.

2020 Revised Draft

Remedial Investigation/Feasibility Study

Jeld Wen / Former Nord Door Facility
300 West Marine View Drive
Everett, Washington 98201

Prepared For:
JELD-WEN, Inc.
Klamath Falls, OR

and

Washington Department of Ecology
Olympia, WA

Prepared By:

SLR International Corporation
1800 Blankenship Road, Suite 440
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and

Anchor QEA, LLC
720 Olive Way, Suite 1900
Seattle, WA 98101

April 2020

CONTENTS

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FIGURES

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TABLES

CONTENTS (CONTINUED)

CONTENTS (CONTINUED)

APPENDICES

ACRONYMS

2,3,7,8-TCDD	2,3,7,8-tetrachlorodibenzo-p-dioxin
ARARs	applicable or relevant and appropriate requirements
ARI	Analytical Resources Inc.
AS	Air sparging
AST	above ground storage tank
bgs	below ground surface
BMP	Best Management Practice
BNSF	Burlington Northern Santa Fe
BSAF	biota/sediment accumulation factor
BTEX	benzene, toluene, ethylbenzene, total xylenes
CAP	Cleanup Action Plan
CFR	Code of Federal Regulations
CHP	catalyzed hydrogen peroxide
cm	centimeters
COPC	contaminants of potential concern
Corps	U.S. Army Corps of Engineers
cPAH	carcinogenic polycyclic aromatic hydrocarbons
CSL	cleanup screening level
CSM	conceptual site model
CWA	Clean Water Act
DCA	Disproportionate Cost Analysis
DMMP	Dredged Material Management Program
DNS	determination of non-significance
dw	dry weight
EA	exposure area
Ecology	Washington State Department of Ecology
EIM	environmental information management
EIS	environmental impact statement
EMC	Everett Municipal Code
EMNR	enhanced monitored natural recovery
EPA	Environmental Protection Agency
FS	feasibility study
HCID	hydrocarbon identification
HDPE	High-density polyethylene
HPA	hydraulic project approval
IDW	inverse distance weighting
IHS	Indicator Hazardous Substances
ISCO	In-Situ Chemical Oxidation
mg/kg	milligrams per kilogram
ng/kg	nanograms per kilogram
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
MDL	method detection limit
MNA	monitored natural attenuation

ACRONYMS (CONTINUED)

MNR	monitored natural recovery
MTCA	Model Toxics Control Act
MW	monitoring well
NRCS	National Resource Conservation Service
NWP	Nationwide Permit
OC	organic carbon
OMM	operations, monitoring and maintenance
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
pCi/g	picocuries per gram
PCL	preliminary cleanup level
PCP	pentachlorophenol
PHS	priority habitat species
POTW	publicly-owned treatment works
PQL	practical quantitation limit
PSCAA	Puget Sound Clean Air Agency
QAPP	quality assurance project plan
RCW	Revised Code of Washington
RAL	Remedial action levels
RI	remedial investigation
SAP	sampling and analysis plan
SCO	sediment cleanup objective
SCUM II	Sediment Cleanup User's Manual II
SEPA	State Environmental Policy Act
SLV	screening level values
SMA	sediment management area
SMS	Sediment Management Standards
SMP	Shoreline Master Program
SVE	soil vapor extraction
SVOC	semi-volatile organic compounds
SWAC	surface weighted average concentration
TEE	Terrestrial Ecological Evaluation
TEF	toxic equivalency factor
TEQ	toxic equivalency quotient
TOC	total organic carbon
TPH	total petroleum hydrocarbons
TPH-Gx	total petroleum hydrocarbons as gasoline
TPH-Dx	total petroleum hydrocarbons as diesel
TVS	total volatile solids
USC	United States Code
UST	underground storage tank
VOC	volatile organic compound
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife

ACRONYMS (CONTINUED)

WDNR	Washington Department of Natural Resources

EXECUTIVE SUMMARY

This report presents this 2020 Revised Draft Remedial Investigation (RI) and Feasibility Study (FS) of the former E.A. Nord, Inc, door facility (through its successor, JELD-WEN, Inc. [JELD-WEN]) located at 300 West Marine View Drive, Everett, Washington, 98201 (Site). In accordance with the requirements of the 2008 Agreed Order Number DE 5095 between JELD-WEN and the Washington State Department of Ecology (Ecology), this RI/FS report summarizes the findings of soil, groundwater, seep water, soil vapor, sediment porewater, and bulk sediment investigations performed at the Site. The objective of the RI was to collect the data necessary to adequately characterize the Site for the purpose of developing and evaluating cleanup action alternatives. The purpose of the FS was to develop and evaluate cleanup action alternatives to enable a cleanup action to be selected for the Site.

JELD-WEN no longer owns the Site property. Historically, JELD-WEN owned five adjoining parcels with a combined upland area of approximately 36 acres, as well as adjacent tidal mudflats which were sold to W&W Everett Investments LLC in December 2013. Properties surrounding the W&W Everett Investments LLC-owned property include parcels owned by the Port of Everett, the City of Everett, the Burlington Northern Santa Fe (BNSF) railroad, and Wick Family Properties LLC.

Historical activities at the Site have included casket manufacturing, pole treating, fish net storage, and wood door and sash manufacturing. JELD-WEN acquired certain assets, including the real property of the E.A. Nord, Inc, door plant, in May 1986 through the bankruptcy court. JELD-WEN operations included the purchase of rough green wood; drying, planing and cutting the lumber; and assembly of finished wooden doors, rails, posts, columns, and spindles. Operations at Nord Door ceased in 2005. Several asphalt operations (currently Cadman, formerly CEMEX, Rinker Materials, and Sterling Asphalt) have leased the northwest portion of the Site since the mid-1990s and has operated this portion of the Site as an asphalt batch plant through the present.

Numerous investigations were completed at the Site between 1991 and 2019. These prior investigations identified areas of soil, groundwater, and soil vapor impacts exceeding Washington State Model Toxics Control Act (MTCA) cleanup levels and sediments exceeding Sediment Management Standards (SMS) cleanup levels for certain chemicals.

On January 2, 2008, JELD-WEN and Ecology entered into Agreed Order No. DE 5095 to prepare an RI/FS and Cleanup Action Plan (CAP) for the Site, consistent with MTCA (Chapter 173-340 Washington Administrative Code [WAC]) and SMS (Chapter 173-204 WAC) requirements. The findings of this 2020 Revised Draft RI/FS are summarized below.

Upland RI Findings

The upland RI identified the primary sources of upland contamination to be generally associated with three historical Site operations areas: fuel oil storage and pole treating using creosote on the eastern edge of the Site and below West Marine View Drive (Creosote Area), wood surface treating using Woodlife wood treatment solution in the northeast corner of the Site (Woodlife Area), and historical filling activities in the southern portion of the Site (Knoll Fill Area). Soil and groundwater impacts associated with these source areas were characterized in the upland RI.

Additional potential isolated source areas that were identified in the October 2016 RI/FS have subsequently been further assessed and proposed cleanup of the isolated areas identified in the October 2016 RI/FS were not carried forward to the FS in this 2020 Revised RI/FS report. A summary of assessment areas is presented on Table ES-1.

Creosote Area

Pole treating activities were conducted in the Site uplands by National Pole Company prior to the 1940s. By the mid-1940s the Site was operated by Nord Door as a stile and rail door plant. The Nord Door facility operated an oil-fired boiler on the eastern portion of the Site prior to 1957. Former fuel oil aboveground storage tanks (ASTs) were located in the eastern portion of the Site along West Marine View Drive and also further to the west, beneath what is now the southern portion of the main manufacturing building. These ASTs were removed in the mid-to late-1950s.

The former pole treating activities and fuel oil ASTs are considered primary sources of total petroleum hydrocarbons (TPH), carcinogenic polycyclic aromatic hydrocarbon (cPAH), semi-volatile organic compound (SVOC), and volatile organic compound (VOC) (naphthalene and benzene) contamination to soil and groundwater at the Site. Upland areas with elevated concentrations of these chemicals occur along the eastern portion of the Site, extending beneath West Marine View Drive, at depths generally between 3 and 15 feet below ground surface (bgs), except for areas of the former creosote tank operations (eastern portion of the existing warehouse) where impacts have been identified to approximately 50 feet bgs. The fuel oil and creosote impacts are primarily located below buildings or pavement. Groundwater data collected during the RI/FS shows no migration of groundwater contaminants associated with fuel oil or creosote to surface water or sediments.

Commented [AM(1]: Need to change and careful with language. We have detected COCs in the shoreline wells when measured with low level methods, such as cPAHs. Also, napthalene, TPH are detected at these wells but at a level that may not be actionable concern for surface water or sediment. However, the migration pathway is complete.

The former pole treating activities and fuel oil ASTs are also considered primary sources of naphthalene contamination measured in soil gas at the Site. Upland areas with elevated concentrations of naphthalene in soil gas occur beneath the eastern portion of the existing former main manufacturing building or paved parking areas.

Woodlife Area

An approximately 10,000-gallon AST containing Woodlife wood treatment solution (which contained pentachlorophenol [PCP]) was formerly located northeast of the main manufacturing building. The use of the Woodlife AST was discontinued prior to JELD-WEN's purchase of the Site in 1986, and the AST was removed in 1991. The former Woodlife storage and use area was identified as a historical source of dioxins/furans and PCP impacts to soil and groundwater at the Site. Elevated concentrations of these chemicals were generally limited to shallow depths (from the surface down to 5 feet bgs) and are also primarily located beneath buildings or pavement in the eastern corner of the Site. Groundwater data collected during the RI/FS shows no migration of dioxins/furans to surface water or sediments; however, assessment of a stormwater sump in the North Truck Dock identified groundwater weep holes that potentially introduced localized impacts to the adjacent soil, surface water or sediments.

Deleted: groundwater

Knoll Fill Area

Lands west of the BNSF railroad were created by filling of the tidal delta at the confluence of Snohomish River and Possession Sound. The earliest fill records are not available; however, historical aerial photographs show filling activity along the shoreline to the south of the former Nord Door facility from at least 1938 through the late 1970s. Between 1955 and 1967, a majority of the southern portion of the Site had been cleared and filled. Additional fill activities occurred between 1967 to 1978 that included development of the southern shoreline to its current extent and additional fill in the Knoll Area to create the existing "knoll" feature.

Due to the nearshore area adjacent to the Knoll Area being identified as an area of sediment impacts for polychlorinated biphenyls (PCBs), upland investigations were conducted in the Knoll Area. Groundwater from monitoring wells as well as in groundwater seeps measured Total PCB congeners above groundwater PCLs. Soil sample analytical results for Total PCB congeners do not seem to indicate the current bank or surface soil (0-12 feet bgs) in the Knoll Area to be a source of the PCBs in the groundwater. Surface soils before 1967 to 1978 fill activities (now saturated soils below 12 feet) may have been contaminated with PCBs. Results from the SPME sampling indicate groundwater PCBs do not seem to be a source to sediments contaminated with PCBs rather sediment PCBs could be a source of PCBs in knoll area groundwater due to tidal mixing.

The RI demonstrated that potential exposure pathways to upland Site contaminants are limited to current and future industrial workers and current and future construction workers with the Knoll Fill Area groundwater contaminants addressed with the marine sediment FS alternatives.

Marine Sediment RI Findings

Chemicals of concern identified in Site marine sediments are primarily defined by PCBs and dioxins/furans. The extent of PCBs and dioxins/furans were used to define the site boundary. Wood and cPAHs have also been identified as contaminants of potential concern although they are not used to define the Site.

Elevated concentrations of total PCBs were detected in surface sediments in tidal mudflats adjacent to the undeveloped Knoll Area at the southeastern corner of the Site. Sampling of Site upland soils and exposed bank has not revealed a source of PCBs to the marine area. Groundwater and porewater sampling have also not identified a source or complete transport pathway to sediments. Fill material used to construct the uplands, the Knoll Area, and upper intertidal sediment areas, or spills prior to filling, are suspected sources of the PCBs characterized in the surficial sediment matrix.

Elevated concentrations of dioxins/furans were detected in surface and subsurface sediments in tidal mudflats immediately adjacent to historical and/or current stormwater outfalls draining uplands at the western end of the Site. Elevated dioxin/furan concentrations were detected at greater depths (up to 7 feet below mudline) than the total PCBs. The primary source of dioxins/furans to Site sediments is likely from former area-wide hog fuel burner emissions.

Commented [AM(2]: The language does not clearly paint the picture. If the source of D/F in the sediment is from area-wide hog fuel burner emissions, why we see higer concentrations near the outfalls. While in the RI, Jeld-Wen choose not to sample stormwater outfall discharge, during cleanup stormwater lines will be cleaned and discharge will be part of LTM to make sure sediment are not recontaminated from these outfalls.
Revise the language to explain why higher levels are found near outfalls and why higher levels are detected 7 feet below mudline.

In addition to PCBs and dioxins/furans, wood debris (as measured by total volatile solids testing [TVS]) and cPAHs are also addressed in the RI/FS. Region-wide historical wood industry operations have resulted in the presence of wood in the marine areas throughout the Everett waterfront. Creosote-treated structures have also been identified as potential sources of cPAHs, the extent of SMS chemical exceedances is generally encompassed by the extents of PCBs and dioxin/furan impacted areas. The boundary of the Site is defined by total PCBs and dioxins/furans.

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Further assessment of the wood (which may be measured by TVS, visual observation, breakdown products, or other methods) and cPAH toxic equivalency quotient (TEQ) may be required to evaluate compliance with MTCA and SMS regulations in pre-remedial design investigations or during monitoring, where required, within the marine Site boundary.

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A total of approximately 16.6 acres of tidal mudflats in the Site area exceed preliminary SMS sediment cleanup objectives for PCBs and/or dioxins/furans. Detailed radioisotope analyses revealed that sediments in these areas have been stable (i.e., minimal vertical sediment mixing) over the past 60 to 70 years. The radioisotope data also revealed that bioturbation is limited to less than 0.3 feet; however, because clams may burrow deeper than 0.3 feet, the preliminary SMS point of compliance for marine sediments at the Site is 1 foot below mudline.

Dietary ingestion of fish and shellfish is the primary exposure route through which human receptors may potentially be exposed to sediment contaminants at the Site. Potential receptors include recreational and/or tribal subsistence fishers. The ecological risk assessment concluded that there are unlikely to be risks to wildlife that forage for clams adjacent to the Site.

Upland Feasibility Study

Based on the upland RI findings and consultation with Ecology, the upland FS alternatives were developed for two assessment areas: Creosote Area and the Woodlife Area. The Knoll Fill Area is an assessment area discussed in the RI and the groundwater contaminants are addressed with the marine sediment FS alternatives.

Commented [ES(3]: Please note, based on recent developments to the knoll area CSM, the benefits of removal of PCBs from the knoll area sediment become even greater.

Upland cleanup alternatives have been prepared for each assessment area with detailed MTCA evaluations of each alternative. The MTCA evaluations included a disproportionate cost analysis (DCA) that compared the relative costs and benefits of each alternative of the assessment areas. Upland FS alternatives were developed assuming that groundwater at the Site is not a current or future drinking water source and the future use of the Site is industrial.

Creosote Area

Affected media in the Creosote Area include soil, groundwater, and soil gas. FS alternatives for the Creosote Area were developed by considering distinct areas that require cleanup action: on-property vadose zone; on-property shallow groundwater (to 15 feet bgs); on-property deep groundwater; off-property vadose zone; off-property shallow groundwater (to 15 feet bgs); and, off-property deep groundwater. Based upon the specifics of the assessment area (access, depth of contamination, potential receptors, feasibility, etc.) remedial actions retained as FS alternatives for the Creosote Area include combinations of remediation technologies. Those technologies include: sub-slab depressurization (SSD), soil vapor extraction (SVE), in-situ chemical oxidation (ISCO), in-situ bioremediation (ISB), soil removal, thermal treatment (via steam injection), and in-situ stabilization / solidification.

Commented [AM(4]: Include FS recommended alternative.

Woodlife Area

Affected media in the Woodlife Area include soil and groundwater. FS alternatives for the Woodlife Area were developed by considering the horizontal and vertical delineation of impacts identified during RI sampling activities. Based upon the specifics of the assessment area (access, depth of contamination, potential receptors, feasibility, etc.) remedial actions retained as FS alternatives for the Woodlife Area include: institutional and engineering controls and soil removal.

Commented [AM(5]: Include FS recommended alternative.

Knoll Area

Affected media in the Knoll Fill Area includes groundwater. Assessment of the Knoll Fill Area identified groundwater contamination by PCBs with no apparent source area in corresponding soil (0-12 feet), but recognition that the groundwater to surface water migration pathway is complete via groundwater seeps. Based upon the specifics of the assessment area (access, depth of contamination, potential receptors, feasibility, etc.) upland remedial actions were not retained as FS alternatives for the Knoll Fill Area and remedial actions protective of potential receptors to groundwater contamination identified in the Knoll Fill Area are proposed as part of the marine sediment FS alternatives.

Marine Sediment Feasibility Study

Based on the marine sediment RI findings, nine FS alternatives were developed in consultation with Ecology that range from monitored natural recovery (MNR) and source control to full removal. Except for the MNR and source control only approach, all alternatives are designed to meet the threshold criteria at the completion of construction (although a 10-year post-construction recovery period is allowed under MTCA/SMS regulations). Therefore, the highest ranked alternative relative to the MTCA/SMS DCA evaluation should be selected in the Cleanup Action Plan.

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1. INTRODUCTION

In accordance with the requirements of Agreed Order Number DE 5095 between JELD-WEN, Inc. (JELD-WEN) and the Washington State Department of Ecology (Ecology), dated January 2, 2008, SLR International Corporation (SLR) and Anchor QEA, LLC (Anchor QEA) have prepared this 2020 Revised Draft Remedial Investigation/Feasibility Study (RI/FS) Report for the former Nord Door facility located at 300 West Marine View Drive, Everett, Washington, 98201 (Site). The Site location is depicted on Figure 1-1.

1.1 OBJECTIVE AND SCOPE OF WORK

The objective of the RI/FS was to collect and evaluate sufficient information regarding potential hazardous substances to enable development of a cleanup action to be selected for the Site, consistent with Washington State Model Toxics Control Act (MTCA; Chapter 173-340) and Sediment Management Standards (SMS; Chapter 173-204) requirements. The scope of work for the RI investigations and FS development were performed in accordance with the following Ecology-approved Work Plans:

- Final Work Plan for Remedial Investigation/Feasibility Study and Draft Cleanup Action Plan (Work Plan); prepared by SLR and submitted to Ecology on October 21, 2008.
- Quality Assurance Project Plan (QAPP), Marine and Maulsby Marsh Sediment Characterization, JELD-WEN Former Nord Door Site, prepared by Anchor QEA and submitted to Ecology in June 2011.
- Phase 2 Remedial Investigation Work Plan, Addendum to Final Work Plan for Remedial Investigation/Feasibility Study and Draft Cleanup Action Plan (Phase 2 RI Work Plan); prepared by SLR and submitted to Ecology on August 9, 2011.
- Amendment to the Phase 2 Work Plan, Addendum to Final Work Plan for Remedial Investigation/Feasibility Study and Draft Cleanup Action Plan (Phase 2 RI Work Plan); prepared by SLR and submitted to Ecology on February 20, 2013.
- JELD-WEN Former Nord Door Site Sediment Quality Assurance Project Plan Addendum, prepared by Anchor QEA and submitted to Ecology on February 14, 2013.
- Draft JELD-WEN Former Nord Door Site Sediment Second Quality Assurance Project Plan Addendum – Feasibility Study Data Gaps, prepared by Anchor QEA and submitted to Ecology on August 20, 2013.
- Second Amendment to the Phase 2 Remedial Investigation Work Plan Addendum to Final Work Plan for Remedial Investigation/Feasibility Study and Draft Cleanup Action Plan; prepared by SLR and submitted to Ecology on November 7, 2013.
- 2nd Amendment to the Phase 2 Remedial Investigation Work Plan, Addendum to Final Work Plan for Remedial Investigation/Feasibility Study and Draft Cleanup Action Plan; prepared by SLR and submitted to Ecology on June 10, 2015.
- Source Control Evaluation (SCE) Work Plan to Address Data Gaps Identified in RI/FS and Draft Cleanup Action Plan; prepared by SLR and submitted to Ecology in December 2017.

- April 2019 Work Plan Addendum to the SCE Work Plan to Address Data Gaps Identified in RI/FS and Draft Cleanup Action Plan; prepared by SLR and submitted to Ecology in April 2019.
- Critical Areas Survey scope of work developed in consultation with Ecology in June 2019.

1.2 GENERAL SITE INFORMATION

The Site consists of five adjoining parcels with a combined land area of approximately 55 acres, which includes approximately 36 acres above the tidal mudflats. For the purposes of this RI/FS, the Site is defined as the former operating areas (i.e. former Nord Door site), on-property refers to the JELD-WEN historically owned property (former operating areas and Knoll Area), and off-property refers to off-site areas including West Marine View Drive, the Burlington Northern Santa Fe (BNSF) right-of-way (ROW) and Maulsby Marsh, as well as other surrounding properties where contaminants potentially associated with historical activities have been identified. Other property owners associated with the upland areas of the Site include BNSF, the City of Everett, and the current property owner Ron Woolworth. Owners of surrounding tidal mudflat areas include Wick Family Properties LLC, Port of Everett, and Foss Redevelopment. Administrative aspects of the Site are summarized below:

Site Name: Jeld-Wen / Former Nord Door Facility

Site Address: 300 West Marine View Drive

City and State: Everett, WA 98201

County: Snohomish

Township/Range/Section: Section 7, Township 29N, Range 5E of the Willamette Meridian

Latitude: 48º 00’ 49.5”

Longitude: 122º 12’ 34.5”

Ecology Facility Site ID Number: 2757

Ecology Region: Northwest Region

Ecology Project Manager: Mahbub Alam, Ecology, Toxics Cleanup Program

Ecology Project Coordinator: Sandra Caldwell, Ecology, Toxics Cleanup Program

JELD-WEN Project Coordinator: Dwayne Arino, JELD-WEN

JELD-WEN Project Manager: R. Scott Miller, SLR

JELD-WEN Sediment Project Manager: Nathan Soccorsy, Anchor QEA

2. SITE DESCRIPTION AND ENVIRONMENTAL BACKGROUND

2.1 SITE LOCATION AND DESCRIPTION

The Site is located at the confluence of the Snohomish River to the north and Port Gardner Bay (Possession Sound) to the west (Figure 1-1). The Site consists of five adjoining parcels (29050700100400, 29050700101200, 29050700400100, 29050700401900, and 29050700402000) with a combined land area (both in-water and upland) of approximately 55 acres.

The structures currently located on the former Nord Door portion of the Site include the following: the main manufacturing building, an office building, a training center building, a maintenance warehouse, a planer building, and two dry kiln buildings (Figure 2.1-1). These buildings have been subject to significant weathering and are not currently occupied. In addition, machinery including a hog fuel bin and other pieces of equipment (most seems to have reached design life) remain outside the northwest portion of the main manufacturing building.

The buildings and surrounding paved areas on the former Nord Door portion of the Site are currently leased to industrial tenants. The former main manufacturing building located on the eastern portion of the Site has remained primarily vacant, with intermittent use as a storage facility. The northeastern portion of the Site (approximately 6.1 acres) is currently leased to Cadman. The Cadman (leased) portion of the Site operates as an asphalt batch plant. The main structures on this portion of the Site include an approximately four-story asphalt building, feeder shed, and a conveyor system. Numerous aggregate piles are located around the perimeter of the Cadman portion of the Site. A conveyor system connects from the barge dock located at the north end of the Site to the aggregate piles. Aggregate is transferred via wheel-loader from the storage piles to feeders located on the north side of the plant. The feeders convey aggregate to the dryers and mixing towers. These features are shown on Figure 2.1-1.

An approximately 2-acre vegetated knoll is located at the southern end of the Site. The “Knoll Area” was created through several apparent filling operations, initially being filled to match the surrounding grade in the early to mid-1960s. Additional fill material was placed during the 1970’s which created the existing “knoll” feature.

Surface water in the Site vicinity is utilized both commercially and recreationally. The Tulalip Tribes Reservation is located approximately one mile north of the Site, on the north side of the Snohomish River. Tulalip tribal members living on the Tulalip Reservation are engaged in both commercial and subsistence fishing near the confluence of Port Gardner Bay and the Snohomish River. There is no current or proposed future use of groundwater in the Site vicinity.

The Site is bound to the east/northeast by vacant land and tidal mudflats owned by the Port of Everett; to the west by tidal mudflats owned by Wick Family Properties LLC (formerly Wick Towing), Port of Everett, and Foss Maritime Company LLC; to the southeast by West Marine View Drive (City of Everett), beyond which is the BNSF railway and vacant marshland (Maulsby Marsh) owned by BNSF; and to the north/northwest by Port Gardner Bay. The surrounding tidal mudflat parcels contain piling and creosote-treated structures that were not used by the Former Nord

Door operations but nonetheless are considered part of the Site. Surrounding parcels and property owners are shown on Figure 2.1-2.

The Site lies on an area of fill that extends into Port Gardner Bay. The Site is relatively flat, with a maximum elevation of approximately 15 feet above mean sea level (aMSL) while the Knoll Area extends to approximately 26 feet aMSL. The tidal mudflats and a portion of the upland areas of the Site lie within the 100-year flood plain.

The future use of the Site property is expected to be industrial.

2.2 SITE HISTORY

The Site is built upon fill material placed in various stages beginning in the late 1800s. Areas on the eastern, northern, and southern sides of the Site were filled in various stages beginning in the late 1800s or early 1900s when the adjacent BNSF railroad, formerly Great Northern Railroad, was laying tracks along Port Gardner Bay. Historical activities at the Site have included casket manufacturing, pole treating, wood door and sash manufacturing, and fish net storage. As discussed above, the Knoll Area was initially filled in the early to mid-1960s.

Prior to JELD-WEN's ownership, the Site had been in use as a stile and rail door plant since the mid-1940s by Nord Door. Prior to the 1940s, National Pole Company operated a pole treating plant on the eastern portion of the Site. Sound Casket Manufacturing operated a wood casket factory on the southern portion of the Site from at least 1936 until sometime prior to 1947, at which time the casket facility was operated by Northwestern Lumber & Manufacturing Co., Inc. By 1976 some of the structures associated with the former wood casket plant had been incorporated into the Nord Door facility. A rectangular fish net storage building and several smaller structures were present on the far southern portion of the Site (current Knoll Area), south of the casket facility, from at least 1947 through 1955. The structures were no longer present in 1967, by which time the area had been further filled creating the "knoll" feature.

Based on a review of historical aerial photographs and Sanborn maps (Appendix A), it appears that the original boiler for the Nord Door facility was an oil-fired boiler located near Norton Avenue (now West Marine View Drive). The 1955 aerial photograph and the 1957 Sanborn Map show that the former pole treating plant had been removed from the Site and the boiler for the Nord Door facility was a wood-fired boiler. Sometime prior to 1968, the wood-fired boiler was moved to its current location in the center of the Site adjacent to the main manufacturing building (Figure 2.1-1).

JELD-WEN acquired certain assets, including the real property of the Nord Door plant, in May 1986. Operations associated with the Nord Door stile and rail door plant included buying rough green wood, sorting, stacking, drying, planing, and cutting the lumber. The finished wooden doors, rails, posts, columns, and spindles were assembled on-site.

JELD-WEN ceased operations at the Nord Door plant in 2005. Various asphalt companies (Cadman [current], CEMEX, Rinkers Materials and Sterling Asphalt) have leased the northeast portion of the Site since the mid-1990s and operated this portion of the Site as an asphalt batch plant. Aerial photographs depicting the Site in 1947, 1955, 1965, 1974, 1984, and 1995 are provided as Figure 2.2-1 through Figure 2.2-6, respectively. Historical features identified on

Sanborn maps have been noted on the historical aerial photograph figures. Copies of the Sanborn Maps and aerial photographs are included as Appendix A.

2.3 PRIOR ENVIRONMENTAL INVESTIGATIONS

Numerous pre-RI investigations were conducted at the Site between 1991 and 2008, the findings of which were summarized in detail in the Work Plan (SLR, 2008). Appendix B contains an excerpt from the Work Plan summarizing the Regulatory History and Prior Investigations performed at the Site. Identified areas of impact at the Site included: creosote and polycyclic aromatic hydrocarbons (PAHs) from historical pole treating operations at the east side of the facility and beneath West Marine View Drive; PAHs and total petroleum hydrocarbons (TPH) from historical fueling oil storage at the east side of the facility; shallow soil and groundwater impacts from thinner storage (toluene) at the northeast corner of the facility; pentachlorophenol (PCP) impacts to soil from wood treatment solution (Woodlife) storage and usage at the northeast corner of the facility (appeared to be localized); TPH and PAH impacts to soil near the former fueling station in the central portion of the Site; PAH impacts to soil near the former casket manufacturing area; PAH impacts to soil near monitoring well MW-1; and, PAH and TPH from fill material placed at the Site (appeared to be wide-spread but relatively minor). Pre-RI sample locations are included on Figure 2.3-1 and pre-RI analytical results are included on the data summary tables discussed in Section 4.1. A summary of laboratory analyses conducted on each sample (pre- and post-RI) is presented in Table 2.3-1.

3. ENVIRONMENTAL SETTING/PHYSICAL CHARACTERISTICS

This section summarizes the topography, climate, geology, hydrogeology and ecology of the Site area.

3.1 TOPOGRAPHY

The Site is located on a peninsula of fill which extends into Port Gardner Bay. Surface features at the Site include numerous buildings, asphalt and concrete paved areas, and unpaved graveled or grassy areas (primarily the Knoll Area). Approximately 95% of the Site is currently paved or covered by buildings. The Site is adjoined by waterways and/or tidal mudflats to the north, south, and west. A narrow channel separates the Site from the adjoining property to the northeast. The Site is relatively flat, with a maximum elevation of approximately 15 feet aMSL. The Knoll Area extends to approximately 26 feet aMSL.

The northeastern, northwestern, and southern shorelines of the Site are currently armored with relatively large asphalt, concrete, and riprap materials which slope steeply downward to the tidal flats. Pockets of dune grass are located between rubble and scattered along relatively thin bands along the shoreline, including at the base of the riprap.

3.2 GEOLOGY AND HYDROGEOLOGY

The Everett area lies within the Puget Sound lowland, a tectonic/geomorphic depression between the Olympic Mountains and the Cascade Range. The north-south trending depression extends from Oregon to southwestern British Columbia. The depression is characterized by relatively thick accumulations of post-glacial and glacial deposits overlying tertiary sedimentary and igneous rocks. The lowlands area has been influenced by at least five major advances and several lesser advances of Pleistocene continental ice. Glacial deposits consist of a complex sequence of lacustrine deposits, advance outwash, drift, till, and recessional deposits. A variety of river deposits characterize the interglacial periods. The Quaternary glacial and interglacial deposits range in thickness from 0 to 300 feet in the Site vicinity (Yount et al., 1985). The underlying bedrock consists primarily of tertiary sedimentary and volcanic rocks.

The Site is underlain by Holocene-age younger alluvial and estuarine deposits (Minard, 1985), which consists mostly of stream-laid stratified sediments. These deposits lie in and along the present streams near the water table. The sediment is largely sand, silt, and clay with considerable amounts of organic matter. The thickness of these deposits probably exceeds 90 feet.

According to the Soil Survey of Snohomish County Area, Washington (National Resource Conservation Service [NRCS], 1983) upland soils at the Site are classified as Urban Land. Urban Land is defined as areas that are covered by streets, buildings, parking lots, and other structures that obscure or alter the soils so that identification is not possible. Soils at the Site are likely classified as Urban Land as a result of the historic filling activities. Soils encountered at the Site consist primarily of sands and silts, with interbedded layers of woody debris. Borings installed on the Site encountered organics consisting of shells and shell pieces. Test pits and borings completed in the Knoll Area consisted primarily of sandy fill material with shells and shell pieces down to the native mudflat layer. Evidence of general fill material was encountered at some test pits completed near the center of the Knoll Area (concrete, etc.). Saturated soil at the Site was encountered at depths ranging from 3 to 10 feet bgs.

Depth to groundwater across the Site has been measured between 2.5 and 12 feet bgs, with an average depth of approximately 6.5 feet bgs. Groundwater flow is generally toward Port Gardner Bay to the west/northwest; however, groundwater gradient on the edges of the peninsular fill area have been found to be tidally influenced.

3.3 CLIMATE

The Site is located in the west-central portion of Snohomish County. The climate of the Snohomish County area is tempered by winds from the Pacific Ocean. The average daily temperature in Everett in the summer is 62 degrees Fahrenheit and in the winter is 40 degrees Fahrenheit. Snow and freezing temperatures are uncommon. Summer rainfall is generally infrequent and light. During the rest of the year, rains are frequent, especially late in fall and in winter. The average annual precipitation in Everett is 36 inches (NRCS, 1983).

3.4 SEA LEVEL RISE PREDICTIONS

Global climate change is projected to result in sea level rise and increased storm intensity in the Everett area. This sub section summarizes a more detailed evaluation of the effects of climate change and projected sea level rise that is presented in Appendix C. To assess the potential effect at the Site, Ecology guidance (Ecology 2017), relatively recent Everett-specific projections (Miller et al, 2018), and Federal Emergency Management Agency (FEMA) flood plain information were reviewed to determine Site-specific projections and evaluations to inform the future environmental setting and considerations relative to remediation. The Site is relatively flat with a top-of-bank elevation of approximately 12- to 14-feet Mean Lower Low Water (MLLW; used here as a datum).

Current Tidal Datums for NOAA Station 9447659 (Everett, WA)

Tide	Tide Level (feet MLLW)
Mean Higher High Water (MHHW)	11.09
Mean High Water (MHW)	10.21
Mean Tide Level (MTL)	6.51
Mean Sea Level (MSL)	6.48
Mean Low Water (MLW)	2.8
Mean Lower Low Water (MLLW)	0

Source: Center for Operational Oceanographic Products and Services; NOAA Tides & Currents

Everett-specific sea level rise projections consider low and high scenarios using a Representative Concentration Pathway (RCP) methodology. In the low estimate greenhouse gases are projected to stabilize by mid-century and decrease thereafter while the high scenario projects continued increase in greenhouse gasses until the end of the 21st century (Mauger 2015). In addition to sea level rise the projections include vertical land movement of -0.1 ± 0.2 feet per century. The Site-specific low and high projections are as follows:

- Low Greenhouse Gas Scenario (RCP 4.5): By mid-century, the sea level is projected to rise between 0.5- and 1-foot. By the turn of the century and shortly thereafter, up to 3 feet of rise is projected.
- High Greenhouse Gas Scenario (RCP 8.5): By mid-century, the sea level is projected to rise between 1- and 2-feet. By the turn of the century and shortly thereafter, up to 5-feet of rise is projected.

The potential for midcentury sea level rise of 1 to 2 feet (RCP 8.5) results in new MHHW level at elevation up to 14 feet. Projections for sea level rise at the turn of the century of 5 feet would result in MHHW elevation over 16 feet. Figure 3.4-1 depicts elevation contours of 13, 15, and 17 feet MLLW to reflect 2, 4, and 6 feet of sea level rise to depict the range of sea level rise by adding projected rise to current MHHW elevation. With the projections defined, the Ecology guidance (Ecology 2017) was assessed to determine potentially relevant interpretations. The Ecology guidance presents three categories that could potentially apply to the Site.

Ecology guidance (Ecology 2017) includes low risk, short-term risk, and long-term/high risk scenarios to account for climate change-related criterion. Based on the Site-specific projections, the selected remedy will need to be assessed relative to the applicable scenario to determine if any climate change-related data needs are required to be developed and assessed in remedial design. In addition to the Ecology guidance FEMA projections should also be considered when determining risks of inundation.

3.5 UPLAND ECOLOGY

Information regarding federal- and state-listed sensitive, monitored, and candidate Endangered Species Act species was sought from the Washington Department of Fish and Wildlife (WDFW) Priority Habitat Species (PHS) list data. Habitats and species maps obtained from the WDFW are included in Appendix D. No federally listed endangered species were identified in the vicinity of the Site.

The purple martin is listed as a State candidate species on state lists. Three nesting pairs were identified at the Everett waterfront, at the confluence with the Snohomish River (Appendix D). These pairs were identified as active in 2004. Purple martins are large insect-eating, colonial nesting swallows that nest in a variety of cavities. Purple martins most commonly feed in flight on insects. Favorable martin foraging habitat includes open areas, often located near moist to wet sites, where flying insects are abundant.

In addition, the bald eagle, which is listed as a federal species of concern and a State sensitive species, may be found near the Site. No nesting bald eagles have been observed on the Site; however, the Site is located within the 800-foot shoreline nest buffer. The closest nesting territory (Hale #506-2) is located approximately one-quarter mile southeast of the Site (Appendix D). Wintering bald eagles require perch trees for day use and mature/old-growth forest stands for night roosts. Perch trees are typically dominant live or dead trees situated near a shoreline where a nest or defendable territory is evident or a prey source is abundant. Prey items are primarily fish and waterfowl.

3.6 MARINE ECOLOGY

In the summer of 2019, a scope of work to conduct a critical areas evaluation was developed in consultation with Ecology. The field work was implemented in July and reported to Ecology in the August 2019 Critical Areas Report (CAR; Appendix D.2). The CAR characterized ecological conditions in the study area to allow for the avoidance, minimization, and mitigation of impacts related to future cleanup activities. Existing critical areas and associated regulated buffers identified in the CAR were addressed as defined in Chapter 19.37 of the Everett Municipal Code (EMC; City of Everett 2019a).

During the investigation, 14 estuarine wetlands were identified and delineated within the study area (Wetlands E1 through E14). As described in the CAR, most of the estuarine wetlands are small patches or groups of small patches of salt-tolerant vegetation near the marine ordinary high water mark (OHWM), and 8 of the 14 wetlands are less than 100 square feet in total area. No freshwater wetlands or stream critical areas were identified within the study area. A delineation of the OHWM of the marine shoreline of Port Gardner Bay in the study area was performed. The OHWM delineation also included a delineation of piles and derelict structures within the study area below the OHWM. Under EMC Chapter 19.37.190, the Port Gardner Bay shoreline is defined as a Fish and Wildlife Habitat Conservation Area (FWHCA) under the category of "habitats of primary association." Figure 3.6 depicts the location and extent of identified wetland areas, OHWM elevation, and pile/derelict structures locations.

In accordance with State regulations, the City of Everett manages a Shoreline Master Program (SMP). The SMP is submitted for review and approval on an 8-year cycle for State review and approval to ensure shorelines are managed in compliance with applicable regulations. The most recent SMP was approved in October 2019 and is accessible online (https://everettwa.gov/553/Shoreline-Master-Program). The SMP divides shoreline areas into seven Ecological Management Units (EMU) and the Site is within Lower Snohomish Channel as EMU 5. The SMP summarizes historical use and modifications to the Everett shoreline in addition to identifying shoreline designations.

A summary of permitted, conditional, and prohibited shoreline uses and shoreline modification activities for each shoreline designation is presented in SMP Table 1 and Table 2, respectively. The uplands of the Site are designated as Urban Industrial. The tidal mudflats south of the Site are designated as "Urban Maritime Interim." The inlet and Maulsby Marsh (referred to as Maulsby Swamp in the SMP) are designated as Aquatic Conservancy[1]. Selection of future Site remedial activities should identify permitted, conditional, and prohibited shoreline uses of SMP-defined designations and determine if data needs associated with such designations are addressed in the remedial design.

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[1] The SMP defines an Aquatic Conservancy as follows: *"The "Aquatic Conservancy" shoreline environment designation is applied to areas that scored highly for salmonid habitat in the 2001 Snohomish Estuary Wetland Integration Plan Salmon Overlay."*

On a bay-wide scale, information regarding listed and candidate Endangered Species Act fish species in the project area was sought from the WDFW (Appendix D). There are no federally listed endangered fish species identified in the project area. Federally listed threatened species (also noted as State candidate species) that may be found in the Snohomish River near the Site include the Coho salmon, Dolly Varden/bull trout, fall Chinook salmon, fall chum, pink salmon, resident cutthroat, sockeye salmon, summer Chinook salmon, and summer steelhead, which may migrate through the area during certain periods of the year.

No surf smelt, sand lance, rock sole, or herring spawning areas were identified in the Site area (Appendix D). Dungeness crab is included as a priority species in WDFW's PHS list. Dungeness crab habitat was identified in areas surrounding the Site (Appendix D).

4. REMEDIAL INVESTIGATION

Prior to initiating the RI/FS in 2008, earlier investigations of upland areas of the Site had identified an area impacted by historic fuel oil and creosote releases (see Appendix B). This area is located in the east/southeast portion of the Site and beneath West Marine View Drive. The primary focus of the RI was to assess other data gaps identified by JELD-WEN and Ecology that warranted further investigation prior to completion of the FS. Areas of the Site evaluated as part of the RI included the following:

- Hog fuel burner ash, a potential source of dioxins and furans;
- A former Woodlife wood treatment solution storage and use area;
- A formerly unpaved storage area in the southwest portion of the Site;
- A formerly unpaved barrel storage area in the south-central portion of the Site;
- A former casket manufacturing area in the southern portion of the Site;
- A former machine shop/maintenance area in the central portion of the Site;
- Surface soils adjacent to seven on-site transformers;
- A former fish net storage area and Knoll Area in the southern portion of the Site;
- Groundwater in the existing groundwater monitoring wells;
- Soil, groundwater, and sediment conditions on the BNSF railroad property/Maulsby Marsh to the east of the Site;
- Sediment in the tidal mudflats immediately adjacent to the Site uplands;
- Sub-slab soil gas beneath the existing warehouse;
- Stormwater conveyance system (including North Truck Dock sump);
- Deep zone groundwater in the eastern portion of the Site;
- Additional assessment of the Knoll Area; and,
- Groundwater seeps around the shoreline of the Site.

The initial RI investigation was completed between May and October 2009 and was performed in conformance with the Ecology-approved Work Plan (SLR, 2008). On November 20, 2009, JELD-WEN submitted an Initial RI Investigation Data Summary Report (SLR, 2009) to Ecology. This document contained a preliminary summary of RI field activities, data results, and identified data gaps that warranted further investigation.

To address the data gaps identified in the Initial RI, JELD-WEN prepared a Phase 2 RI Work Plan (SLR, 2011) to address upland areas of concern, and also contracted with Anchor QEA to further characterize the tidal mudflats and Maulsby Marsh areas immediately adjacent to upland areas of the Site. The scope of work for the sediment assessment was outlined in the Quality Assurance Project Plan (QAPP; Anchor QEA, 2011).

Findings of the Phase 2 Upland RI were summarized in a report provided to Ecology which found that the additional assessment was sufficient to complete characterization of upland impacts in all areas except dioxins/furans in the former Woodlife storage and use area. An amendment to the Phase 2 RI Work Plan was submitted in February 2013 (SLR, 2013a) for additional characterization of dioxin/furan impacts in the Woodlife storage and use area. The findings of the investigation were summarized in a Summary Report for Additional Upland Assessment (SLR, 2013b).

In November 2013, a Second Amendment to the Phase 2 RI Work Plan (SLR, 2013c) was submitted to Ecology which provided for upland soil exploration and soil and groundwater sampling to evaluate the fill material present in the Knoll Area. In addition, another amendment to the Phase 2 RI Work Plan was submitted to Ecology to further assess the vertical extent of contamination in the historical fuel oil/pole treating area, the horizontal extent of the fuel oil/pole treating area impacts to the north and south, and the vapor intrusion pathway using soil gas sampling (SLR, 2015). The findings of these investigations were incorporated into the October 2016 Draft RI/FS report.

Upon review of the October 2016 Draft RI/FS report, additional assessment of the existing groundwater monitoring wells, the stormwater conveyance system (including the North Truck Dock), and groundwater seeps was completed as part of a Source Control Evaluation (SCE). Further assessment was completed to address data gaps identified by Ecology in the SCE activities, including additional assessment of groundwater monitoring wells (including deep zone groundwater monitoring wells) and further assessment of the Knoll Fill Area.

In addition, quarterly groundwater monitoring was performed at existing and newly installed groundwater monitoring wells beginning in 2015. JELD-WEN requested, and Ecology approved, a change to semiannual groundwater monitoring beginning in 2020. Monthly product measurement and extraction has been performed at deep zone well MW-8B. DNAPL that accumulates in the sump is removed with a hand bailer and stored in 55-gallon drums pending off-site disposal with other investigation derived waste. Removable DNAPL has not been observed at any other shallow or deep groundwater monitoring well.

Phase 2 RI - Marine Sediments

A series of data review meetings between JELD-WEN and Ecology were conducted between 2009 and 2014 that led to agreements to perform successive rounds of sediment sampling and analysis to complete the RI. The scope of the supplemental sampling is described in three Addendums to the Phase 2 RI Work Plan Sediment QAPP (Anchor QEA 2013a; Anchor QEA 2013b, Anchor QEA 2014). Validated sediment/tissue sampling and analysis data from the Phase 2 RI marine investigations have been uploaded to Ecology's Environmental Information Management (EIM) system.

Phase 2 RI - Maulsby Marsh

Maulsby Marsh sediment sampling and analysis data were uploaded to Ecology's EIM system following validation. However, based on Ecology's review of the data, it was determined that chemicals of concern detected in the marsh sediments were not attributable to Site releases. Therefore, no additional analysis of this area was required for the RI/FS, and archived samples were disposed at the direction of Ecology. A summary of Maulsby Marsh sediment results is presented in Appendix E.

4.1 UPLAND INVESTIGATIONS

Upland RI investigations were conducted at the Site between 2009 and 2019. A summary of laboratory analyses conducted on each sample from the upland investigation is presented in Table 2.3-1. A summary of the analytical findings are presented in Table 4.1-1 (soil) and Table 4.1-2 (groundwater). Analytical results of all upland soil, groundwater, and soil gas samples discussed below are presented in Table 4.1-3 through Table 4.1-11 (soil), Table 4.1-12 through Table 4.1-20 (groundwater), and Table 4.1-21 (soil gas). Upland sample locations are presented on Figure 2.3-1 and soil boring and test pit logs are provided in Appendix F.

4.1.1 SUMMARY OF UPLAND SAMPLING INVESTIGATIONS, METHODS, AND LOCATIONS

This section summarizes the various upland investigations including a description of the completed sampling activities and the areas of interest for the investigations. Additional discussion concerning the results from the primary assessment areas (Creosote Area, Woodlife Area, and Knoll Fill Area) are included in Section 5.

4.1.1.1 INITIAL RI INVESTIGATION

In May and June, 2009, an initial RI investigation was completed at the Site including 13 direct push (Geoprobe) borings for the collection of soil and grab groundwater samples (GP-302 through GP-312, GP-334 and GP-335), surface and near surface soil sampling with a hand auger (SS-313 to SS-321) and sampling of stored ash material from a drum (SS-301) at the locations depicted on Figure 2.3-1. In addition, 12 locations (HA-322 to HA-333) adjacent to Maulsby Marsh and BNSF property were selected for soil and grab groundwater sampling with a hand auger and temporary well points in September and October 2009 to address potential impacts to Maulsby Marsh. In October 2009 a round of groundwater samples was collected from existing monitoring wells MW-1 through MW-6.

4.1.1.2 PHASE 2 UPLAND SOIL AND GROUNDWATER INVESTIGATION

Based on the findings of the initial RI, pre-RI sampling conducted at the Site, and a series of communications with Ecology, several upland areas were identified as warranting additional characterization. In May 2011, SLR completed five additional Geoprobe borings for the collection of soil and grab groundwater samples (401-P through 405-P) at the locations depicted on Figure 2.3-1 and collected additional groundwater samples from existing groundwater monitoring wells at low tide and high tide in accordance with an Ecology-approved Work Plan (Phase 2 RI Work Plan, SLR, 2011).

The findings of this investigation were deemed sufficient, at that time, to complete characterization of upland impacts at the Site for completion of the RI/FS and draft CAP in all areas except the former Woodlife Storage and Use Area.

4.1.1.3 ADDITIONAL UPLAND ASSESSMENT – FORMER WOODLIFE AREA

In March 2013, SLR conducted an additional investigation of the former Woodlife storage and use area to further characterize dioxin/furan impacts in this area of the Site. The investigation included the completion of 12 soil borings (GP-501 to GP-512) for the collection of soil and grab groundwater samples. Three soil samples were collected from each boring at depths of 1 foot, 3 feet, and 5 feet bgs. One groundwater grab sample was collected from a temporary well installed at each boring. Sample locations are presented on Figure 2.3-1.

The soil and groundwater sampling completed in March 2013 was sufficient to characterize the horizontal and vertical extent of dioxin/furan impacts in the Former Woodlife Area in soil and groundwater at upland areas of the Site for the purpose of the RI/FS.

4.1.1.4 ADDITIONAL UPLAND ASSESSMENT – KNOLL AREA

Marine sediment investigations conducted between 2009 and 2013 identified PCBs as a contaminant of potential concern (COPC) in sediment near the Knoll Area. In November 2013, nine test pits (TP-10 through TP-18) were completed to evaluate the fill material in the Knoll Area and four Geoprobe borings (GP-601 through GP-604) were completed to evaluate groundwater in the Knoll Area (see Figure 2.3-1). Test pits were completed to depths of approximately 5 to 15 feet bgs and Geoprobe borings were completed to a maximum depth of 40 feet bgs.

4.1.1.5 ADDITIONAL UPLAND ASSESSMENT – CREOSOTE AREA

In December 2013, three Geoprobe borings (GP-605 to GP-607) were completed to further evaluate the horizontal and vertical extent of soil and groundwater impacts in the Creosote Area (see Figure 2.3-1). Borings were advanced to a depth of 34.5 feet bgs and groundwater samples were collected in temporary wells.

4.1.1.6 ADDITIONAL UPLAND ASSESSMENT – HISTORICAL FUEL OIL/POLE TREATING AREA, VAPOR INTRUSION PATHWAY, AND GROUNDWATER ASSESSMENT

In August 2015, SLR conducted additional assessment activities based on discussions with Ecology regarding the interim RI/FS report to further assess three items: 1) the vertical extent of contamination in the Creosote Area; 2) the horizontal extent of contamination in the Creosote Area; and, 3) the vapor intrusion pathway to the existing main manufacturing building using soil gas sampling.

In July and August 2015 soil and groundwater samples were collected from temporary Geoprobe locations to assess the depth and extent of impacts to the east of the Site (four deep borings, GP-701 to GP-704, adjacent to West Marine View Drive), underneath the existing main manufacturing building (three deep borings, GP-708 to GP-710, and two shallow borings, GP-711 and GP-712), and to the southeast of the existing main manufacturing building (three shallow borings, GP-705 to GP-707). Deep borings were extended up to 55 feet bgs and shallow borings were extended to approximately 11 feet bgs. The completed depths were based on field conditions encountered at the time of the investigation.

Soil gas samples from beneath and adjacent to the existing main manufacturing building were collected to support the assessment of the vapor intrusion pathway. Nine locations were selected for shallow soil gas sample collection from the area below the existing surface (concrete or asphalt). Soil gas samples were collected above the groundwater table encountered at the time of the field work (encountered at approximately three and a half feet bgs). Soil gas sample points were installed with a Geoprobe direct push drilling rig utilizing a post-run tubing system designed for collection of soil gas samples.

Based on the findings of the Geoprobe soil and groundwater investigation, seven groundwater monitoring wells were installed with a hollow-stem auger drilling rig at locations and depths presented to Ecology (SLR, 2015). One set of nested groundwater monitoring wells was completed inside the existing main manufacturing building with one well completed in the shallow zone (MW-8A screened between 4 and 14 feet bgs) and one well completed in the deeper zone (MW-8B screened between 40 to 50 feet bgs with a 2-foot sump). Two additional sets of nested monitoring wells were completed in the area east of the Site adjacent to West Marine View Drive (MW-9A/MW-9B and MW-10A/MW-10B). In addition, one shallow groundwater monitoring well was completed to the north of the existing main manufacturing building and west of the north entrance to the property to assess groundwater impacts adjacent to surface water (MW-7).

4.1.1.7 SOURCE CONTROL EVALUATION TO ADDRESS DATA GAPS

In December 2017, SLR conducted additional assessment activities based on data gaps identified during Ecology initial review of the October 2016 Draft RI/FS Report. Source Control Evaluation (SCE) activities were completed for further characterization of: 1) groundwater seeps; 2) the existing site stormwater drainage system; and, 3) the North Truck Dock (NTD) stormwater sump.

An assessment of groundwater seeps observed discharging into Port Gardner Bay on the northern, western, and southern side of the Site was completed to identify potential impacts to surface water and sediment via groundwater seep drainage from the Site. The groundwater seep assessment consisted of identification of observed seeps during low tidal conditions, visual observations from identified seeps, and groundwater seep sampling of select groundwater seep locations along the shoreline of the Site.

While door manufacturing at the Site ceased in 2005, the Industrial Stormwater General Permit for the door manufacturing operations was not terminated until March 2007 (see Attachment 5 of the SCE Work Plan). Stormwater drainage plans that were previously provided to Ecology showing the location and configuration of the Site stormwater drainage system did not match observations made by Ecology during an April 2017 visit to the Site. As a component to the SCE, an assessment of the Site stormwater drainage system configuration was completed to locate and identify current and/or historical outfalls, drainage system collection points, pipe locations, and the approximate drainage areas for the collection points (SLR, 2019a).

As part of the stormwater drainage assessment, the stormwater sump in the NTD area was traced and mapped by a utility locating service, and samples were collected of water entering the sump (via identified inlet pipes and apparent groundwater weep holes), solids inside the sump, and soil adjacent to observed current and historical discharge points on the adjacent Port of Everett property. Following the investigation, the current property owner plugged the weep holes, removed the solids from within the sump and at the bottom of the truck ramp, and re-routed the discharge line to an existing stormwater line that terminates at the inlet to the east of the Site.

4.1.1.8 ADDENDUM TO SCE WORK PLAN

In May 2019, SLR conducted a data gap assessment based on communications and discussions with Ecology following submittal of the SCE Summary Report. The data gap assessment included further characterization to address data gaps identified in the SCE activities and previous RI investigations. This included assessment of: 1) extent of existing groundwater impacts and deep zone groundwater assessment; 2) follow-up assessment of Knoll Area; 3) additional assessment of “Area 4” locations identified in the October 2016 Draft RI/FS (i.e. isolated areas of impact); follow-up assessment related to the stormwater conveyance system; and, assessment of vertical and horizontal groundwater flow and gradient (SLR, 2019b).

One additional set of nested monitoring wells (MW-11A and MW-11B) were installed near the southern corner of the main manufacturing building, and to the south of previously identified deep zone impacts. The deep well was completed to 40’ bgs with a 2-foot sump. Soil borings were completed with a Geoprobe drilling rig (composite soil samples of 0-12 feet were requested by Ecology), and monitoring wells were subsequently installed with a HSA drilling rig.

Three soil borings were completed in the Knoll Area and completed as groundwater monitoring wells (MW-12 to MW-14). Composite soil samples were collected from 0-12 feet bgs and the monitoring wells were completed to 23 to 25 feet bgs.

Two soil borings were completed at previously identified areas of isolated impacts (former borings GP-311 and GP-34). Composite soil samples were collected from 0-12 feet bgs and the soil borings were subsequently completed as shallow permanent groundwater monitoring wells MW-15 and MW-16 to approximately 13 feet bgs.

As a follow-up to the stormwater conveyance system assessment, three soil borings were completed in areas of previously identified damaged stormwater lines that were connected to identified outfalls. GP-801 and GP-802 included composite soil sampling from 0-12 feet bgs and collection of a grab groundwater sample from a temporary well. MW-17 included composite soil sampling from 0-12 feet bgs and installation of a permanent groundwater monitoring well to approximately 13 feet bgs.

To better understand the site-wide groundwater gradient (including deep zone gradient and potential vertical gradient), a transducer study was performed for two weeks in May 2019. Pressure transducers were installed at all nested well locations (shallow and deep well) and at several new and existing groundwater monitoring wells.

Three additional groundwater monitoring wells were installed to further assess PCB concentrations potentially related to fill activities in and around the Knoll Area. MW-18 was installed on the eastern edge of the Knoll Area adjacent to West Marine View Drive, MW-19 was installed between GP-801 and the shoreline, and MW-20 was installed at the northern extent of estimated fill activities associated with the Knoll Fill Area. This assessment also included SPME sampling from temporary wells installed in the mudflats adjacent to the Knoll Area and from groundwater monitoring wells installed in the Knoll Area.

4.1.1.9 GROUNDWATER MONITORING PROGRAM

Groundwater monitoring at permanent monitoring wells began on a quarterly basis in 2015. Groundwater sampling was performed per the Groundwater Monitoring Program Work Plan and SAP (SLR, 2019c) and included measurement of depth-to-water measurements and purging and sampling the monitoring wells per EPA low-flow methods. JELD-WEN requested, and Ecology approved, modifications to the analytical testing and a change to semiannual groundwater monitoring beginning in 2020. Monthly product measurement and extraction has been performed at deep zone well MW-8B. Tables presenting field measurements and analytical results from the quarterly groundwater sampling events and figures depicting examples of groundwater gradient estimates are included in Appendix G.

4.1.2 UPLAND ANALYTICAL RESULTS AND FINDINGS

An expanded summary of upland analytical results and findings, identification of Indicator Hazardous Substances (IHS), and a discussion of selected screening levels are presented in the conceptual site models for selected assessment areas (Creosote Area, Woodlife Area, and Knoll Fill Area) are included in Section 5.0 of this report.

4.1.2.1 INITIAL PRELIMINARY CLEANUP LEVEL ASSESSMENT

Commented [AM(9]: This section may need to be updated with new PCL Table.

In order to identify Indicator Hazardous Substances (IHS) and specific areas of concern to focus potential remedial actions, historical analytical results were screened against initial Preliminary Cleanup Levels (PCLs) consisting of published regulatory levels, natural background concentrations, and laboratory practical quantitation limits (PQLs). Selected initial PCLs and the PCL sources are presented on Table 4.1.2.1-1 (soil) and Table 4.1.2.1-2 (groundwater). Analytical results per analyte group with a comparison to the initial PCLs are summarized on Table 4.1-1 and Table 4.1-2 and presented on Table 4.1-3 to Table 4.1-11 (soil), Table 4.1-12 to 4.1-20 (groundwater) and Table 4.1-21 (soil gas).

Initial PCLs used to screen general analytical results were based on the following process:

- Soil initial PCLs were Method B direct contact values from MTCA for all soils to a depth of 15 feet bgs (Method A direct contact value from MTCA was used if no Method B value) or natural background concentration.
- Groundwater initial PCLs were surface water cleanup levels from MTCA, potable groundwater screening level (if no surface water cleanup value), groundwater protective of vapor intrusion (used for volatile analytes only), or the laboratory PQL.

Soil exceedances of initial PCLs include the following COPCs and areas:

- TPH-Gx and TPH-Dx (diesel range) were measured above initial PCLs at 8 and 10 sample locations, respectively. These locations were primarily located within the Creosote Area and appear to be co-located with cPAH impacts.
- cPAH TEQ values were calculated above initial PCLs at 31 sample locations. Other PAHs including 2-methylnaphthale, naphthalene, and phenanthrene were also measured above initial PCLs, however only at less than 3 locations and these exceedances were co-located with cPAH impacts.

- Dibenzofuran (an SVOC) was measured above initial PCL at 3 locations, also located within the Creosote Area and co-located with cPAH impacts.
- Naphthalene (a VOC) was measured above the initial PCL at 3 locations, also located within the Creosote Area and co-located with cPAH impacts.
- One metal (thallium) measured above the initial PCL at 9 locations. Concentrations of thallium appear to be representative of natural background concentrations and thallium is not considered a COPC.
- TEQ Dioxin/Furan values were calculated above initial PCL (based on background concentration) at 22 locations, primarily located within the Woodlife Area.

Groundwater exceedances of initial PCLs include the following COPCs and areas:

- TPH-Gx and TPH-Dx (diesel range) were measured above initial PCLs at 15 and 28 sample locations, respectively. These locations were primarily located within the Creosote Area and appear to be co-located with naphthalene impacts.
- cPAH TEQ values were calculated above initial PCLs at 34 sample locations. Other PAHs including: 1-methylnaphthalene, 2-methylnaphthalene, acenaphthene, fluoranthene, fluorene, naphthalene, phenanthrene, and pyrene were also measured above initial PCLs. These locations were primarily located within the Creosote Area and appear to be co-located with naphthalene impacts.
- SVOCs including 1,1-Biphenyl (only 1 location), dibenzofuran, 2-4-Dimethylphenol, and 3,4-Methylphenol were measured above initial PCLs. These locations were primarily located within the Creosote Area and appear to be co-located with naphthalene impacts.
- Total PCB congeners were measured above initial PCL at 8 locations primarily within the Knoll Fill Area.
- Metals were measured above initial PCLs at select locations throughout the Site (maximum of 11 locations for arsenic). The metals concentrations do not appear to be related to historical site operations or specific assessment areas and are not COPCs.
- TEQ Dioxin/Furan values were calculated above the initial PCL at 2 locations located within the Woodlife Area.

Other isolated areas of impact above initial PCLs were identified in upland soil and groundwater but were not subsequently carried through to the FS due to the findings of additional assessment activities, including the following:

- A former equipment fueling station was located at the southeastern end of the kiln buildings. Soil boring GP-34 was completed in this area during a pre-RI investigation. TPH-Dx (heavy oil range) was identified in boring GP-34 at a concentration above the PCL. Test pit excavations (TP2-1 to TP2-4) were subsequently completed near the former fueling station extending over sampling location GP-34. Test pits were completed through the center of, and to the north, east, and south of former boring GP-34. Field evidence of impacts were identified in the location of former boring GP-34, but no impacts were observed in surrounding test pits. The test pit excavation exposed an area containing wood debris (lumber and saw dust) along with other miscellaneous waste (asphalt pieces, bottles, scrap metal) to a depth of 5 to 6 feet bgs. Four soil samples were collected from the test pit excavations and selectively analyzed for TPH, SVOCs, PAHs, and VOCs. No TPH, SVOCs, or VOCs were identified above PCLs in the confirmation samples. The soil sample collected from the central test pit, in the approximate location of boring GP-34, identified cPAHs above PCLs (note that cPAHs were not measured above the PCL in GP-34). The test pit investigation confirmed that the TPH and cPAH concentrations in soil above PCLs in the former fueling area are limited in extent and potentially unrelated to the former equipment fueling station.

Subsequent investigation during the 2018-2019 SCE included installing monitoring well MW-16 adjacent to former boring GP-34 and test pit TP-2. Analytical results for soil and groundwater at MW-16 did not identify cPAHs above the PCLs.

- cPAHs were identified in Boring GP-14 (pre-RI investigation) above the PCL. Subsequent investigations completed as part of the RI (GP-211, GP-707, and MW-11A/11B) did not identify cPAHs above the PCL and this area appears to be outside of the identified impacts in the Creosote Area.
- Naphthalene was identified above the PCL in boring GP-311 at 0.27 milligrams per kilogram (mg/kg), slightly above the PCL of 0.24 mg/kg.

  During the 2018-2019 SCE monitoring well MW-15 was installed adjacent to former boring GP-311. A soil composite sample from 0 to 12 feet bgs did not measure naphthalene above PCLs (0.0088 mg/kg). The initial PCL for naphthalene presented in this 2020 Revised RI/FS is 1,600 mg/kg based on direct exposure.
- TPH-Dx (heavy oil range) was identified in a groundwater sample from Geoprobe boring GP-24 at a concentration of 1,480 micrograms per liter (µg/L), above the PCL of 500 µg/L. No SVOCs, PAHs, or VOCs were identified in boring GP-24 above laboratory PQLs.

  Monitoring well MW-1 was subsequently installed adjacent to GP-24 and has shown no exceedances of PCLs for TPH in groundwater over several rounds of groundwater monitoring. The elevated concentration of TPH in the Geoprobe boring is anomalous and may have been the result of turbidity or colloidal interference in the groundwater sample.
- TPH-Dx (diesel range) was identified in a groundwater sample from Geoprobe boring GP-603 in the Knoll Area (former fish net storage area) at a concentration of 980 µg/L, above the PCL of 500 µg/L.

  Subsequent investigation of the Knoll Area was completed as part of the 2018-2019 SCE, including the installation of 4 groundwater monitoring wells (MW-12 to MW-14, and MW-18) and groundwater seep sampling. TPH-Dx (diesel range) was not measured above PCLs in the groundwater seep.
- Naphthalene and cPAHs were identified in a groundwater sample from Geoprobe boring GP-601 above the PCLs. No other groundwater samples from the Knoll Area identified IHS above PCLs.

  Subsequent investigation of the Knoll Area was completed as part of the 2018-2019 SCE, including the installation of 4 groundwater monitoring wells (MW-12 to MW-14, and MW-18) and groundwater seep sampling. Naphthalene and cPAHs were not measured above

PCLs from the monitoring wells or groundwater seep (with the exception of cPAHs at MW-13 at 0.02 ug/L, above the PQL-based PCL of 0.015 ug/L). While these isolated areas of TPH-Dx (diesel range), cPAHs, and naphthalene impacts are not drivers for developing a remedial action for groundwater in the Knoll Fill Area, these areas will nonetheless be addressed by the Knoll Fill Area groundwater remedial actions.

4.1.3 UPLAND INDICATOR HAZARDOUS SUBSTANCES

Based on the screening process described above, along with an assessment of known historical operations areas and suspected contaminants associated with those operations, the following IHS were selected for the development of proposed remedial action alternatives presented in the FS (Section 7). Further assessment of the primary assessment areas in relation to the IHS, including a presentation of the extent of IHS impacts, are presented in Section 5.

- TEQ cPAH values for soil and naphthalene for groundwater in the Creosote Area.
- Naphthalene for soil gas in the Creosote Area.
- Total PCB congeners for groundwater in the Knoll Fill Area (significant soil impacts have not been identified in the Knoll Fill Area).
- TEQ Dioxin/Furan values for soil and groundwater in the Woodlife Area.

4.2 MAULSBY MARSH FRESHWATER SEDIMENT CHARACTERIZATION

As described in section 4.1, upland investigations in the Creosote Area revealed contamination in soil and groundwater that extended below West Marine View Drive. The presence of this contamination led to the collection of hand-auger samples in the upland areas within the BNSF rail alignment area that also resulted in detections of site-related contaminants. Further characterization of Maulsby Marsh was included in the Marine and Maulsby Marsh Sediment Characterization QAPP (Anchor QEA 2011). Tiered sampling and analysis of sediments were conducted in accordance with the QAPP in 2012. The full results of the investigation are presented in Appendix E.

4.2.1 SUMMARY OF FRESHWATER SEDIMENT SAMPLING INVESTIGATIONS, METHODS, AND LOCATIONS

A total of 18 freshwater surface sediment samples were collected. Of those, 9 surface sediment samples located closest to the BNSF railroad tracks (MS001 through MS009) were submitted to the laboratory for analysis of PCBs, pesticides, metals, SVOCs, TPH, and sediment conventional analyses including grain size, total solids, total organic carbon, ammonia, and total sulfides. Material collected from the remaining sample locations were submitted to the laboratory as archive samples. A portion of each sample was archived for possible EPH testing. All TPH testing was initially conducted on the first tier of 9 samples collected using Northwest TPH (NWTPH) methods. The four sediment samples with the highest NWTPH concentrations, (MS001, MS002, MS003, and MS006) were tested further for EPH to further characterize the nature of hydrocarbons in these samples.

4.2.2 FRESHWATER SEDIMENT ANALYTICAL RESULTS

Upon receipt of the initial 9 sediment sample results, Ecology consultation was conducted to determine if or where additional tier testing was required. The data results were screened by then draft Freshwater SCO values (now adopted in 2019 SCUM) to determine if Site-related contaminants of concern, particularly TPH and PAHs, were detected above criteria. Some parameter results did exceed criteria (Table 4.2.2) but were not related to the Site COCs. Therefore, no additional analysis was required to delineate the extent of contamination.

4.2.3 INDICATOR HAZARDOUS SUBSTANCES – FRESHWATER SEDIMENT

Not applicable.

4.2.3.1 NATURE AND EXTENT OF INDICATOR HAZARDOUS SUBSTANCES – FRESHWATER SEDIMENT

Not applicable.

4.3 MARINE SEDIMENT CHARACTERIZATION

This section details results for the Marine Sediment Site Characterization.

4.3.1 MARINE SURFACE SEDIMENT CHARACTERIZATION

This section summarizes the characterization of surface sediment concentrations in marine areas of the Site.

4.3.1.1 SUMMARY OF SURFACE SEDIMENT SAMPLING INVESTIGATIONS, METHODS, AND LOCATIONS

Four separate work plans were developed that included collection and analysis of surface sediment samples from the Site:

- SAIC 2008 – One Site location analyzed for total PCBs (Aroclor method) and dioxins/furans
- Bay Wood Products 2009 – Two Site locations analyzed for dioxins/furans
- SLR 2009 – JELD-WEN Phase 1 RI/FS Work Plan
- Anchor QEA 2012/2014 – JELD-WEN Phase 2 RI/FS Work Plan

Each of these sampling and analysis efforts is summarized in the sections below. The combined surface sediment sampling locations are presented on Figure 4.3-1 and Figure 4.3-2; laboratory analyses conducted on each sample are summarized in Table 4.3-1. All surface sediment results are compiled in Appendix H, Table H-1 and compared to SMS sediment cleanup objective (SCO) chemical criteria for marine sediments. Field collection forms are presented in Appendix I. The data quality summary is included in Appendix J.

SAIC 2008

A single surface sediment sample (0 to 10 centimeters [cm]; Station A2-18B; see Figure 4.3-1) was collected in August 2008 within the Site area as part of the larger Port Gardner sediment quality investigation conducted by Ecology (SAIC, 2009). The surface sediment sample was collected using a modified van Veen grab sampler. The sample was analyzed for dioxins/furans and total PCBs (Aroclor method; Table 4.3-1).

Bay Wood Products 2009

Two surface sediment samples (Stations BW-03-SS and BW-11-SS; see Figure 4.3-1) were collected by the Port of Everett in June 2009 from the adjacent northern tidal mudflat area as part of the RI/FS for the adjacent Bay Wood Products Site (Bay Wood; Cleanup Site ID: 2581). The Bay Wood surface sediment samples were collected from a depth of 0 to 10 cm at low tide by hand. The two locations were collected by measuring a 1-square-meter grid at the station location and then collecting equal volumes of 0 to 10 cm sediment from each corner of the square using a stainless-steel trowel. Surface sediment samples were analyzed for dioxins/furans (Table 4.3-1).

SLR 2009

As part of the initial Site RI/FS sampling, 34 surface sediment (0 to 10 cm) samples were collected by JELD-WEN in June 2009 and analyzed following the Ecology-approved Work Plan (SLR, 2009). All sediment samples were collected from fine-grain materials using hand tools at low tide. Sediment samples were collected adjacent to each of the nine identified historical and/or current stormwater outfalls (Stations 3SED1 through 3SED8, and 3SED10; Figure 4.3-1). Surface sediment samples were also collected from the eastern-most segment of the channel along the north boundary of the Site (Station 3SED9) and in the vicinity of the former fish net storage building and Knoll Area at the southeastern corner of the Site (Stations 3SED11 and 3SED12). At each sampling location, three separate grab samples (denoted with an A, B, or C identifier) were collected either along the stormwater flow alignment (for outfall area samples) or in a radial pattern (for all other samples), with each sample approximately 10 feet equidistant from the other(s).

Anchor QEA 2012/2014

The 2008 and 2009 sampling data summarized above identified dioxins/furans and total PCBs as COPCs in the marine sediments at the Site. However, additional data were needed to characterize the horizontal and vertical extent of these COPCs at the Site. In addition, since elevated concentrations of PAHs were detected in upland soils and groundwater at the Site (Section 4.1), further sampling and analysis was needed to determine if PAHs may also be a COPC in Site sediments. The Ecology-approved Phase 2 RI/FS Work Plan was developed to address these data gaps (SLR, 2011), and included the following:

- In May 2012, surface sediment (0-10 cm) samples were collected from 10 Exposure Areas (EAs) located immediately adjacent to the Site shoreline (see Figure 4.3-1).
- Two Site EAs were targeted for more detailed composite sampling and analysis of surface sediment and tissue (see Section 4.4). The first composite area (JW-EA-01; see Figure 4.3-1) targeted tidal mudflats at the head of the relatively narrow channel immediately adjacent to stormwater outfalls draining uplands at the northeastern corner of the Site.

> The second composite area (JW-EA-10) targeted tidal mudflats immediately adjacent to the former fish net storage building and Knoll Area at the southeastern corner of the Site. For comparison purposes, sediment and tissue samples were also collected from upstream, downstream, and regional reference areas with similar grain size and other habitat characteristics (see Figure 4.3-2).

All surface sediment samples were obtained at low tide by collecting and homogenizing five equal volume aliquots to create each sample. One aliquot was collected at the target location and the other four aliquots were collected approximately 3 feet from the target location at four points in a compass pattern. Sediments were collected with decontaminated stainless-steel spoons or disposal scoops, placed into a stainless-steel bowl, homogenized and placed into sample containers. The discrete surface sediment locations were composited by EA in the upland area of the facility. The discrete collection procedure was replicated in all subsequent surface sediment sampling described in this subsection.

In October 2012, archived sediment samples were submitted for additional discrete sample analyses. The submittal was composed of 29 sediment locations that were all analyzed for dioxin/furans. Six of the 29 locations were also submitted for PCB congener analyses.

In April 2013, Ecology approved a QAPP Addendum (Anchor QEA, 2013a) to submit additional archived surface sediment samples for dioxin/furan and/or PCB analysis, and to collect and analyze surface sediments from another 10 stations. Following review of these data, an additional seven discrete samples were submitted for dioxin/furan and/or PCB analysis. In September 2013, Ecology approved a second QAPP Addendum (Anchor QEA, 2013b) for the collection and analysis of the final two surface sediment samples to complete the RI/FS. In March 2014, Ecology approved a third QAPP Addendum (Anchor QEA, 2014) for the collection and analysis of clam tissue from an additional three locations to further refine the PCB biota sediment accumulation factor (BSAF).

4.3.1.2 SURFACE SEDIMENT ANALYTICAL RESULTS

This section summarizes analytical results for the combined RI/FS surface sediment sampling data set collected between 2008 and 2013, as summarized above. All surface sediment analytical results are presented in Appendix H, Table H-1 which compares the results to preliminary SCO and cleanup screening level (CSL) benthic chemical criteria. For chemical summations, different non-detect summation methods were performed (i.e., assuming non-detect [U] equals 0, ½, and the reporting limit).

Surface samples were analyzed for grain size, conventional parameters, SVOCs, PAHs, dioxins/furans, and PCBs (both as Aroclors and as congeners). Summary tables including the detection frequency, minimum, maximum, mean and non-detect information for each analytical group are presented in Tables 4.3-2 through 4.3-14.

Validation reports for the RI/FS data are provided in Appendix J. The reviews confirmed that the overall quality of the chemistry data was acceptable for use in site characterization for this RI/FS.

4.3.1.2.1 GRAIN SIZE AND CONVENTIONAL PARAMETERS

Grain size was evaluated in 54 sediment samples as part of the SLR 2009 and Anchor QEA 2012/2013 sediment characterization. While most Site surface sediments are composed of sand and silt-sized materials, there are localized areas with coarser materials. Surface sediment gravel content at the Site ranges from 0.1% to 69.9%; sand content ranges from 1.6% to 77%; silt content ranges from 2.5% to 85%; and clay content ranges from 0.9% to 20.9%. A grain size results summary table is presented in Table 4.3-3.

Conventional sediment analyses included total organic carbon (TOC), black carbon, and total volatile solids (TVS), along with other parameters. Conventional parameter results are summarized in Table 4.3-1, and key analytes are highlighted below:

- TOC was measured in 99 samples, and ranged from 0.289% in sample 3SED6-B to 6.65% in sample 3SED3-A.
- Black carbon was detected in all 20 samples analyzed and ranged from 0.12% in sample JW-EA06-COMP-120507 to 0.21% in sample JW-EA01-SS03-120507.
- TVS was measured in 34 samples and ranged from 1.69% in sample 3SED10-A to 10.53% in sample 3SED8-B. All surface sediment samples collected from the Site had TVS concentrations below wood waste cleanup standards developed to date at other Puget Sound sediment cleanup sites. For example, the TVS cleanup level developed for the Former Scott Mill Site in Anacortes was 12.2%, and the TVS screening level used in the RI/FS of the adjacent Bay Wood Site is 15.0%; maximum concentrations at the Site are below these regional benchmarks. In addition, detailed examinations of sediment cores (e.g. see Section 4.3.2) revealed that surface and near-surface sediments throughout the Site area contain less than 20% wood by volume (typically in the form of bark fragments), which again is below wood waste cleanup standards developed to date for other Puget Sound sediment cleanup sites.

4.3.1.2.2 METALS

Metals were analyzed in 34 samples collected from the Site. Cadmium was not detected in any of the samples. The detection frequency for all other metals ranged from 76% to 100%. A summary of metals results is presented in Table 4.3-4. None of the results exceed the SCO chemical criteria for metals, and thus metals were not identified as COPCs in Site sediments.

4.3.1.2.3 SEMIVOLATILES

SVOCs were analyzed in 34 surface sediment samples collected from the Site. Summaries of SVOC dry weight (dw) values and organic carbon (OC) normalized results are provided in Table 4.3-5 and Table 4.3-6, respectively. Three surface sediment samples had detectable concentrations of three different SVOCs that exceeded SCO chemical criteria (see Appendix H, Table H-1).

- Benzoic acid exceeded the SCO and CSL chemical criteria in sample 3SED9-A.
- Dibenzofuran exceeded the SCO chemical criterion in sample 3SED10-A.
- Hexachlorobenzene exceeded the SCO and CSL chemical criteria in sample 3SED6-C.

Because of the isolated detections of these SVOCs at the Site, and also because these chemicals have not been identified as COPCs in the Site uplands (see Section 4.1), SVOCs were not identified as COPCs in Site sediments. Moreover, samples 3SED9-A and 3SED10-A also exceed SCO chemical criteria for Site COPCs (dioxins/furans and/or total PCBs) and are included within the footprint of prospective remedial actions at the Site (see Section 11).

4.3.1.2.4 POLYCYCLIC AROMATIC HYDROCARBONS

Thirty-nine (39) surface sediment samples collected from the Site were analyzed for PAHs. Both dw and OC-normalized values are presented in Table 4.3-7 and Table 4.3-8, respectively. PAHs were detected in all but two samples. Four individual PAH results exceeded SCO chemical criteria, but only in a single sample collected adjacent to a stormwater outfall (see Appendix H, Table H-1):

- Acenaphthene, fluoranthene, fluorene, and phenanthrene exceeded SCO chemical criteria in sample 3SED10-A.

The concentrations of PAHs detected in sample 3SED10-A, and also in sediment and tissue samples collected from other areas of the Site, are within the upstream, downstream, and regional reference area ranges (see Figure 4.3-2). Thus, PAHs were not identified as COPCs in Site sediments for benthic protection. Similar to the dibenzofuran detection summarized above, sample 3SED10-A also exceeded SCO chemical criteria for Site COPCs (dioxins/furans and/or total PCBs) and is included within the footprint of prospective remedial actions at the Site (see Section 11).

Sediment cPAH TEQ, calculated in accordance with toxicity factors in WAC 173-340-708(e), was retained as a COPC for the evaluation of human health protection for completeness. However, samples with cPAH TEQ exceeding the preliminary SCO criterion of 21 µg/kg dw (based on natural background), were encompassed within the footprint of prospective remedial actions at the Site as defined by total PCBs and dioxin/furan TEQ (see below). Surface sediment cPAH TEQ dw concentrations (U = 1/2) in the Site area are summarized in Figure 4.3-3.

4.3.1.2.5 POLYCHLORINATED BIPHENYLS

Thirty-five (35) surface sediment samples collected from the Site were analyzed for PCBs using the Aroclor method, and an additional 37 surface sediment samples were analyzed for PCBs using the congener method. Both dw and OC-normalized values for total PCBs are presented in Table 4.3-9 and Table 4.3-10.

Of the 72 surface sediment samples collected from the Site area that were analyzed for PCBs (using either the Aroclor or congener method), 18 samples (25%) had detectable concentrations of total PCBs that exceeded the preliminary SCO chemical criterion (based on human health protection) of 35 µg/kg (dw basis; see Section 6.1.1.3). Surface sediment total PCB dw concentrations (U=0) in the Site area are summarized in Figure 4.3-4, using inverse distance weighting (IDW) contouring of the RI/FS data set. The highest dw concentration of total PCBs on an EA basis (approximately 141 µg/kg at station JW-EA-10) was detected immediately adjacent to the Knoll Area. Since total PCB concentrations in this area of the Site also exceeded the upstream, downstream, and regional reference area range, total PCBs were retained as a COPC in Site sediments.

4.3.1.2.6 DIOXINS/FURANS

Seventy-seven (77) surface sediment samples collected from the Site were analyzed for dioxins/furans. All samples had one or more dioxin/furan detection. Both dw and OC-normalized dioxins/furans congener results are presented in Table 4.3-13 and Table 4.3-14, respectively. Total dioxin/furan TEQ levels in each sample were calculated using World Health Organization (2005) toxic equivalency factors for mammals.

Of the 77 surface sediment samples collected from the Site area that were analyzed for dioxins/furans, 48 samples (62%) had TEQ levels that exceeded the preliminary SCO chemical criterion (based on the practical quantitation limit [PQL]) of 5 ng/kg; dw basis; see Section 6.1.1.3). Surface sediment dioxin/furan TEQ dw levels (U=1/2) in the Site area are summarized in Figure 4.3-5, using IDW contouring of the RI/FS data set. The highest dw dioxin/furan TEQ level on an EA basis (approximately 91 ng/kg at station JW-EA-06) was detected immediately adjacent to historical and/or current stormwater outfalls draining uplands at the western end of the Site. Since dioxin/furan TEQ levels in this area of the Site exceed the upstream, downstream, and regional reference area range, dioxin/furan TEQ was retained as a COPC in Site sediments.

4.3.1.2.7 COPLANAR (DIOXIN-LIKE) PCB CONGENERS

A subset of PCB congeners denoted coplanar PCBs (i.e., those congeners not substituted at the ortho ring positions) exhibit dioxin-like properties and, like dioxins/furans, TEQ levels for these congeners can also be calculated using World Health Organization (2005) toxic equivalency factors for mammals. Seventy-two (72) surface sediment samples collected from the Site were analyzed for coplanar PCB congeners, and all samples had one or more coplanar PCB detection. Both dw and OC-normalized coplanar PCB congener results are presented in Table 4.3-11 and Table 4.3-12, respectively.

Surface sediment coplanar PCB congener TEQ concentrations (U=1/2) in the Site area are summarized in Figure 4.3-6. The highest dw coplanar PCB TEQ level on an EA basis (approximately 1.8 ng/kg at station JW-EA-09-SS38) was detected offshore of the Knoll Area. While this maximum TEQ level is below the preliminary SCO chemical criterion for dioxin/furan TEQ (based on the PQL) of 5 ng/kg, the cumulative risks of dioxins/furans plus coplanar PCB congener TEQ levels are nevertheless additive. Coplanar PCB congener TEQ levels offshore of the Knoll Area exceeded the upstream, downstream, and regional reference area range. However, since the spatial pattern of elevated coplanar PCB congener TEQ levels at the Site is similar to that of total PCBs, retaining coplanar PCB congeners as a Site COPC would not change the footprint of prospective remedial actions at the Site (see Section 11).

4.3.2 MARINE SUBSURFACE SEDIMENT CHARACTERIZATION

This section summarizes the characterization of subsurface sediments at the Site. Sampling and processing were carried out in accordance with the Sampling and Analysis Plan (SAP, Anchor QEA, 2011).

4.3.2.1 SUMMARY OF SUBSURFACE SEDIMENT SAMPLING INVESTIGATIONS, METHODS, AND LOCATIONS

As specified in Section 2.1 of the SAP (Attachment 1 of the Ecology-approved QAPP), sediment coring sample locations were determined based on a review of the marine surface sediment sample results summarized in Section 4.2. Twelve sediment cores were collected at locations shown in Figure 4.3-7 to characterize the vertical extent of sediment COPCs at the Site.

Nine cores were collected in April 2013 and two additional cores were collected in September 2013 for physical testing, and dioxin/furan and PCB congener analysis. Cores were collected utilizing an electrically powered vibracoring device. Prior to deployment, a decontaminated 4-inch-diameter aluminum core barrel was attached to the coring device and the corer was lowered through the water column under winch control. The unit was then energized and lowered by means of its weight and vibration applied until the desired penetration depth was achieved or refusal was encountered. The core penetration was continuously monitored while the vibracore was advanced into the sediments. Core penetration was monitored using a transducer attached to the top of the core tube, which measured the distance the vibracore was advanced into the sediment.

During the April 2013 core sample acquisition, the field team (with Ecology oversight) observed potential visual indication of contamination (i.e. staining) and hydrocarbon-like odors at the 7- to 7.3-foot depth interval at core location JW-SC05 (no similar observation in the overlying sediments). In consultation with Ecology, the interval was submitted for SVOC testing (including PAHs) to characterize the subsurface sediment interval. Following the initial testing, an additional overlying subsurface interval from 6 to 7 feet at location JW-EA-SC-05 and single interval at EA04-SC13 were submitted for SVOC testing (including PAHs).

Station JW-EA07-SC27 was inaccessible by boat due to its high tidal elevation, and the sediment core at this location was collected using a hand operated push core. The hand coring device utilized a decontaminated 3-inch-diameter polycarbonate core tube. Sediment sampling was conducted by pushing the coring device vertically into the sediment using a sliding hammer device, and manually pulling the core back out. Two additional cores were collected in September 2013 at locations JW-GC1b and JW-GC2 using the hand coring device described above to collect sediment samples for geochronology analyses.

All cores collected in April 2013 for chemistry analyses were processed at an on-site upland location the day following core collection. Two additional cores, JW-401 and JW-402, collected in September 2013 for chemistry analysis, were transported and processed at Analytical Resources Inc. (ARI) analytical laboratory the day following core collection. All cores were stored upright on ice and processed following procedures described in the SAP. Each core section was logged throughout the full penetration depth and the sediment description was recorded. Copies of the field collection forms and core processing logs describing sediment lithology are included in Appendix H. Appendix H, Table H-1 summarizes the coordinates and mudline elevations of the sampling locations. Core sampling locations are presented in Figure 4.3-7. Cores for sediment characterization were sectioned at 2-foot intervals to a depth of 6 feet below mudline, then at 1-foot intervals to the bottom of the core. The core collected by hand at JW-EA07-SC27 was processed in 1-foot sections to the bottom of the core. Each core interval was submitted for conventional, dioxin/furan, and/or PCB congener analysis, as summarized in Table 4.3-1. Sample intervals below those specified for analysis were submitted to the laboratories for archive storage for future analysis, as necessary.

Additionally, duplicate hand-collected cores were taken from locations JW-GC1 and JW-GC2 (Figure 4.3-7) for wet sieving and geochronology analysis, consistent with the Second QAPP Addendum (Anchor QEA, 2013b). Wet sieve and geochronology samples were collected at 2 cm intervals to a depth of approximately 1 foot below mudline. Wet sieving (using a #200 sieve) was used to obtain a visual estimate of the percent of wood fragments present in the cores. As summarized in Appendix H, Table H-3, wood debris averaged approximately 7% by volume in both cores, ranging from 0% to 20%. The radiochemical analyses are summarized in Table 4.3-22 and are discussed in Section 4.3.3.5.

4.3.2.2 SUBSURFACE SEDIMENT ANALYTICAL RESULTS

Appendix H, Table H-2 presents tabular summaries of the subsurface sediment data. Subsurface samples were analyzed for grain size, TOC, PAHs, SVOCs, dioxins/furans, PCBs, and selected radionuclides (for geochronology analyses). Where chemical summations are required, all non-detect summation methods have been included (e.g., U=0, ½, and the reporting limit).

4.3.2.2.1 GRAIN SIZE AND TOTAL ORGANIC CARBON

Grain size was analyzed in 20 samples and results ranged from fine clay to gravel, with the highest percentages in the sand range. Gravel content ranged from 0.2% to 3.7%; sand content ranged from 13.8% to 93.1%; silt content ranged from 4.4% to 65.1%; and clay content ranged from 1.2% to 23.6%. Grain size results are presented in Table 4.3-15. Thirty-nine (39) intervals were analyzed for TOC and results ranged from 0.305% in the 6- to 8-foot interval of core SC402 to 8.78% in the 7- to 7.3-foot interval from core EA02-SC05. A summary of TOC results is presented in Table 4.3-16.

4.3.2.2.2 SEMIVOLATILE ORGANIC COMPOUNDS

Consistent with the Ecology-approved QAPP, SVOCs were analyzed in the 6- to 7-foot (interval D) and 7- to 7.3-foot (interval E) intervals of core EA02-SC05 and in the 6- to 7-foot interval (interval D) of core EA04-SC13. A summary of SVOC results for these samples is presented in Table 4.3-17 and below:

- 4-methylphenol exceeded SCO chemical criteria in interval E of EA-SC-05 and interval D of EA04-SC13.
- Benzoic acid exceeded the SCO chemical criteria in interval D of EA-SC-05.
- Dimethyl phthalate exceeded the SCO chemical criteria in interval E of EA-SC-05.

As discussed in Section 4.2.2.3, with the exception of benzoic acid, which had elevated concentrations at a single surface sediment sample at the Site, these chemicals were generally not detected above SCO chemical criteria in surface sediments, and also have not been identified as COPCs in the Site uplands (see Section 4.1). Thus, SVOCs were not identified as COPCs in Site sediments.

4.3.2.2.3 POLYCYCLIC AROMATIC HYDROCARBONS

PAHs were analyzed in the 6- to 7-foot (interval D) and 7- to 7.3-foot (interval E) intervals collected from core EA02-SC05 and the 6- to 7-foot interval (interval D) of core EA04-SC13. A summary of PAH results is presented in Table 4.3-18. None of the subsurface samples exceeded SCO chemical criteria for PAHs. As discussed in Section 4.2.2.4, PAHs were not identified as COPCs in Site sediments.

4.3.2.2.4 POLYCHLORINATED BIPHENYLS

PCB Aroclors were analyzed in a single core interval collected at station EA02-SC05, and PCB congeners were analyzed in an additional 10 core intervals collected from stations EA09-SC36, EA09-SC38, and EA10-SC42. A summary of PCB results is presented in Table 4.3-19 and Table 4.3-20.

Relative to surface (0 to 10 cm) concentrations, all of the underlying 0- to 2-foot core sample interval samples had lower concentrations of total PCBs (Figure 4.3-8). While the 0- to 2-foot core interval samples collected near the Knoll Area had total PCB concentrations that exceeded the preliminary SCO chemical criterion (based on human health protection) of 32 µg/kg (dw basis; see Section 6.1.1.3), all of the deeper (i.e., 2- to 4-foot) core intervals had total PCB concentrations that were well below 32 µg/kg. Based on these data, only relatively shallow sediments at the Site exceed the preliminary SCO chemical criterion for total PCBs.

4.3.2.2.5 DIOXINS/FURANS

Thirty-six (36) subsurface core intervals were analyzed for dioxins/furans. Total dioxin/furan TEQ dw levels in subsurface sediments ranged from below detection (less than 0.16 ng/kg) to approximately 105 ng/kg. A summary of dioxins/furans results is presented in Table 4.3-21.

Unlike total PCBs as discussed above, relatively deeper subsurface sediments in some areas of the Site exceeded the preliminary SCO chemical criterion for dioxin/furan TEQ (based on the PQL) of 5 ng/kg, particularly at locations closest to stormwater outfalls. For example, at station EA-02, located towards the head of the northern channel Site boundary, dioxin/furan TEQ values greater than 5 ng/kg extended more than 7 feet below mudline (below the bottom interval of the core collected at this location; Figure 4.3-8). In other Site areas with elevated surface sediment dioxin/furan TEQ levels (e.g., station JW-EA-06, located adjacent to historical and/or current stormwater outfalls draining uplands at the western end of the Site), subsurface sediments exceeding 5 ng/kg were typically limited to the top 4 feet of sediments.

4.3.2.2.6 GEOCHRONOLOGY

In sediment environments, chronological scales can often be determined by analyzing the vertical distribution of relatively short-lived radioactive isotopes in surface and near-surface core intervals. Consistent with geochronology investigations successfully performed at other areas in Puget Sound (e.g., Lefkovitz et al., 1997), geochronology sampling and analysis in the Site area focused on two radioisotopes: Cesium-137 (Cs-137), released to the atmosphere from nuclear tests in the 1950s/1960s with a half-life of approximately 30 years; and Lead-210 (Pb-210) a naturally occurring radioisotope present in sediments both from atmospheric deposition and background activity with a half-life of approximately 22 years. Cs-137 was analyzed on 30 samples, and Pb-210 was analyzed on 29 samples. All samples were obtained from high-resolution core sections collected from stations JW-GC1 and JW-GC2 (Figure 4.3-9), both located offshore of the Knoll Area. A summary of radiochemical data is presented in Table 4.3-22.

In core JW-GC-1, Cs-137 was detected in the first interval collected below mudline (0.14 pCi/g at 2 to 4 cm) but had non-detectable Cs-137 activities (typically less than 0.01 pCi/g) below this interval. In core JW-GC-2, Cs-137 was detected in all five near-surface intervals with a peak activity (0.26 pCi/g) at 10-12 cm, and detectable Cs-137 (0.13 pCi/g) extended to 18-20 cm (Figure 4.3-9). Cs-137 was released to the atmosphere from nuclear tests as early as 1954 and reached a peak in approximately 1963 (e.g., see Lefkovitz et al., 1997). Thus, the Cs-137 core data suggest an average contemporary net sedimentation rate (corrected for the average 7% wood debris measured in these two cores; see Section 4.3.2) at the Site of approximately 0.17 ± 0.08 cm/year (i.e., an average 0.6-inch accumulation over a 10-year period), with different rates measured at each core:

- JW-GC-1: 0.06 to 0.11 cm/year
- JW-GC-2: 0.20 to 0.30 cm/year

The structured vertical profile of Cs-137 activity, particularly in core JW-GC-2, is also indicative of stable sediments (i.e., little vertical sediment mixing) over the past 60 to 70 years (Figure 4.3-9). Further, the data from both cores suggest that bioturbation of surface sediments is less than 10 cm, and more likely less than 4 cm. Thus, the SMS marine sediment default 10 cm bioactive zone is a conservative overestimate of bioturbation at the Site.

Pb-210 was detected in all 29 geochronology samples. However, all Pb-210 activities measured in the two geochronology cores were not statistically different (P>0.10) from the deeper sediment background range, and thus could not be used to reliably estimate sedimentation rates. This is likely due to the low Pb-210 activities in glacial and agricultural sediments moving through the Site area from the upper Snohomish River watershed, which limit the utility of the Pb-210 dating method at this Site.

4.3.3 CLAM TISSUE SAMPLING

4.3.3.1 SUMMARY OF SUBSURFACE SEDIMENT SAMPLING INVESTIGATIONS, METHODS, AND LOCATIONS

As discussed in Section 4.2.1, two Site EAs were targeted for detailed composite sampling and analysis to characterize site-specific bioaccumulation of COPCs. The first composite area (JW-EA-01; see Figure 4.3-1) targeted tidal mudflats at the head of the relatively narrow channel immediately adjacent to historical and/or current stormwater outfalls draining uplands at the northeastern corner of the Site. The second composite area (JW-EA-10) targeted tidal mudflats immediately adjacent to the former fish net storage building and Knoll Area at the southeastern corner of the Site. For comparison purposes, sediment and tissue samples were also collected from upstream, downstream, and regional reference areas with similar grain size and other habitat characteristics (see Figure 4.3-1). Consistent with the Ecology-approved Phase 2 RI/FS Work Plan (Anchor QEA, 2013b), composite clam tissue samples of a single relatively abundant species, *Mya arenaria* (soft shell clam), were collected in May 2013 and analyzed for dioxins/furans, PCB congeners, PAHs, and lipids.

4.3.3.2 CLAM TISSUE ANALYTICAL RESULTS

The clam tissue analyses are presented in Appendix H-6, Table H-4. Percent lipids varied little between each of the five composite tissue samples, ranging from approximately 0.32% to 0.6%. Similarly, total cPAH TEQ levels in the two Site composite samples (JW-EA-01 and -10) ranged from approximately 1.3 to 1.8 µg/kg wet weight (U=1/2), and were within the regional and upstream/downstream reference range of approximately 0.58 to 5.6 µg/kg wet weight. Consistent with the sediment data discussed in Section 4.2.2.4, the tissue data further confirmed that cPAHs are not COPCs in Site sediments.

Dioxins/furans were detected in all five composite clam tissue samples. Dioxin/furan TEQ levels in the two Site composite tissue samples (JW-EA-01 and -10) ranged from approximately 0.13 to 0.23 ng/kg wet weight (U=1/2), and this range is similar to or up to roughly two times higher than the regional sample level of approximately 0.11 ng/kg (Table 4.3-23).

PCB congeners, including coplanar PCBs, were detected in all eight composite clam tissue samples. Tissue total PCB concentrations from the five site-specific locations (JW-EA-01, JW-EA-10, P-100, P-50, and P-25) ranged from approximately 2.9 to 4.2 µg/kg wet weight (U=0), roughly three to five times higher than the regional sample concentration of approximately 0.89 µg/kg. Finally, tissue coplanar PCB congener TEQ levels ranged from approximately 0.0022 to 0.076 ng/kg wet weight (U=0), roughly two to four times higher than the regional sample level of approximately 0.0014 ng/kg.

The clam tissue data confirm that PCBs and dioxins/furans bioaccumulate at the Site, although the magnitude of bioaccumulation is relatively modest (i.e., up to a factor of five higher than regional sample levels for PCBs, and up to a factor of two higher for dioxins/furans), particularly compared to the relatively more elevated sediment concentrations of these COPCs (Table 4.3-23). Black carbon materials present in Site sediments likely partially sequestered PCBs and dioxins/furans, reducing their bioavailability. Black carbonaceous particles in sediments such as soot, coal, and charcoal bind very strongly to hydrophobic chemicals such as PCBs and dioxins/furans (partitioning coefficients for black carbon can be up to 100 times higher than for other organic carbon materials), and their presence in sediments (both natural and anthropogenic) has been demonstrated to substantially reduce bio-uptake and exposure (e.g., Luthy et al., 1997).

As discussed in Ecology's SCUM II guidance (Ecology, 2019), the site-specific BSAF expresses the approximate steady-state relationship between the concentration of a bioaccumulating COPC normalized to the organic carbon content of the sediment, and the COPC concentration measured in the total extractable lipids of an organism. There are many simplifying assumptions inherent in BSAF calculations, including assuming that all COPC bioaccumulation is due to sediment exposure, but current SMS guidance recommends using site-specific BSAFs for individual COPCs to calculate SCO chemical criteria for human health protection (see Section 6.1.1.3).

For total PCB congeners, initial statistical analysis were conducted on all site-specific results (JW-EA01, JW-EA10, P-100, P-50, and P-25) using EPA's ProUCL program. The analysis revealed that the result from JW-EA01 is a statistical outlier, likely because this station is not representative of the rest of the marine area, as it is located at the head of the relatively narrow channel immediately adjacent to stormwater outfalls draining uplands at the northeastern corner of the Site. In accordance with SCUM II, linear regression analysis was performed on the total PCB congener dataset (excluding JW-EA01) to calculate the site-specific PCB BSAF.

For dioxin/furan TEQ and coplanar PCB congener TEQ, linear regression was performed using the regional and upstream/downstream reference stations, along with two stations within the Site, to calculate site-specific BSAFs for these COPCs.

The site-specific BSAF (unitless) values for sediment COPCs are summarized below:

- Total PCB BSAF: 0.032 (slope of regression; $R^2 = 0.76$)
- Dioxin/furan TEQ BSAF: 0.060 (slope of regression; $R^2 = 0.38$)
- Coplanar PCB Congener TEQ: 0.011 (slope of regression; $R^2 = 0.87$)

The site-specific BSAF values for all these sediment COPCs, as summarized above, are all significantly less than 1.0, the theoretical equilibrium value assuming little or no site-specific sequestering. As discussed above, the comparatively lower BSAF values measured reflect reduced bioavailability of COPCs at the Site.

4.3.4 MARINE SEDIMENT INDICATOR HAZARDOUS SUBSTANCES

When defining MTCA or SMS cleanup requirements at a site that has been impacted by a number of hazardous substances, those hazardous substances that contribute a small percentage of the overall threat to human health and the environment may be eliminated from consideration (Chapter 173-340-703 WAC). The remaining hazardous substances shall serve as IHS for purposes of defining site cleanup requirements.

4.3.4.1 IDENTIFICATION OF INDICATOR HAZARDOUS SUBSTANCES – MARINE SEDIMENT

As discussed in Sections 4.2 through 4.4, COPCs identified in marine sediments at the Site include total PCBs, dioxin/furan TEQ, coplanar PCB congener TEQ, and cPAH TEQ. Measurements of percent wood by volume and TVS throughout the Site are all below wood waste cleanup standards developed to date for other Puget Sound sediment cleanup sites. While wood waste, wood waste degradation products, and all other SMS chemicals are not COPCs at the Site, most of the relatively isolated elevated concentrations of these parameters nevertheless occur within the footprint of prospective remedial actions at the Site (see Section 11). As part of remedial design or post-remediation monitoring, TVS may be further characterized to determine compliance with the SMS regulations within the Site boundary.

Elevated coplanar PCB congener TEQ levels at the Site are encompassed within the footprint of prospective remedial actions based on total PCBs and dioxin/furan TEQ. Moreover, the current surface weighted average concentration (SWAC) of coplanar PCB congener TEQ is 0.61 ng/kg dw, which is below the preliminary site-specific SCO of 1.5 ng/kg dw (Figure 4.3-6). Therefore, coplanar PCB congener TEQ is not an IHS.

Site-specific tissue results for cPAH TEQ were not elevated in comparison to regional and upriver/downriver reference locations. In addition, locations where cPAH TEQ levels were elevated above the preliminary SCO of 21 µg/kg dw SCO (based on natural background) are also encompassed within the footprint of prospective remedial actions based on total PCBs and dioxin/furan TEQ. The arithmetic average cPAH TEQ level based on samples collected immediately outside the preliminary Site boundary is 9.9 µg/kg dw (Figure 4.3-2). Therefore, coplanar cPAH TEQ is also not an indicator hazardous substance. As part of remedial design or post-remediation monitoring, cPAH TEQ may be further characterized to determine compliance with the SMS regulations within the Site boundary.

4.3.4.2 NATURE AND EXTENT OF INDICATOR HAZARDOUS SUBSTANCES - MARINE SEDIMENT

Total PCBs

An IDW data model was used to interpolate surface sediment concentrations throughout the marine Site area (Figure 4.3-4). As discussed in Section 4.3.3.3, only relatively shallow sediments (0 to 2 feet below mudline) at the Site exceed the preliminary SCO chemical criterion of 30 µg/kg dw for total PCBs.

Dioxin/Furan TEQ

An IDW data model was also used to interpolate surface sediment dioxin/furan TEQ concentrations throughout the marine Site area (Figure 4.3-5). As discussed in Section 4.3.3.4, compared with total PCBs, relatively deeper subsurface sediments (approximately 4 to greater than 7 feet below mudline) in some areas of the Site exceeded the preliminary SCO chemical criterion for dioxin/furan TEQ of 5 ng/kg dw.

Summed Dioxin Furan and PCB TEQ

Where both coplanar PCB and dioxin/furan congeners have been analyzed (only roughly one-third of the RI/FS data set), the sum of their respective TEQs has been calculated as shown on Figure 4.3-10. As discussed in Section 4.6.3, since incorporation of coplanar PCB congener TEQ data did not change the footprint of prospective remedial actions at the Site, coplanar PCBs were not retained as indicator hazardous substances for marine areas of the Site.

5. CONCEPTUAL SITE MODELS

Conceptual site models (CSM) incorporate physical and chemical information to understand potential fate and transport mechanisms at the Site. The CSMs consider contaminant sources, release mechanisms, transport and exposure pathways, potential receptors, and sediment stability. The CSMs developed for the Site describe the potential release mechanisms from the potential primary sources of hazardous substances to potential secondary and tertiary sources, the exposure media and routes, and the potential human and ecological receptors. This model reflects current conditions and possible future development in assessing exposure pathways. The CSMs are based on available historical land use information, future land use as industrial, and site-specific information gathered during sampling activities. A summary of the CSMs including potential primary sources, release/transport mechanisms, primary exposure media and routes of exposure, potential receptors, and sediment stability are presented below.

5.1 GENERAL SITE OPERATIONS

General Site Operations

Past activities at the Site including door manufacturing, casket manufacturing, pole treating, and mill operations have resulted in likely releases of hydraulic fluids, creosote, fuel oil, toluene, other petroleum hydrocarbon constituents, and dioxins/furans (from former hog fuel burner emissions and associated ash from the historical mill). Potential primary release mechanisms from past activities include leaks or spills to soil, surface pavement, or stormwater at the Site, and releases from USTs to subsurface soil and/or groundwater. Isolated areas of soil and groundwater impacts are described in Section 4.1.2.1 and were confirmed to be limited in extent or below screening levels through follow-up investigations. These areas are not expected to be significant sources of any ongoing release.

5.2 CREOSOTE AREA

Commented [AM(10]: It appears in addition to creosote AST, there were fuel oil AST (TPH?) at this are. Significant contamination of TPH is found in this area. It may be better to rename this area as “creosote/fuel oil” area?

A conceptual site model including discussion of suspected points of release, contaminant fate and transport, and exposure pathways for the Creosote Area is provided below.

5.2.1 HISTORICAL USE

Characterization data and reported history of use indicate that the primary source of COPCs in soil and groundwater in the Creosote Area is the former pole treating operation on the Site. Prior to the early 1940s, National Pole Company operated a pole treating plant in the eastern portion of the Site and adjacent to the current placement of West Marine View Drive. Based on a review of aerial photographs and historical photos of the area it is likely that the roadway at that time was elevated on pilings (Appendix A).

Based on review of aerial photographs and historical maps, features associated with pole treating activities included two circular creosote ASTs of unknown capacity, three long rectangular ASTs possibly containing creosote, a rack for drying and storing treated poles, an oil house, and a rectangular building used as a combination lunchroom, engine room and machine shop (Figure 2.2-1), 1947 Aerial Photo with Site Features). The Creosote ASTs, drying racks, and oil house were removed between 1943 and 1948. Pole treating operations are not observed in aerial photographs or site maps after 1948. Mudflats east adjacent to the pole treating operations and underneath the suspected elevated roadway appear to have been filled between 1938 and 1947 (Appendix A).

The Nord Door facility operated an oil-fired boiler on the eastern portion of the Site prior to 1957. Former fuel oil ASTs were located in the eastern portion of the Site along West Marine View Drive and also further to the west, beneath what is now the southern portion of the main manufacturing building. These ASTs were removed in the mid-to late-1950s.

5.2.2 PHYSICAL SETTING

The current location of West Marine View Drive historically consisted of tidally-influence mudflats that were likely filled between 1938 and 1947. Based on a review of boring logs from the Creosote Area, fill material appears to consist primarily of dredged sandy sediment with aggerate material below roadway pavement. Construction of West Marine View Drive in its current location (filled land versus elevated roadway on pilings) was completed by 1947 based on the available aerial photographs and Site maps. West Marine View Drive was modified as a wider paved roadway in the 1960's.

Shallow groundwater has been measured as shallow as approximately 2 feet bgs and is likely influenced by surface water infiltration, site features, stormwater conveyance lines, and utilities infrastructure. Boring logs do not identify a continuous aquitard or aquiclude for the Site (Appendix F). Shallow groundwater samples at the Creosote Area have shown elevated conductivity, TDS, and salinity measurements indicating brackish groundwater conditions. The tidal influence assessment conducted in 2019 within the Creosote Area indicated changes in groundwater elevation associated with tidal swings were minimal.

Calculated shallow groundwater gradients reported during quarterly groundwater sampling activities, and data generated in the 2007 and 2019 transducer studies (Appendix G) indicate groundwater in the Creosote Area flows primarily west from the historical operations area towards Puget Sound with a gradient that averages 0.002 feet per foot (Appendix L). Groundwater below 15 feet bgs is considered "deep" groundwater for this RI/FS report. Calculated deep groundwater gradients reported during quarterly groundwater sampling activities indicate a similar westerly flow direction (Appendix G), and no vertical gradient has been measured in the paired wells (MW-8A-8B, MW-9A/9B, and MW-10A/10B).

Surface water in Maulsby Marsh flows west toward Puget Sound and drains through a culvert located on the southern edge of the marsh. Based on minimal tidal influence observed in monitoring wells in the Creosote Area, surface water elevations in Maulsby Marsh are not expected to be tidally influenced.

5.2.3 SUSPECTED AND CONFIRMED RELEASES

Based on historical documentation and analytical testing National Pole treated timber poles with a creosote wood preservative. Creosote is derived from coal tar and consists of a mixture of aromatic hydrocarbons, anthracene, naphthalene, and phenanthrene derivatives. Likely historical releases of COPCs to soil and groundwater associated with pole treating operations include spills and incidental releases of creosote to the ground associated with transporting and drying treated poles.

Releases of petroleum hydrocarbons in the Creosote Area are likely associated with the historical fuel storage tanks that were located south of the identified pole treating activities (Appendix A). The highest concentrations of COPCs in soil and groundwater were reported during pre-RI investigations in the central portion of the Creosote Area including borings GP-9, -10, -11, -12, -214, -215, and several borings under the existing West Marine View Drive (see Figure 5.2-1). Grading and filling activities associated with construction of West Marine View Drive likely resulted in burial of surficial contamination east of the primary operations area. Additional assessments focused on the Creosote Area were performed under Ecology-approved work plans.

Hand auger soil samples were collected from twelve locations in Maulsby Marsh in 2009 to assess potential impacts east-adjacent to the Site and the BNSF railroad tracks. The assessment analytical results indicate that Creosote Area releases have not affected the marsh sediments or surface water. One soil sample (HA-329) from one-foot bgs measured elevated concentrations of TPH-Dx (diesel range) and PAHs above initial PCLs. Follow-up assessment of Maulsby Marsh sediment was completed in 2011 and it was determined that Creosote Area-related COPCs were not present in the freshwater marsh sediments and the contaminants detected in the marsh sediments were not attributable to Site releases (see Appendix E).

Maulsby Marsh is adjacent to the BNSF railroad tracks where the application of herbicides/pesticides has been observed on the vegetated area that included sample location HA-329. Soil and groundwater analytical results from location HA-329 appear to be an outlier amongst the BNSF sampling, potentially associated with treated railroad ties, and are not considered representative of overall soil and groundwater conditions in the area between the BNSF railroad tracks and Maulsby Marsh.

5.2.4 CONTAMINANT FATE AND TRANSPORT

Soil

COPCs identified for the Site have relatively high partition coefficients and migrate slowly in soil through natural processes including density-driven flow, capillary draw, advection, and diffusion into the subsurface. RI data indicate that the migration pathway from soil to groundwater is complete at the Site; however, additional transport associated with groundwater flow through contaminated soil is also limited (see below). Droplets of non-aqueous phase liquid (NAPL) was observed in soil samples from Geoprobe boring locations, although not as a continuous unit. The presence of dense non-aqueous phase liquid (DNAPL) at depth indicates vertical migration of historical releases through density-driven flow. Soil cross sections for on-property and off-property portions of the Creosote Area are included as Figure 5.2.4-1 and Figure 5.2.4-2

Soil Vapor

Migration of vapor from contaminated groundwater into soil gas has assessed at the Site. Soil gas sampling from within the footprint of the existing main manufacturing building identified naphthalene and benzene exceedances of sub-slab soil gas vapor PCLs.

Groundwater

Groundwater sampling data has demonstrated that creosote impacts to soil and groundwater are localized around the former operation areas in the Creosote Area and beneath West Marine View Drive. Groundwater migration and/or seepage to surface water does not appear to be a mechanism for transport of creosote and/or fuel oil impacts at the Site. cPAH analytical results for two groundwater seeps on the north side of the Site (terminating in the “finger area”) did not measure any individual cPAH concentrations above laboratory PQLs.

Estimates of the shallow groundwater velocity in the Creosote Area (Appendix L) are on the order of one-half foot per day. At this velocity, hundreds of soil porewater volume exchanges have occurred in the Creosote Area over the estimated 70 years since the suspected release(s). However, creosote impacts to soil and groundwater remain localized in an area measuring approximately 650 by 500 feet. The analytical results indicate that groundwater transport is not a significant mechanism for Creosote Area contaminant migration.

Deep groundwater impacts including concentrations of naphthalene (up to 15,900 ug/L, see Table 5.2-2) were reported for groundwater samples collected from deep monitoring well MW-8B. There does not appear to be a contiguous DNAPL plume in the shallow or deep zone as evidenced by NAPL only being observed as droplets in the soil matrix at select boring locations and the majority of groundwater impacts appear to be as dissolved phase; however, additional assessment is needed to define the horizontal extent of deep groundwater impacts. Sufficient deep zone groundwater plume data exists to complete the RI/FS with this identified data gap.

Surface Water and Stormwater

Creosote and fuel oil impacts at the Site in soil are primarily located at depth beneath buildings or pavement. Locations where creosote concentrations in soil exceeded the PCL in subsurface soil at unpaved areas include a thin strip of landscaping on the eastern portion of the Site and areas along the BNSF railroad ROW east of West Marine View Drive. Sediment and tissue sampling data in the adjacent marine and Maulsby Marsh areas did not identify creosote and/or fuel oil releases to surface water. Therefore, overland transport/surface runoff via stormwater is not considered a significant release mechanism for the creosote or fuel oil impacts at the Site.

Stormwater collection and transport via the on-site stormwater conveyance system has been identified as a likely potential historical contributor to sediment contamination on the north and south off-shore areas. However, the majority of the on-site stormwater conveyance system is located outside of the Creosote Area (see Figure 3 from the SCE Summary Report, SLR, 2019a) and the primary COPCs in sediment are dioxins/furans and PCBs. Because the majority of subsurface contamination in the Creosote Area occurs at depth, and minimal collection of stormwater occurs in the Creosote Area, transport of Creosote Area COPCs via the stormwater system is not considered a significant potential pathway for migration of COPCs at the Site.

5.2.5 CLIMATE CHANGE AND EARTHQUAKES

The potential effects of climate change and sea level rise are discussed in Section 3.4 of this report. Potential treatment technologies for the vadose zone within the timeframe for implementation and operation are discussed in the FS section of this report. For the Creosote Area, it is anticipated that sea level rise will result in a corresponding rise in the groundwater table, reducing the thickness of the vadose zone, potentially limiting the effectiveness of remediation treatment technologies targeting the vadose zone. Two- and three-phase partition modeling of creosote and oils in the vadose zone (water, air, and residual oil) within a soil matrix indicate that rising sea levels will increase the oil holding capacity of the soil matrix while reducing the residual oil mobility.

A large magnitude earthquake could cause liquefaction of the silty, sandy soil identified in the Creosote Area. An earthquake analysis/soil liquefaction analysis was not performed as part of this RI. The Creosote Area is generally flat and significant land displacement is not expected during a liquefaction event; although a loss of bearing-capacity, settlement, and associated damage to on-site structures and roadways would be expected. Paved areas, and areas with overburden soil underlain by saturated sandy soil, could see upwelling of sandy soils into pavement base rock or onto the ground surface. The upwelling is expected to be limited to shallow depths and localized.

5.2.6 NATURE AND EXTENT OF CONTAMINATION

Soil contamination at the Creosote Area includes TPH, PAHs, and VOCs primarily under the historical pole treating operations area with dimensions of approximately 650 feet by 385 feet (Figure 5.2-1). Soil impacts in the Creosote Area are bounded laterally to the north, east, south and west by existing RI sampling data. Soil contamination is primarily located between approximately 5 and 15 feet bgs. Deep soil contamination was observed to a maximum depth of approximately 50 feet.

Deep monitoring well MW-8B was installed to a depth of 50 feet bgs and one year after installation, DNAPL has accumulated in the sump that was constructed at the bottom of the well. Based on previous observations at the Site, DNAPL is present in discontinuous ganglia and small pockets in the deep subsurface. A continuous DNAPL plume or lens has not been identified. Additional data collection during remedial design will bound the vertical extent of naphthalene contamination and the lateral extents of contamination at the Creosote Area.

Shallow groundwater contamination in the Creosote Area includes TPH, PAHs, VOCs, and SVOCs. The distribution of COPCs in groundwater is spatially consistent with the distribution observed for COPCs in soil. Shallow TPH, PAH, SVOC, and VOC contamination is limited to the historical pole treatment area and proximate to the historical fuel ASTs in the central portion of the Creosote Area.

RI groundwater data bounds groundwater contamination in the Creosote Area to the north, south, and west. Groundwater samples collected from hand-auger locations on the east edge of the Site were considered to represent the eastern edge of groundwater impacts because no known releases occurred in the marsh area and groundwater flows predominantly to the west.

Soil vapor is contaminated proximate to the area of shallow groundwater impacts. Neither soil nor groundwater contamination associated with the Creosote Area extend to the marine “finger area” or into freshwater in Maulsby Marsh. No Creosote Area COPCs were found in the adjacent Maulsby Marsh freshwater sediments.

5.2.7 AFFECTED MEDIA AND POTENTIAL EXPOSURE PATHWAYS

Results of the RI indicate that affected media at the Creosote Area include soil, soil vapor, and groundwater and potentially complete exposure pathways related to these media in the Creosote Area are described below.

Soil

The Property is zoned as industrial use and it is likely that industrial activities will continue to occupy the on-property portion of the Creosote Area for the foreseeable future. Potentially complete exposure pathways for soil in the Creosote Area include:

- Direct exposure by construction workers (e.g. dermal, incidental ingestion) associated with future on-site work or development work to a maximum depth of 15 feet or less.
- Terrestrial ecological exposure (e.g. dermal, ingestion, bio accumulative) to shallow soil in the unpaved areas only.

Shallow groundwater conditions are likely to limit potential future construction worker exposure to soil within less than approximately 5 feet from the ground surface. Due to the presence of asphalt caps, roadways, and structures on the Site, the terrestrial ecological exposure pathway is limited to a small landscaped area to the east of the main manufacturing building and the area in the BNSF ROW.

Due to the presence of shallow groundwater, surface structures, and the relatively conductive hydrogeology at the Site, no reasonable scenario exists for human or terrestrial ecological exposure to soil contamination greater than 15 feet bgs; therefore, no exposure pathway for deep soil is considered complete.

Soil Gas

Concentrations of naphthalene and benzene in soil gas samples exceeded applicable screening criteria under the existing main manufacturing building on the Site. Therefore, indoor air exposure pathway for workers on-Site is considered complete. Exposure to soil gas outside of existing buildings is unlikely due to immediate dilution by ambient air and lack of confinement to allow buildup of COPCs in the vapor phase

Groundwater

Groundwater at the Site is not considered potable because:

- It is not currently used as a source of drinking water; and,
- It contains natural background concentrations of constituents that make use of the water as a source of drinking water not practicable (brackish conditions).

Elevated Total Dissolved Solids (TDS) and/or salinity have been measured at monitoring wells MW-2, MW-3, MW-6, MW-8A, MW-9A, and MW-15, with a maximum TDS concentration of 15,490 mg/L (see Appendix G for field measurements from quarterly groundwater sampling events). Per MTCA, a TDS concentration in excess of 10,000 mg/L indicates that the groundwater contains natural background concentrations of organic or inorganic constituents that make use of the water as a drinking water source not practicable (173-340-200 (2)(b)(ii)).

In addition, according to MTCA the department recognizes that there may be sites where there is an extremely low probability that the groundwater will be used for domestic purposes because of the site's proximity to surface water that is not suitable as a domestic water supply (173-340-200 (2)(d)). While deep groundwater appears less saline than shallow groundwater, future use of deep groundwater is highly unlikely due to the potential for saltwater intrusion, difficulty of access, and the proximity to Puget Sound.

Groundwater impacts are currently contained under existing surface caps, buildings, and roadways, further limiting potential exposure. Sampling of adjacent shoreline seeps and Maulsby Marsh sediments indicates that groundwater COPCs are not present in either media. Therefore, no complete exposure pathways were identified for shallow or deep groundwater associated with the Creosote Area.

5.2.8 CREOSOTE AREA PROPOSED CLEANUP LEVELS

Site wide COPCs that exceed selected PCLs within the Creosote Area are co-mingled with Creosote Area COPCs. Based on the potentially complete exposure pathways listed above the following IHS have been selected for the Creosote Area:

- TEQ cPAHs in soil;
- Naphthalene in groundwater; and
- Naphthalene in soil gas.

While TPH-Dx and cPAH groundwater impacts have been identified throughout the Creosote Area (including in the deep zone), these impacts are comparatively less mobile, less widespread, and less volatile, and are therefore not appropriate IHS.

Proposed Creosote Area PCLs are:

- Soil Method B (soil);
- Groundwater Method B Protection of Vapor Intrusion (groundwater); and,
- Method B Sub Slab Soil Gas Screening Levels (soil gas).

Exceedances of selected PCLs for the IHS are presented in Table 5.2-1 to Table 5.2-3.

5.3 WOODLIFE AREA

A CSM including discussion of suspected points of release, contaminant fate and transport, and exposure pathways for the Woodlife Area is provided below.

5.3.1 HISTORICAL USE

Characterization data and history indicate that the primary source of COPCs in soil and groundwater in the Woodlife Area is attributed to an approximately 10,000-gallon AST containing Woodlife wood treatment solution (which contained PCP) that was formerly located northeast of the main manufacturing building (see Figure 5.3-1). The use of the Woodlife AST was discontinued prior to JELD-WEN's purchase of the Site in 1986, and the AST was removed in 1991.

Woodlife use at the former E.A. Nord ended before JELD-WEN's purchase. Woodlife contained PCP and a mineral spirits solution. Dioxin contamination is found in PCP mixtures. Waste associated with lumber preservation processes is considered a Resource Conservation and Recovery Act (RCRA) hazardous waste based under waste classification code F032. The F032 hazardous waste listing is defined in Title 40 of the Code of Federal Regulations (CFR) Chapter 462 and includes wastewater, process residuals, preservative drippage, and discarded spent formulations from wood preserving processes at facilities that currently use or have previously used chlorophenolic formulations. This definition only applies to wood preservation waste, not waste associated with wood surface protection operations at the Site. The F032 waste code was promulgated on December 6, 1990 at CFR Vol. 55 No. 235, Page 50450.

The wood preservation process is distinct from wood surface protection measures, which involve a superficial application of preservative to the wood surface to protect against mold and sap stain. According to 53 Federal Register 53287, most wood surface protection takes place at sawmills and manufacturing facilities like the former Nord Door site, where cut lumber is dip-or spray-treated to prevent sap stain formation during short-term storage. It notes that the distinction between wood preservation and surface protection is not only the process used, but also the depth to which the preservation penetrates and the duration of the process. The USEPA studied this issue before concluding that wastes from wood surface protection processes should not be considered a "listed" waste under F032. On January 4, 1994, the USEPA issued a final hazardous waste listing determination for wastes generated from the use of chlorophenolic formulations in wood surface protection processes. The 59 FR 458 Federal Register notice states in the summary section that: Upon reviewing the public comments received on its proposal of April 27, 1993, the Agency decided not to list wastes from the use of chlorophenolic formulations in wood surface protection processes as a listed hazardous waste.

Under the USEPA's "contained-in" policy, contaminated soil can become subject to regulations under RCRA if soil "contains" hazardous waste by exhibiting characteristics of hazardous waste or containing certain concentrations of listed hazardous waste. Under RCRA, contaminated soil is subject to the RCRA requirements until the soil no longer contains hazardous waste or, in the case of listed hazardous waste, until the agency determines that the soil no longer contains listed hazardous waste. The identified dioxin impacts identified in the Woodlife Area at the Site are associated with historical sap stain PCP formulations used in the manufacturing process. As dip- or spray-process to prevent sap stain formation during short-term storage is a wood surface protection process, it does not meet the F032 waste classification for wood preserving processes and therefore, dioxin impacted soil at this site is not considered hazardous waste.

5.3.2 PHYSICAL SETTING

The physical setting of the Woodlife Area is similar to the physical setting described in Section 5.2.2 for the Creosote Area.

5.3.3 SUSPECTED AND CONFIRMED RELEASES

Because of the historical use of PCP, soil and groundwater sampling was completed for PCP, dioxins/furans and TPH. PCP was not measured above the laboratory reporting limit in any groundwater sample on the Site and was only detected above the laboratory reporting limit in 3 soil samples from the Woodlife Area (GP-5, GP-29, and GP-501). TPH was detected above the reporting limit in some soil and groundwater samples from the Woodlife Area but were limited in extent and therefore appears to be some crossover with impacts associated with the former National Pole treating operations and fuel oil storage (discussed in Section 5.2, Creosote Area CSM). Dioxin/furan TEQ analytical results indicate that impacts from the Woodlife AST are localized and it is likely that residual dioxins/furans are more persistent than the PCP that was used in the solution and is an apt constituent to trace the horizontal and vertical extent of Woodlife-associated impacts.

5.3.4 CONTAMINANT FATE AND TRANSPORT

Soil

COPCs identified for the Site have relatively high partition coefficients and migrate slowly in soil through natural processes including density-driven flow, capillary draw, advection, and diffusion into the subsurface. RI data indicate that the migration pathway from soil to groundwater is complete at the Site; however, additional transport associated with groundwater flow through contaminated soil is also limited (see below).

Groundwater

Groundwater sampling data has demonstrated that dioxin/furan impacts to soil and groundwater are localized around the former operation areas in the Woodlife Area. Given the substantive groundwater data available for the Site, the distance between the areas of impact and surface water, and the passage of time since these former operations, groundwater migration/seepage to surface water does not appear to be a significant release mechanism for dioxin/furan impacts in the Woodlife Area. Dioxins/furans have a low solubility and tend to bind to soil particles making it comparatively less mobile.

Surface Water and Stormwater

Dioxin/furan impacts in the Woodlife Area are located beneath buildings or pavement; therefore, overland transport/surface runoff is not considered a significant release mechanism for the dioxin/furan impacts in the Woodlife Area. Historical stormwater discharges from the NTD sump, surface flow from off-site properties, including West Marine View Drive, or infiltration of groundwater into the NTD sump and/or drainage from the sump to the subsurface via the apparent sump weep holes were assessed during the source control evaluation and are described below.

5.3.5 NATURE AND EXTENT OF CONTAMINATION

Investigations at the Woodlife Area to further characterize dioxin/furan impacts found that soil and groundwater impacts were generally shallow (less than 5 feet bgs) and appeared to be localized. This assessment work was completed under an Ecology approved Work Plan (SLR, 2013a).

Sentry groundwater monitoring wells MW-6 and MW-7 were installed downgradient of the Woodlife Area and the adjacent surface water and sediment (i.e. the “finger area”). Groundwater data collected during the RI/FS and groundwater seep data collected during the SCE show no migration of dioxins/furans above PCLs to surface water or sediments in the adjacent “finger area”. Assessment of a stormwater sump in the NTD identified weep holes. Following the investigation, the current property owner plugged the weep holes, re-routed the discharge line to an existing stormwater line that discharges to the “finger area”, and removed accumulated solids from within the North Truck Dock sump and from the truck dock ramp area.

Surface water flow during storm events has been observed migrating from portions of West Marine View Drive to the NTD area, and eventually to the sump via the trench drain located in the rear of the dock ramp.

An investigation related to the NTD sump was performed as part of the SCE activities in 2018, as presented in the Summary of North Truck Dock Stormwater Sump Investigation (SLR, 2018d) and the Soil Sampling Summary – Port of Everett Property (SLR, 2018c) reports submitted to Ecology and the Port of Everett. Line tracing was completed on the inlet piping to the NTD sump. A 3” line was found to be connected to the adjacent strip drain at the bottom of the truck ramp and also tied to a roof downspout at the corner of the main manufacturing building. An 8” line was found to be connected to a roof downspout within the main manufacturing building. In addition, two weep holes or ring lift holes were observed discharging water into the NTD sump when the sump pump was activated, drawing down the water level in the sump. Stormwater may have flowed from the NTD sump out the weep holes to the subsurface when the stormwater sump filled and during periods when the sump pump was not working. Inlet water sampling from the stormwater lines and weep holes was completed during a storm event. Low concentrations of some COPCs were measured in the stormwater inlet samples. Dioxin/furan TEQ concentrations were measured below the PCL based on the laboratory PQL and were comparable in both stormwater inlet samples and the two weep hole samples.

One grab sample of sump solids was also collected. Concentrations of COPCs measured below PCLs. Dioxin/furan TEQ concentrations were measured above the PCL based on the laboratory PQL. Ecology requested a follow-up assessment of soil adjacent to the discharge line of the NTD sump. Two composite soil samples were collected at a disconnected portion of the discharge line, as well as the original terminus of the discharge line. The original terminus of the discharge line was approximately 80’ from the edge of the “finger area.” COPCs were measured below PCLs with the exception of cPAHs and dioxins/furans. The concentration of dioxin/furan TEQ in the discharge line soil samples was comparable to the dioxin/furan TEQ concentration measured from the solids within the NTD sump. Total PCB congeners measured between approximately 30,000 pg/g to 50,000 pg/g and were elevated compared to other composite soil samples collected at the Site; however, Total PCB congeners were below the MTCA Method B direct contact screening level and concentrations were consistent (or lower) than the results of a stormwater source tracing investigation performed by the City of Seattle which measured a median concentration for in-line solids of 98,000 pg/g (King Co, 2016). Potential sources of PCBs identified in the King County research that can enter a stormwater system include: vehicle cleaners/degreasers, vehicle fuels, road paint, asphalt-related products, pesticides/herbicides, hydroseed, and street/sidewalk caulk.

5.3.6 AFFECTED MEDIA AND POTENTIAL EXPOSURE PATHWAYS

Results of the RI indicate that affected media at the Woodlife Area include soil and groundwater and potentially complete exposure pathways for these media in the Woodlife Area are described below.

Soil

The Property is zoned as industrial use and it is likely that industrial activities will continue to occupy the Woodlife Area for the foreseeable future. Potentially complete exposure pathways for soil in the Woodlife Area include:

- Direct exposure by construction workers and industrial workers (e.g. dermal, incidental ingestion) associated with future on-site work or development work to a maximum depth of 15 feet or less.

Shallow groundwater conditions are likely to limit potential future construction worker exposure to soil within less than approximately 5 feet from the ground surface. Due to the presence of asphalt caps, roadways, and structures in the Woodlife Area, the terrestrial ecological exposure pathway is not considered complete.

Groundwater

Groundwater at the Site is not considered potable, as described in Section 5.2.7.

Groundwater impacts are currently contained under existing surface caps, buildings, and roadways, further limiting potential exposure. Sampling of shoreline seeps in the “finger area” indicate that groundwater COPCs are not present in surface water or sediment. Therefore, no complete migration pathways were identified for impacts in the Woodlife Area.

5.3.7 WOODLIFE AREA PROPOSED CLEANUP LEVELS

Site wide COPCs that exceed selected PCLs within the Woodlife Area are co-mingled with Creosote Area COPCs. Based on the potentially complete exposure pathways listed above the following IHS have been selected for the Woodlife Area:

- Dioxin/furan TEQ in soil and groundwater.

Soil and groundwater analytical results for the IHS in the Woodlife Area are presented on Table 5.3-1 and Table 5.3-2.

5.4 KNOLL FILL AREA

A CSM including discussion of suspected points of release, contaminant fate and transport, and exposure pathways for the Knoll Fill Area is provided below.

5.4.1 HISTORICAL USE

Lands west of the railroad were created by filling of the tidal delta at the confluence of Snohomish River and Possession Sound. The earliest fill records are not available; however, historical aerial photographs show activity along the shoreline to the south of the former Nord Door facility from at least 1938 through the 1960s. Based on a review of historical aerial photographs (see Appendix A), in 1938, the area was developed with one rectangular building (labeled in a 1957 Sanborn map as “fish net storage”), seven longer buildings running perpendicular to the fish net storage building, and a smaller building located to the west and extending out into Port Gardner Bay. By 1947, only the fish net storage building extending into Port Gardner Bay remained. Between 1955 and 1967, a majority of the southern portion of the Site had been cleared and filled. Additional fill activities occurred between 1967 to 1978 that included development of the southern shoreline to its current extent and additional fill in the Knoll Area to create the existing “knoll” feature. This CSM for the Knoll Fill Area encompasses the area of fill placement shown on Figure 5.4-1.

5.4.2 PHYSICAL SETTING

Most of the fill material placed between 1955 and 1967 appears to be dredged sediments composed of sands with shell fragments. The aerial photography shows that the Nord Door plant areas had structures or was paved when the filling along the southern side occurred while the Knoll Area was unpaved and vegetation is not seen in the aerial photographs. Prior to filling in 1965, a historical on-grade work surface and associated structures extended from Marine View Drive over a portion of the historical tide flats prior to Knoll Area fill events. That historical “working surface” is apparent at a depth of approximately 13 feet above mean sea level (aMSL) within the Knoll Area and is now overlain by dredged sediment fill. For reference groundwater seep sample S-16 was surveyed at approximately 7 feet aMSL. A cross section of the Knoll Area is included as Figure 5.4.2-1. No subsurface confining layer or perched groundwater table was observed in groundwater wells to date. During the 2019 transducer study, the tidal influence in the Knoll Area wells was observed to be approximately 0.11 feet at MW-14 (near shoreline) and no change was observed at MW-12 (approximately 100 feet from shoreline). A summary of the 2019 transducer study is included in the 2019 Data Gap Assessment Report (SLR, 2019a). The measured overall groundwater flow is in a west-southwest direction (see Appendix G).

Both Knoll Fill Area upland areas and offshore marine areas were characterized as part of RI activities.

5.4.3 SUSPECTED AND CONFIRMED RELEASES

There is no available information supporting historical suspected or confirmed releases in the Knoll Fill Area, and the likely source of impacts appear related to historical fill activities.

5.4.4 CONTAMINANT FATE AND TRANSPORT

Upon confirming the bluff overburden soils were not a source, an alternative hypothesis was developed that groundwater transport to seeps could be the source to sediments from the Knoll Area. A work plan was developed and groundwater seep survey and groundwater seep sampling were completed at the Site as part of SCE activities in 2018, including adjacent to the Knoll Fill Area (SLR, 2018a; SLR, 2018b). Groundwater monitoring wells were installed and additional dissolved phase groundwater and seep sampling (via SPME samplers) was completed during the 2019 RI and SCE data gap assessment based on the findings of the initial groundwater seep sampling (SLR, 2018b) The SPME study design included two pairs of groundwater seeps and upgradient groundwater wells in addition to 3 unpaired seep stations, allowing for characterization of transport mechanisms (described in Anchor, 2020). The paired SPME sample results reveal that the sediment porewater total dissolved PCB congener concentrations were on average 17 times higher than the groundwater concentrations. This analysis indicates that the groundwater transport pathway is probably not the primary cause of PCB impacts identified in Knoll Area sediment.

Combined characterization data and fill history indicate that the likely source of PCBs in groundwater and in the sediments adjacent to the Knoll Area are associated with buried fill material deposited between 1955 and 1965, prior to additional fill activities that formed the current “knoll” feature, or a surficial release directly to the sediments. As noted, previously, the source of the fill material is unknown. Based on the extensive testing conducted to date, neither of these two possible source alternatives can be ruled out and some uncertainty will be retained throughout the RI/FS process. While risks of erosion are currently low in the Knoll Fill Area, increased sea levels and wind driven waves from storms of increasing intensity could cause significant erosion that could expose an unidentified potential source area in the upland and result in recontamination of sediments after cleanup. It is unlikely that further RI characterization in the upland Knoll Area will provide further insight into the source potential. However, further characterization could be conducted in the remedial design phase, if required to address uncertainty. A contingent remedial action (CRA) will be proposed in the cleanup action plan (CAP) to address the uncertainty and recontamination of the sediment.

5.4.5 NATURE AND EXTENT OF CONTAMINATION

Several rounds of surficial sediment testing were conducted in the marine area offshore of the Knoll Area. The testing revealed concentrations higher than the benthic protection-based SCO of 130 µg/kg for PCBs. In addition, there is a larger area that exceeds the human health based cleanup level of 30 µg/kg for PCBs. These concentration gradients are depicted in Figure 4.3-4. As a result of these exceedances, coring was conducted to determine the thickness of the PCB impacts. Three cores were placed in areas of known exceedance for PCBs allowing for comparison of concentrations from 0- to 0.33-feet, 0- to 2-ft, 2- to 4-ft and 4- to 6-ft intervals. In each completed core the highest concentration was observed in the surface sample. In the two cores immediately offshore of the Knoll Area, the 0-2 foot intervals averaged 4.5 times less than the 0 to 0.33-foot surface concentrations. At all core locations, the results were less than accepted natural background concentrations in the 2- to 4-ft and 4- to 6-ft intervals.

During initial upland RI activities, test pitting and Geoprobe drilling was completed in the Knoll Fill Area. In the uplands, a layer of apparent ash material was encountered in one Geoprobe boring, GP-334 (former “fish net storage” area) from a depth of approximately 3.5 to 7 feet bgs, possibly from historical filling activities. Subsequent test pit excavations completed in the Knoll Area did not identify ash. The observed soil in the test pit excavations and borings in the Knoll Area were characterized as primarily sandy soil with shells and shell pieces down to the apparent underlying native mudflat layer. A portion of a concrete slab underlain by wood debris, metal, glass, and other debris was encountered at a depth of approximately 8 feet bgs in three test pits completed near the center of the Knoll Area (TP-16 to TP-18). Soil samples from the Knoll Area were collected during monitoring well installation of MW-12, MW-13, and MW-14. Zero to twelve feet composite samples were analyzed for PCB congeners. Concentrations of total PCB congeners were comparable at each location (between 320 and 770 pg/g) and were below the calculated

PCL for saturated soil protective of sediment of 1,840 pg/g. Calculations used to develop this PCL are included in Appendix L.

As the initial upland investigation did not reveal a PCB source, a hypothesis was developed that the steep bluff face may be the source of contamination. A study design was planned to collect composite bank soil samples during initial RI activities in 2013 around the perimeter of the Knoll Area (JW-BL-303 to JW-BL-307). These samples were submitted for PCB congeners testing and the total PCB congener of the 5 bluff sample results ranged from 1.2 to 10.6 µg/kg dry weight. These concentrations are below the initial soil PCL, sediment human health and benthic cleanup levels, and most importantly are much lower than concentrations measured in the offshore sediments. Thus, the hypothesis was disproven and overburden soils eroding into the marine area are not a direct source of PCB contamination to the sediments adjacent to the Knoll Area.

5.4.6 AFFECTED MEDIA AND POTENTIAL EXPOSURE PATHWAYS

Results of the RI indicate that affected media at the Knoll Fill Area include groundwater and near-shore sediments. Potentially complete exposure pathways for the Knoll Fill Area are described below.

Soil

The Knoll Fill Area was primarily mudflats and material storage areas prior to the placement of fill soil in the 1960's. The Knoll Area has remained vacant and vegetated since then. The Property is zoned as industrial use and it is possible that construction and industrial activities may occupy the Knoll Area in the future. The on-site extent of the Knoll Fill Area (the Knoll Area plus the adjacent southern shoreline) is paved. It is assumed that the extent of potential exposure to soil impacts is from surface to 15 feet bgs.

Future industrial workers could potentially be exposed via incidental soil ingestion and dermal contact, inhalation of soil particulates, and inhalation of volatiles (indoor air).

Future construction workers could potentially be exposed via incidental soil ingestion and dermal contact, inhalation of soil particulates, and inhalation of volatiles (outdoor air).
Terrestrial ecological receptors could potentially be exposed via soil ingestion and ingestion of a terrestrial prey species (due to plant and animal bioaccumulation).

Groundwater

Groundwater detections of total PCBs have been observed in the shallow unconfined aquifer located within the Knoll Fill Area. Drinking water is not a current exposure route (as explained in section 5.2.7); there are no drinking water wells on the Site and the City of Everett supplies water to this area. Since this area was created through placement of fill soil over saltwater mudflats, the shallow groundwater is expected to be brackish and unusable for drinking water. Use of the shallow groundwater is not included as a potential exposure route in this CSM. Detected PCB concentrations may be indicative of leaching of low-level PCBs from vadose and saturated zone soils or result from tidal pumping of porewater into the aquifer.

While unlikely, future construction workers could potentially be exposed via dermal contact with groundwater and inhalation of volatiles (outdoor).

Future industrial workers could potentially be exposed via inhalation of volatiles (indoor). Terrestrial ecological receptors could potentially be exposed via groundwater ingestion at seep locations where groundwater becomes surface water.

Surface Water and Sediments

Potential exposure pathway to humans is complete as identified in the human health risk-based cleanup level and benthic exceedances.

Future industrial and construction workers could potentially be exposed via dermal contact with surface water at seeps and/or sediments.

Terrestrial ecological receptors could potentially be exposed via ingestion and dermal contact of sediments, ingestion and dermal contact with surface water, and ingestion of an aquatic prey species (due to aquatic organism bioaccumulation). This is discussed in further detail in Section 5.7.

5.4.7 KNOLL FILL AREA PROPOSED CLEANUP LEVELS

As PCB Congeners were measured above the selected PCL in most groundwater sample locations that had another COPC exceed a selected PCL, PCB congeners will be the IHS for groundwater in the Knoll Fill Area (see Table 5.4-1). Significant soil impacts were not identified and are not a driver for potential cleanup alternatives.

The selected PCL for Total PCB congeners of 1,230 pg/L was calculated by using the laboratory PQL for 123 congeners that were identified in a representative site sample, as requested by Ecology.

5.5 PRIMARY EXPOSURE ROUTES AND RECEPTORS

The exposure media are the environmental media through which human or ecological receptors could be exposed to hazardous substances. As described in the above sections and shown on Figure 5, the primary exposure routes and receptors potentially affected by released hazardous substances at the Site include the following:

- On-site soil – Dermal contact with soil, inhalation, and incidental ingestion are the major routes of exposure through which human receptors may potentially be exposed to impacted soil at the Site. Human receptors may include current and future industrial workers and current and future construction workers. The primary means in which terrestrial ecological receptors may potentially come into contact with contaminants are through direct contact with soil and through dietary ingestion. Data collected from the RI does not show evidence of contaminant migration from soil to groundwater and then to surface water in the Creosote Area or the Woodlife Area.
- On-site groundwater – Dermal contact with shallow groundwater is the major route of exposure through which human and ecological receptors may potentially be exposed to impacted groundwater at the Site. Human receptors may include current and future industrial workers and current and future construction workers. Groundwater at the Site does not meet the definition of potable water as outlined in WAC 173-340-720(2) based

on the following factors: a) the groundwater does not serve as a current source of drinking water; and b) the groundwater is not a potential future source of drinking water given the Site's proximity to surface water that is not suitable as a domestic water supply. Therefore, ingestion of groundwater is not considered a potential route of exposure.

- Air – Inhalation of soil contaminants as windblown/fugitive dust or volatilization of soil and/or groundwater contaminants to indoor air are the primary routes of exposure through which human receptors may potentially be exposed to impacted air at the Site. Human receptors may include current and future industrial workers and current and future construction workers.
- Marine Sediment – As discussed in Appendix K, comparisons of Site tissue data with ecological risk benchmarks reveal that there is unlikely to be any potential risk to wildlife exposed to Site COPCs, including foraging for clams adjacent to the Site. However, dietary ingestion of shellfish is the primary exposure route through which human receptors may potentially be exposed to sediment contaminants at the Site.
- Potential human receptors include recreational and/or tribal subsistence fishers. The following scenarios for consumption of fish and shellfish were evaluated:
  - tribal adult consumer of fish (excluding anadromous) and shellfish
  - tribal child consumer of fish and shellfish - including incorporation of early life exposure to cPAHs using Age-Dependent Adjust Factors since they are identified as having a mutagenic mode of action
  - a scenario which combines risks from both childhood and adulthood exposure (i.e. lifetime exposure risks calculated from 6 years as a child and 64 years as an adult)
- Direct contact with marine sediment impacts by human receptors poses a relatively lower risk, especially given the limited access to sediment at this industrial Site. Direct contact and incidental ingestion of sediment scenarios evaluated using Ecology (2019) default values were:
  - tribal adult clam diggers
  - tribal adult net fishers
  - child beach play scenario
- Human health risk assessment calculations are summarized in Appendix K.

5.6 TERRESTRIAL ECOLOGICAL EVALUATION

With the exception of the Knoll Area, the Site is almost entirely covered by buildings and pavement. Maulsby Marsh is located across the road and BNSF railroad tracks to the east of the Site. Exposed soil on the main portion of the Site is limited to small landscaped areas around buildings and around the perimeter of the paved areas; therefore, terrestrial ecological receptors (wildlife, soil biota, and plants) are not considered to be potential receptors within these areas. Analytical results from samples located in unpaved areas did not measure COPCs above the values listed in MTCA Table 749-2 (Priority Contaminants of Ecological Concern for Sites that Qualify for the Simplified Terrestrial Ecological Evaluation Procedure).

The Site meets TEE Process – Exclusion #2 outlined in WAC 173-340-7491(1)(b) because all soil contaminated with hazardous substances is, and will be, covered by buildings, paved roads, pavement, or other physical barriers (i.e. clean fill) that will prevent plants or wildlife from being exposed, with the exceptions listed above. In addition, the cleanup planned to address human health or possible aquatic impacts will also adequately protect soil biota, plants, and animals.

5.7 SEDIMENT STABILITY

A key element of the CSM at sediment sites is sediment stability, since it can determine the point of exposure to sediment contaminants, and it is also a key factor in evaluating the long-term effectiveness of sediment cleanup actions. As discussed in Section 4.3.3.5, in sediment environments, sedimentation rates and stability characteristics can be determined by analyzing the vertical distribution of relatively short-lived radioactive isotopes in surface and near-surface core intervals. Consistent with geochronology investigations successfully performed at other areas in Puget Sound (e.g., Lefkovitz et al., 1997), geochronology sampling and analysis in the Site area focused on Cs-137, which was released to the atmosphere from nuclear tests in the 1950s/1960s.

The site-specific Cs-137 core data suggest an average contemporary net sedimentation rate (corrected for wood debris) in tidal flat areas of the Site of approximately 0.17 ± 0.08 cm/year (i.e., an average 0.6-inch accumulation over a 10-year period). This is a relatively low average sedimentation rate compared to other sediment cleanup sites in Puget Sound, and suggests that natural recovery processes have been and may continue to be relatively slow. The vertical profile of Cs-137 activity is also indicative of stable sediments (i.e., little vertical sediment mixing) over the past 60 to 70 years (Figure 4.3-9 Cs-137 profile), and suggests that bioturbation of surface sediments is less than 10 cm, and likely less than 4 cm. Thus, the SMS marine sediment default 10 cm bioactive zone is a conservative overestimate of bioturbation at the Site.

6. BASIS FOR CLEANUP ACTION

This section presents the basis for the Site cleanup action. There are two distinct elements that form the basis for the cleanup action: 1) the site-specific cleanup standards; and 2) the locations and media requiring cleanup action evaluation.

6.1 CLEANUP STANDARDS

Cleanup standards consist of: a) cleanup levels for hazardous substances present at the Site; b) the location where these cleanup levels must be met (i.e. point of compliance); and c) other applicable state and federal laws that may apply to the Site.

Under MTCA, the point of compliance is the point or location on a site where the cleanup levels must be attained. The points of compliance for affected media will be approved by Ecology and presented in a forthcoming CAP for the Site. However, it is necessary to identify proposed points of compliance in order to develop and evaluate cleanup action alternatives in the FS. This section describes the proposed points of compliance for soil, groundwater and sediment.

6.1.1 UPLAND SOIL

The process of assessing initial soil PCLs for detected contaminants and subsequent selected PCLs for soil IHS in each primary assessment area are described in Section 4.1.2 and Section 5.0 (CSMs).

6.1.1.1 SOIL CLEANUP LEVELS

Selected PCLs for IHS in soil include the following:

- 0.19 mg/kg for TEQ cPAHs (based on Method B direct contact) in the Creosote Area
- 5.2 pg/g for TEQ Dioxins/Furans (based on natural background concentration) in the Woodlife Area

6.1.1.2 UPLAND SOIL POINT OF COMPLIANCE

The standard point of compliance for the soil cleanup levels will be throughout the soil column from the ground surface to 15 feet bgs in accordance with WAC 173-340-740(6)(d) and WAC 173-340-7490(4)(b).

6.1.2 GROUNDWATER

The process of assessing initial groundwater PCLs for detected contaminants and subsequent selected groundwater PCLs for IHS in each primary assessment area are described in Section 4.1.2 and Section 5.0 (CSMs).

6.1.2.1 GROUNDWATER CLEANUP LEVELS

Selected PCLs for IHS in groundwater include the following

- 8.9 µg/L for naphthalene (based on groundwater protective of vapor intrusion) in the Creosote Area
- 72 pg/L for dioxins/furans TEQ (based on laboratory PQL) in the Woodlife Area
- 1,230 pg/L for Total PCB congeners (based on laboratory PQL calculation) in the Knoll Fill Area

6.1.2.2 GROUNDWATER POINT OF COMPLIANCE

For groundwater, the point of compliance is the point or points where the groundwater cleanup levels must be attained for a site to be in compliance with the cleanup standards. Groundwater cleanup levels shall be attained in all groundwaters from the point of compliance to the outer boundary of the hazardous substance plume. Under MTCA, the standard point of compliance for groundwater is throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest depth that could potentially be affected by an activity. For groundwater potentially discharging to surface water, MTCA provides for a conditional point of compliance at the point of discharge of groundwater to surface water. The conditional point of compliance for the Site is the downgradient edge of the property, at the point of entry of groundwater to Port Gardner Bay.

6.2 MARINE SEDIMENT CLEANUP LEVELS

The cleanup standard is defined as the highest of: a) risk-based concentrations, b) natural or regional background concentrations, or c) PQLs. Cleanup standards for marine sediment indicator hazardous substances, total PCBs and dioxin/furan TEQ, are based on the conservative assumption that chemical concentrations in sediments are solely responsible for the chemical concentrations found in shellfish tissues at the Site.

Preliminary sediment cleanup levels for the Site are summarized in Table 6.2-1, and include two risk targets; the more stringent sediment cleanup objective (SCO; e.g., 10^{-6} cancer risk) and the cleanup screening level (CSL; e.g., 10^{-5} cancer risk). Following review of and public comment on this RI/FS as well as the follow-on Cleanup Action Plan (CAP), Ecology will make a final determination of site-specific cleanup levels.

While wood debris (TVS) and bioaccumulative cPAH TEQ are not identified as IHS for the Site, further characterization may be conducted in remedial design during monitoring to enable compliance determinations within the reasonable restoration timeframe.

6.2.1.1 MARINE SEDIMENT REMEDIATION LEVELS

Sediment cleanup remedies in Puget Sound have typically included a combination of remedial technologies applied to different areas of a site. Under both MTCA and SMS, when more than one method of cleanup is used at a site, it may be necessary to establish remedial action levels (RAL) to indicate what concentrations of IHS would be addressed using the different cleanup methods. As discussed in WAC 173-340-355, a variety of methods may be used to develop site-specific RALs under MTCA and SMS. For the purpose of this RI/FS, and specifically to assist in the development of marine sediment remediation alternatives for the FS (see Section 7), preliminary sediment RALs were derived using benthic SCOs and site-specific human health-based sediment SCOs. A “hill-topping” analysis was used to evaluate the relationship between the RAL and the resulting total PCB and dioxin/furan TEQ SWAC at the Site following remediation, assuming natural background replacement values for remediated areas (1.6 µg/kg dw and 1.8 ng/kg dw for total PCBs and dioxin/furan TEQ, respectively). The hill-topping curves presented in Figures 6.2-1 and 6.2-2, respectively, identify RALs that achieve the Site-side SWAC goal.

Higher concentration break points were determined by applying SMS benthic protection levels for total PCBs. Best professional judgement was used for higher concentration break point for dioxins/furans TEQ at 15 ng/kg, based on direct contact levels presented in SCUM (Ecology 2019).

The following concentration break points were identified that provided useful RAL values and that are carried forward in the FS:

- Total PCBs:
    - 30 µg/kg dw (human health protection-based SCO)
    - 117 µg/kg (hill-topping-based RAL to achieve a 30 µg/kg dw SWAC)
    - 130 µg/kg dw (benthic protection SCO)
- Dioxin/Furan TEQ:
    - 5 ng/kg dw (PQL based SCO)
    - 8 ng/kg dw (hill-topping-based RAL to achieve a 5 ng/kg dw SWAC)
    - 15 ng/kg dw (best professional judgment direct contact [Ecology 2019])

6.2.1.2 MARINE SEDIMENT POINT OF COMPLIANCE

For marine sediments, the vertical point of compliance is surface sediments within the biologically active zone. The biologically active zone is the depth in surface sediments within which benthic organisms are found. For most members of the marine benthic community, a 10 cm biologically active zone is considered appropriate under SMS, and site-specific bioturbation depths are less than 10 cm (see Section 4.3.3.5). However, the soft shell clam (*Mya arenaria*) identified in tidal mudflats at the Site may burrow as deep as 30 cm below mudline (Abraham et al., 1986). Therefore, to ensure protection of human health at the Site, the preliminary point of compliance in marine sediments is 30 cm (approximately 1 foot).

The biologically active zone in Site tidal mudflats can potentially include deeper sediments that could become exposed by storms or other events that contribute to erosional forces. However, the vertical profiles of Cs-137 activity measured at the Site are indicative of stable sediments (i.e., little vertical sediment mixing) over the past 60 to 70 years (Figure 4.3-9), and thus the point of compliance does not need to be extended below 1 foot.

For bioaccumulative COPCs such as total PCBs and dioxin/furan TEQ, the horizontal point of compliance defined under SMS is based on the SWAC. SWACs are applied to the entire Site area that exceeds the site-specific sediment cleanup level. Thus, for the purpose of this RI/FS, the SWAC compliance area encompassed all surface and near-surface sediment areas (i.e., to a depth of 1 foot below mudline) with concentrations of total PCBs and/or dioxin/furan TEQ exceeding preliminary SCO chemical criteria. The SWAC area defined in this manner is approximately 16.6 acres. Using IDW methods, the existing SWACs within the Site area are as follows:

- Total PCBs: 36 µg/kg dw (slightly greater than the 30 µg/kg preliminary SCO)
- Dioxin/Furan TEQ: 11 ng/kg dw (more than two times the 5 ng/kg preliminary SCO)

6.2.1.3 Creosote Treated Structures

SCUM (Ecology 2019) identifies the requirement to remove and dispose of creosote-treated piling that are in a cleanup site. Two bulkhead structures containing an unknown number of piles and lagging, a remnant wooden barge, and approximately 45 free standing piling or dolphins have been identified within the Site boundary. As depicted on Figure 3.6, some of the structures and pilings are on properties that are owned by the Wick Family Trust and Port of Everett. For the purposes of this RI/FS, it has been assumed that these structures and pilings in areas targeted for sediment removal will be removed as part of the selected marine remedial action.

Commented [ES(11]: Should reference MTCA language regarding source control. SCUM can be referenced secondarily.

7. FEASIBILITY STUDY

As stated in WAC 173-340-350, the purpose of the FS is to develop and evaluate remedial alternatives that will enable a remedial action to be selected for the Site. This section identifies Site areas requiring cleanup action evaluation, identifies cleanup action objectives, reviews potentially applicable regulatory requirements for the cleanup action, and presents a screening evaluation of general response actions and remediation technologies that are potentially applicable to the Site.

7.1 LOCATIONS REQUIRING CLEANUP ACTION EVALUATION

The following sections describe the media requiring cleanup action evaluation based on the findings of the RI.

7.1.1 UPLAND AREAS REQUIRING CLEANUP ACTION EVALUATION

Upland areas requiring cleanup action evaluation are associated with historical site activities including pole treating using creosote, fuel oil storage, wood treating using Woodlife wood treatment solution, and historical fill activities. The impacts related to fuel oil and creosote contain the same indicator substances (cPAHs and naphthalene) and are co-located along the eastern portion of the former Nord Door site and extending beneath West Marine View Drive. The impacts are generally found between 3 and 15 feet bgs, except for areas of the former creosote tank operations where impacts have been identified to 45 feet bgs and are primarily located below buildings or pavement. Figure 5.2-1 shows areas of soil and groundwater IHS that exceed selected PCLs in the Creosote Area.

Dioxin/furan impacts related to wood treatment using Woodlife solution are located in shallow soil and groundwater in the northeastern portion of the Site. These impacts are generally found at depths to 5 feet bgs and are located below buildings or pavement. Figures 5.3-1 shows areas of soil and groundwater IHS that exceed selected PCLs in the Woodlife Area.

Total PCB congener impacts related to historical fill activities are located in groundwater in the southern portion of the Site, including the Knoll Area. Figure 5.4-1 shows areas of groundwater IHS that exceed selected PCLs in the Knoll Fill Area.
Based on the upland RI findings and consultation with Ecology, the upland FS alternatives were considered for three assessment areas of the Site: 1) Creosote Area; 2) Woodlife Area; and, 3) Knoll Fill Area. As described in Section 5.4, the Knoll Fill Area cleanup alternatives are included in the marine FS alternatives.

Based upon the specifics of the above listed areas (access, depth of contamination, potential receptors, feasibility, etc.) upland cleanup alternatives have been prepared for each area of concern with detailed MTCA evaluations of each alternative. The MTCA evaluation includes a disproportionate cost analysis (DCA) that compares the relative costs and benefits of each alternative presented for the cleanup areas.

7.1.2 MARINE SEDIMENT AREAS REQUIRING CLEANUP ACTION EVALUATION

For purposes of the FS, the marine area was subdivided into sediment management areas (SMAs) so that alternatives could be assembled and evaluated. Exhibit 7.1.2 below describes the various cleanup levels that were used to define the boundaries of the SMAs, which were based on both the preliminary SCO chemical criteria summarized in Table 6.2-1, along with RALs as described in Section 6.2.1.1. Figure 7.1 depicts the layout of SMAs in accordance with the scheme described above.

Exhibit 7.1.2
SMA Designations

DESIGNATION	DIOXIN/FURAN TEQ (NG/KG DW)	TOTAL PCBS (µG/KG DW)	BASIS FOR SELECTION
SMA 1	5	>30 (SCO based on human health risk)	1. Dioxin/Furan TEQ level set by the PQL. 2. Total PCB Level set by the human-health seafood consumption risk level.
SMA 2	8	117 (level at which the SWAC of 30 µg/kg is achieved)	Levels set to achieve a post-construction surface weighted average concentration of 5 ng/kg for Dioxin/Furan TEQ and 30 µg/kg for total PCBs.
SMA 3	15	130 (predicted bulk sediment toxicity SMA)	1. Best professional judgement: Dioxin/Furan TEQ level set at SCUM-defined (Ecology 2019) direct contact. 2. Total PCB level based on the benthic protection sediment management standard dry weight sediment quality objective equivalent.

Notes:
µg/kg = microgram per kilogram
dw = dry weight
ng/kg = nanogram per kilogram
PCB = polychlorinated biphenyl
PQL = practical quantitation limit
SCO = sediment cleanup objective
SMA = sediment management area
SWAC = surface weighted average concentration
TEQ = toxic equivalent quotient

7.2 CLEANUP ACTION OBJECTIVES

Cleanup action objectives consist of chemical- and media-specific goals for protecting the environment. The cleanup action objectives specify the media and contaminants of interest, potential exposure routes and receptors, and proposed cleanup goals.

7.2.1 UPLAND AREA CLEANUP ACTION OBJECTIVES

The cleanup action objectives for the upland areas are to protect human health and the environment by eliminating, reducing, or otherwise controlling risk posed through identified exposure pathways and migration routes. The cleanup action objectives for the upland areas of the Site are to mitigate risks posed by the following exposure routes:

- Prevent direct contact (dermal, incidental ingestion, or inhalation) by industrial or maintenance workers, construction workers, or other Site occupants with hazardous substances in soil, groundwater, or soil gas (via vapor intrusion).
- Prevent contaminated groundwater migration to adjacent marine sediment and surface water via groundwater discharge (seeps or other transport mechanism such as leaky stormwater pipes).
- Protect the human health and environment through removal or treatment of hotspot areas to the extent practicable such that it does not become a hazard in case of a natural disaster, for example, an earthquake

7.2.2 MARINE SEDIMENT AREA CLEANUP ACTION OBJECTIVES

Sediment cleanup action objectives are focused on the following IHS:

- Total PCBs
- Dioxin/Furan TEQ

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The cleanup action objective for marine sediments is as follows:

Commented [AM(13]: Include a CAO of protection of benthic organism
Include protection and maintenance of physical environment including habitat areas, aquatic conservancy areas.

- Eliminate, reduce, or otherwise control, to the extent practicable, risks to humans from ingestion of seafood containing COPCs that exceed risk-based concentrations.
- Meet the cleanup objectives within 10 years of completion of construction.

7.3 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

In addition to the cleanup standards developed through the MTCA process, WAC 173-340-710 requires cleanup actions to comply with applicable state and federal laws and those requirements identified as applicable or relevant and appropriate requirements (ARARs). Under WAC 173-340-700(6)(a), MTCA requires cleanup standards to be “at least as stringent as all applicable state and federal laws.” Besides establishing minimum requirements for cleanup standards, applicable state and federal laws may also impose certain technical and procedural requirements for performing cleanup actions. These requirements are described in WAC 173-340-710. Applicable state and federal laws are discussed below.

The cleanup action at the Site will likely be performed pursuant to MTCA under the terms of a Consent Decree. Accordingly, the anticipated cleanup action will likely meet the permit exemption provisions of MTCA, obviating the need to follow procedural requirements of the various local and state regulations that would otherwise apply to the action. Similarly, the anticipated cleanup action qualifies for a United States Army Corps of Engineers (Corps) Nationwide Permit 38 (NWP 38). Nevertheless, federal consultation under the Endangered Species Act, Section 401 Water Quality Certification, and other substantive requirements must still be met by the cleanup action. Ecology will be responsible for issuing the final approval for the cleanup action, following consultation with other state and local regulators. The Corps will separately be responsible for issuing approval of the project under NWP 38, following Endangered Species Act consultation with the federal Natural Resource Trustees, and also incorporating Ecology's 401 Water Quality Certification.

7.3.1 MTCA AND SMS REQUIREMENTS

The primary law that governs the cleanup of contaminated sites in the state of Washington is MTCA. The MTCA cleanup regulation (WAC 173-340) specifies criteria for the evaluation and conduct of a cleanup action, including criteria for developing cleanup standards for soil. When contaminated sediments are involved, the cleanup levels and other procedures are also regulated by the SMS (WAC 173-204). The SMS were developed to establish cleanup standards for marine and other environments for the purpose of reducing and/or eliminating adverse effects on biological resources and significant health threats to humans from surface sediment contamination. The SMS cleanup standards govern the cleanup of contaminated sediment sites. Both MTCA and SMS regulations require that cleanup actions must protect human health and the environment, meet environmental standards in other applicable laws, and provide for monitoring to confirm compliance with cleanup levels.

MTCA places certain requirements on cleanup actions involving containment of hazardous substances that must be met for the cleanup action to be considered in compliance with soil cleanup standards. These requirements include implementing a compliance monitoring program that is designed to ensure the long-term integrity of the containment system and applying institutional controls where appropriate to the affected area (WAC 173-340-440). The key MTCA decision-making document for cleanup actions is the RI/FS. In the RI/FS, the nature and extent of contamination and the associated risks at a site are evaluated, and potential alternatives for conducting a site cleanup action are identified. The cleanup action alternatives are then evaluated against MTCA remedy selection criteria, and one or more preferred alternatives are selected. After reviewing the RI/FS, and after consideration of public comment, Ecology then selects a cleanup action for the site and documents the selection in a CAP. Following public review of the CAP, the site cleanup process typically moves forward into design, permitting, construction, and long-term monitoring.

This RI/FS report was prepared consistent with the requirements of MTCA and the SMS.

7.3.2 STATE ENVIRONMENTAL POLICY ACT

The State Environmental Policy Act (SEPA; RCW 43.21C; WAC 197-11) and the SEPA procedures (WAC 173-802) are intended to ensure that state and local government officials consider environmental values when making decisions. The SEPA process begins when an application for a permit is submitted to an agency, or an agency proposes to take some official action such as implementing a MTCA CAP. Prior to taking any action on a proposal, agencies must follow specific procedures to ensure that appropriate consideration has been given to the environment. The severity of potential environmental impacts associated with a project determines whether an Environmental Impact Statement (EIS) is required. A SEPA checklist would be required prior to initiating remedial construction activities. Because the Site cleanup action will be performed under a Consent Decree, SEPA and MTCA requirements will be coordinated, where possible.

7.3.3 SOLID AND HAZARDOUS WASTE MANAGEMENT

The Washington Hazardous Waste Management Act (RCW 70.105) and the implementing regulations, the Dangerous Waste Regulations (Chapter 173-303 WAC), would apply if dangerous wastes are generated during the cleanup action. Related regulations include state and federal requirements for solid waste handling and disposal facilities (40 CFR) 241, 257; Chapter 173-350 and 173-351 WAC) and land disposal restrictions (40 CFR 268; WAC 173-303-340).

7.3.4 SHORELINE MANAGEMENT ACT

The Shoreline Management Act (RCW 90.58) and its implementing regulations establish requirements for substantial developments occurring within water areas of the state or within 200 feet of the shoreline. Local shoreline management master programs are adopted under state regulations, creating enforceable requirements. Because the Site cleanup action will likely be performed under a Consent Decree, compliance with substantive requirements would be necessary, but a shoreline permit would not likely be required.

7.3.5 PUGET SOUND DREDGED MATERIAL MANAGEMENT PROGRAM

In Puget Sound, the open water disposal of sediments is managed under the Dredged Material Management Program (DMMP). This program is administered jointly by the Corps, EPA, Washington Department of Natural Resources (DNR), and Ecology. The DMMP developed the Puget Sound Dredged Disposal Analysis protocols, which include testing requirements to characterize whether dredged sediments are appropriate for open-water disposal. The results of this characterization are formalized in a written suitability determination from the Dredged Material Management Office. The DMMP has also designated disposal sites throughout Puget Sound. If DMMP disposal of sediments dredged from the Site were to be included as part of the final cleanup remedy, dredged material characterization would be required to complete the suitability determination. Use of DMMP open-water disposal facilities would need to comply with other DMMP requirements including material approval, disposal requirements, and payment of disposal site fees.

7.3.6 WASHINGTON HYDRAULICS CODE

The Washington Hydraulics Code (WAC 220-110) establishes regulations for the construction of any hydraulic project or the performance of any work that will use, divert, obstruct, or change the natural flow or bed of any of the salt or fresh waters of the state. The code also creates a program requiring Hydraulic Project Approval (HPA) permits for any activities that could adversely affect fisheries and water resources. Timing restrictions and technical requirements under the hydraulics code are applicable to dredging, construction of sediment caps, and placement of post-dredge residual covers if necessary. For the reasons stated above, the procedural requirements of an HPA permit would not likely be required, although the substantive requirements of an HPA must still be met by the cleanup action.

The FS has been prepared using costs and durations that recognize potential fish closure periods, during which time dredging and any in-water work will not be permitted. Exact in-water closure periods will be determined through agency consultation.

7.3.7 WATER MANAGEMENT

7.3.7.1 CLEAN WATER ACT

The Clean Water Act (CWA) is the primary federal law for protecting water from pollution. The CWA regulations provide requirements for the discharge of dredged or fill material to waters of the United States and are applicable to any in-water work. The CWA regulations also prescribe permitting requirements for point source and non-point source discharges. Acute marine criteria are relevant and appropriate requirements for discharges to marine surface water during sediment dredging, as well as for return flows (if necessary) to surface waters from dewatering operations.

Section 404 of the CWA requires permits from the Corps for discharges of dredged or fill material into waters of the United States, including wetlands. Section 404 permits depend on suitability determinations (described previously) according to DMMP guidelines. Section 404(b)(1) requires an alternatives analysis as part of the permitting process. Requirements for all known, available, and reasonable technologies for treating wastewater prior to discharge to state waters are applicable to any dewatering of marine sediment prior to upland disposal. Section 401 of the CWA requires the state to certify that federal permits are consistent with water quality standards. The substantive requirements of a certification determination are applicable.

Ecology has promulgated state-wide water quality standards under the Washington Water Pollution Control Act (RCW 90.48). Under these standards, all surface waters of the state are divided into classes (Extraordinary, Excellent, Good, and Fair) based on the aquatic life uses of the waterbodies. Water quality criteria are defined for different types of pollutants and the characteristic uses for each class of surface water. The standards for marine waters will be applicable to discharges to surface water during sediment dredging and return flows (if necessary) to surface waters from dewatering operations.

The SMS acknowledges the Washington Water Pollution Control Act as the primary authorizing legislation for establishing sediment source control standards.

7.3.7.2 CONSTRUCTION STORMWATER GENERAL PERMIT

Construction activities that disturb 1 acre or more of land need to comply with the provisions of construction stormwater regulations. Operators of regulated construction sites are required to:

- Develop stormwater pollution prevention plans;
- Implement sediment, erosion, and pollution prevention control measures; and,
- Obtain coverage under a Construction Stormwater General Permit.

The permit also requires that Site inspections must be conducted by a Certified Erosion and Sediment Control Lead. This is typically an individual who works for the contractor performing the work.

7.3.7.3 CONSTRUCTION AND MAINTENANCE OF WATER WELLS

Minimum standards for construction and maintenance of water wells are established in Chapter 18.104 RCW and WAC 173-160-101, 121, 161 to 241, 261 to 341, and 381. This regulation is potentially applicable to wells constructed for groundwater withdrawal and monitoring or remediation system components. This regulation is also potentially applicable to the decommissioning of existing or future wells.

7.3.8 AIR CONTAMINANT SOURCES

The Washington Clean Air regulations require that owners and operators of fugitive dust sources take reasonable precautions to prevent fugitive dust from becoming airborne and to maintain and operate the source to minimize emissions under General Regulations for Air Contaminant Source, Chapter 70.94 RCW; WAC 173-400-040(8); and Puget Sound Clean Air Agency (PSCAA) Regulation 1, Section 9.15. PSCAA regulations identify specific requirements related to the control of fugitive dust, including the requirement to employ reasonable precautions to minimize emissions. Reasonable precautions include, but are not limited to, the following: a) the use of control equipment, enclosures, and wet (or chemical) suppression techniques, as practical, and curtailment during high winds; b) surfacing roadways and parking areas with asphalt, concrete, or gravel; c) treating temporary, low-traffic areas (e.g., construction sites) with water or chemical stabilizers, reducing vehicle speeds, constructing pavement or riprap exit aprons, and cleaning vehicle undercarriages before they exit to prevent the track-out of mud or dirt onto paved public roadways; or d) covering or wetting truck loads or allowing adequate freeboard to prevent the escape of dust-bearing materials. For cleanup action alternatives that could result in fugitive dust emissions, those emissions will be minimized per the Washington State and PSCAA requirements.

7.3.9 LOCAL REQUIREMENTS

The following is a list of other potentially applicable local requirements for the cleanup action:

Washington State Shoreline Management Act and City of Everett Shoreline Master Program (SMP), RCW 90.58, WAC 173-27-060, City of Everett Ordinance 3053-08 and SMP. The Shoreline Management Act and City of Everett SMP require a permit for any development or activity valued at $5,000 or as adjusted by inflation by the state legislature or where exempt under RCW 90.58.030(3)(e). Shorelines are defined as lakes (including reservoirs) of 20 acres or greater; streams with a mean annual flow of 20 cubic feet per second or greater; marine waters plus an area landward for 200 feet measured on a horizontal plane from the ordinary high water mark; and all associated marshes, bogs, swamps, and river deltas. Cleanup actions under MTCA are exempt from Shoreline Management Act permitting under MTCA and WAC 173-37-040(3). For upland cleanup action alternatives that include activities within 200 feet of the shoreline and marine cleanup action alternatives, this requirement will meet the substantive requirements. Consultation with the City of Everett will be conducted to meet the substantive requirements.

City of Everett Stormwater and Storm Drainage, Ordinance 2196-96, amending Title 14.28, Effective February 15, 2010; City of Everett Stormwater Management Manual, dated February 2010. The City of Everett ordinance specifies requirements for the management of stormwater and development of storm drainage systems for new and redeveloped properties. These requirements include meeting Minimum Technical Standards, which may include some or all of the following based upon the size of the addition of the impervious surface: erosion and sediment control for all sized projects, for projects adding more than 5,000 square feet of impervious surface: 1) development of a Stormwater Site Plan, Construction Stormwater Pollution

Prevention Plan, Large Parcel Erosion and Sediment Control Plan and Drainage Plan; 2) apply erosion and sediment controls; 3) preserve natural drainage; 4) apply source control Best Management Practices (BMPs); 5) apply runoff treatment BMPs where the project creates 5,000 square feet or more of net additional pavement; treatment BMPs shall be sized to capture and treat a 6-month, 24-hour return period storm; 6) off-site analysis and mitigation; and 7) operation and maintenance. The applicability of the substantive requirements of the stormwater and storm drainage ordinance will be determined through consultation with the City of Everett during the design phase of the selected cleanup action and any substantive requirements will be incorporated into the design documents.

City of Everett Grading Code, Title 18.28.200 Everett Municipal Code (EMC); Title 18.28 EMC, Land Division Evaluation Criteria and Development Standards. The City of Everett requires a grading plan to be submitted to the city engineer "before any site modification where existing natural features would be disturbed or removed" (EMC 18.28.200(A)). The EMC establishes minimum standards for clearing and grading, generally based on following "sound engineering techniques." The EMC states, in relationship to environmentally sensitive areas, that "Clearing and grading limits shall be established so as to not impact environmentally sensitive areas, the required buffers, and adjacent properties" (EMC 18.28.200(E)(4)) and that "on projects that have environmentally sensitive features and in critical drainage areas, clearing and grading and other significant earth work may be limited to a specific time period as determined by the city" (EMC 18.28.200(F)). The applicability of the substantive requirements of the grading code will be determined through consultation with the City of Everett during the design phase of the selected cleanup action and any substantive requirements will be incorporated into the design documents.

City of Everett Traffic Code, Title 46 EMC. Construction activities such as haul truck operations or installation of remediation systems within the public roadway may require that traffic be directed by flaggers and signage. The applicability of the substantive requirements of the traffic code will be determined through consultation with the City of Everett during the design phase of the selected cleanup action and any substantive requirements will be incorporated into the design documents.

City of Everett Discharge to POTW Title 14.40 EMC. Dewatering activities associated with the cleanup action alternatives involving hydraulic dredging will require a wastewater discharge permit to discharge water to the publicly owned treatment works (POTW). The applicability of the substantive requirements of the Title 14.40 EMC will be determined through consultation with the City of Everett during the design phase of the selected cleanup action and any substantive requirements will be incorporated into the design documents.

7.3.10 OTHER POTENTIALLY APPLICABLE REGULATORY REQUIREMENTS

The following is a list of other potentially applicable regulations for the cleanup action:

Archeological and Historical Preservation. The Archeological and Historical Preservation Act (16 USC 496a-1) would be applicable if any subject materials are discovered during Site grading and excavation activities.

Health and Safety. Site cleanup-related construction activities would need to be performed in accordance with the requirements of the Washington Industrial Safety and Health Act (RCW

49.17) and the federal Occupational Safety and Health Act (29 CFR 1910, 1926). These applicable regulations include requirements that workers are to be protected from exposure to contaminants and that excavations are to be properly shored.

Endangered Species Act. The Endangered Species Act (16 USC 1531-1543, 50 CFR 402, 50 CFR 17) protects fish, wildlife, and plants that are threatened or endangered with extinction.

These requirements are not specifically addressed in the detailed analysis of cleanup action alternatives because they could be met by each of the alternatives.

8. SCREENING OF GENERAL RESPONSE ACTIONS

This section presents a screening evaluation of potentially applicable response actions and remediation technologies to be considered for the cleanup action. As described in WAC 173-340-350 8(b), an initial screening of alternatives may be appropriate to reduce the number of alternatives for the final detailed evaluation. Alternatives that may be eliminated from the FS include: a) alternatives for which costs are clearly disproportionate under WAC 1730340-360 (3)(e); and b) alternatives or components that are not technically possible at the site.

The screening evaluation is carried out for each of the environmental media (soil, groundwater, soil gas, and sediment) requiring cleanup action evaluation. Based on the screening evaluation, selected response actions and technologies are carried forward for use in the development of cleanup action alternatives (Section 8.4).

8.1 UPLAND CLEANUP ACTIONS

This section summarizes various remediation technologies that were screened and evaluated in various combinations as alternatives for the upland areas of the Site. In Section 8.4, alternatives and the key components are described, including conceptual-level corrective actions.

The remediation technologies considered or employed in those alternatives are described below.

8.1.1 NO ACTION

The No Action alternative would consist of refraining from conducting response actions or applying any remedial technology to the upland soil, groundwater, or soil gas impacts identified at the Site. The No Action alternative would not achieve the threshold remedial action requirements of protecting human health and the environment by eliminating, reducing, or otherwise controlling risk posed through identified exposure pathways and migration routes and was not retained for further evaluation.

8.1.2 MONITORED NATURAL ATTENUATION/LONG-TERM MONITORING (MNA)

The MNA alternative relies on naturally occurring attenuation processes to reduce the toxicity, mobility, and volume of contaminants in soil and groundwater at the Site to supplement alternatives that include full removal of impacted soil. Long-term monitoring would be performed for alternatives that do not include full removal of impacted soil or partial removal to demonstrate that contaminant reduction is occurring and that the remedial action objectives are being achieved. MNA can also be a remedy component after the successful completion of an active treatment remedy. The use of MNA/long-term monitoring in combination with other remediation technologies is retained for further evaluation.

8.1.3 INSTITUTIONAL CONTROLS (IC)

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Institutional controls can play an important role in the cleanup process by reducing potential exposure to contamination and preventing activities that pose exposure risk. Institutional controls are typically used in conjunction with the overall cleanup remedy. Zoning and deed restrictions, public property notices, soil management plans, and other administrative and legal notices are examples of institutional controls. The use of institutional controls is a technology retained for further evaluation.

8.1.4 ENGINEERING CONTROLS (EC)

8.1.4.1 SURFACE CAPPING

This alternative consists of constructing an engineered cap to provide a physical barrier to direct contact with contaminated materials for human and ecological receptors. The cap would also prevent infiltration of stormwater that may potentially cause leaching and migration of contaminants. Potential capping materials could include a variety of low-permeability materials including asphalt, concrete, clay, synthetic materials, or a combination of one or more of these materials. The presence of the capping material can provide a warning to avoid excavation in areas where contamination is present. Capping is a technology retained for further evaluation for controlling risk posed through identified exposure pathways.

8.1.4.2 HYDRAULIC BARRIER

This alternative consists of constructing an engineered containment barrier to prohibit the migration of contaminated groundwater. Potential containment barriers could be constructed of impermeable materials such as high-density polyethylene (HDPE) or concrete/slurry which provides hydraulic control. Given the relatively high cost of this alternative and that the main objective is to limit the migration of contaminated groundwater, which is not identified as a significant exposure pathway, this technology is not retained for further evaluation for upland Site conditions.

8.1.5 IN-SITU TREATMENT

8.1.5.1 IN-SITU CHEMICAL OXIDATION (ISCO)

This alternative consists of the injection of oxidizing chemical compounds into the groundwater to treat the contaminated groundwater through chemical reactions (i.e. sodium persulfate mixed with water). The effectiveness of ISCO treatment is dependent on the local hydrogeology, contaminant concentration, concentrations of other organics in the subsurface, and chemical make-up. Long term monitoring would be performed to demonstrate that contaminant reduction is occurring and that the remedial action objectives are being achieved. The amount of chemical oxidant demand and residual product in the subsurface can significantly reduce the effective radius of injections during ISCO. ISCO is a treatment technology retained for further evaluation.

8.1.5.2 IN-SITU BIODREMEDIATION (ISB)

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This technology involves injecting electron acceptors – such as oxygen, sulfate, and nitrate along with other nutrients to stimulate the existing subsurface bacterial community that is degrading hydrocarbons present in the groundwater. Bioremediation can be accomplished aerobically using oxygen or anaerobically using sulfate or nitrate. Aerobic bioremediation is more efficient and

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typically will proceed faster than anaerobic bioremediation, however the amount of oxygen that can be added to the subsurface is limited by the solubility of oxygen. Although anaerobic degradation proceeds slower than aerobic degradation, the solubility of sulfate and nitrate in water is much higher than oxygen. This allows a greater concentration of electron acceptor to be injected and hence reduces the number of injections that are required to degrade a given hydrocarbon mass. However, the complexities and cost of adding these alternate electron acceptors may be much higher than using oxygen from injected air.

A hybrid approach using air injection wells that operate similarly to an air sparging system along with recirculating a nitrate based nutrient solution along with surfactants is anticipated to be the most successful methodology for bioremediating the contaminants at the Site (absent site-specific pilot testing to test mixtures). The injected air would provide a large amount of oxygen (in air) to the subsurface at a relatively low cost, while the recirculating nitrate system would provide higher concentrations of electron acceptor to areas of higher hydrocarbon concentrations that are likely to remain anaerobic.

This technology typically introduces the electron acceptor through injection points, horizontal recirculation well fields, or vertical recirculation wells. With the relatively coarse-grained materials at this Site the use of horizontal and vertical injection wells would likely be an effective method to introduce the electron acceptors into the groundwater. This alternative is retained for further evaluation.

8.1.6 PERMEABLE REACTIVE BARRIER (PRB)

This alternative consists of injecting a mixture of micron-sized activated carbon that is combined with a blend of sulfate material and micronutrients designed to encourage remediation through biological and microbial processes into the formation downgradient of a groundwater plume. Dissolved contamination in the subsurface would be sorbed by the activated carbon and then the added electron acceptors enhance the degradation of the contamination. The treatment occurs through a biological process that can work with or without the presence of subsurface oxygen. The effectiveness of this technology is dependent on the local hydrogeology and the ability to distribute the mixture, contaminant concentration, and chemical make-up. Long term monitoring would be performed to demonstrate that contaminant reduction is occurring and that the remedial action objectives are being achieved. Depending on the amount of oxygen (or other electron acceptors) and hydrocarbons in the groundwater, the carbon barrier would require additional applications of electron acceptors every few years.

This technology performs similarly to a hydraulic barrier in that it will prevent migration of contaminants in groundwater, but can also destroy hydrocarbons that bind to the activated carbon; however, given the that the main objective of this technology is to limit the migration of contaminated groundwater, which is not identified as a significant exposure pathway, this technology is not retained for further evaluation.

8.1.7 PUMP AND TREAT (P&T)

Pump and treat involves extraction of groundwater from an aquifer and treatment of the water above the ground. The extraction step is usually conducted by pumping groundwater from wells or a trench. The treatment step can involve a variety of technologies such as adsorption, air stripping, bioremediation, chemical treatment, filtration, and ion exchange. The effectiveness of pump and treat technology is dependent on the local hydrogeology, contaminant concentrations and distribution in the subsurface, and chemical make-up. Long term monitoring would be performed to demonstrate that contaminant reduction is occurring and that the remedial action objectives are being achieved. Pump and treat treatment technology was retained in conjunction with other alternatives (i.e. removing contaminated groundwater that enters excavation areas) but was not retained for further evaluation as an independent option because of the observed low mobility of the contaminants in soil and groundwater at the Site.

8.1.8 SOIL VAPOR EXTRACTION (SVE)

SVE is used to remediate unsaturated (vadose) zone soil. A vacuum is applied to the soil to induce a controlled flow of air and remove volatile and some semi-volatile organic contaminants from the soil. The vacuum is typically applied with a blower or vacuum pump connected to soil vapor extraction wells, trenches, or horizontal piping installed in the subsurface. SVE may be used in conjunction with air sparging (describe below), serving to remove contaminated vapors produced by the air sparging process. An often-used variant of SVE is sub-slab depressurization (SSD) which is used to prevent vapors from migrating from the subsurface into an indoor space. SSD is retained for further evaluation and SVE is not retained as a standalone alternative but may be used in conjunction with other technologies.

8.1.9 AIR SPARGING (AS)

Air sparging (AS) is used to remediate volatile and biodegradable contaminants in the saturated zone. Air is injected directly into the groundwater to volatilize contaminants into the vadose zone, which can then be removed with SVE. It also is a means of adding oxygen to the subsurface which can accelerate the biological degradation of hydrocarbons. Nutrients and surfactants can be added through sparge wells or injected separately to further enhance biological degradation of the hydrocarbons. Air sparging is performed in-situ with injection wells. Use of air sparging where there is significant separate phase product may cause unpredictable migration of the product. Air sparging treatment technology is not retained as a standalone treatment technology but is considered for use in conjunction with other treatment technologies.

8.1.10 SOIL REMOVAL

This alternative consists of excavation and off-site disposal of impacted soil at an off-site engineered facility. To access areas of soil impacts, this alternative could potentially include removal of select areas of surface pavement, private and public roadways and sidewalks; or building floor slabs. Components of soil removal would include excavation and off-site disposal of contaminated soil; confirmation sampling; replacement of excavated material with clean fill; and regrading and repaving excavated areas. Due to the construction of the existing main manufacturing building (wall and interior support columns on pilings) it is likely that demolition of the building would be required to excavate soil below the groundwater table. Building demolition may necessitate abatement of potential asbestos-containing material (ACM), and/or potential lead-based paint.

Due to the shallow groundwater table, the potential for flowing sands, and the highly transmissive nature of the sands beneath the Site, technically practicable excavation depths are limited to approximately 15 feet below ground surface or less. Removal of contaminated soil below the groundwater table by excavation will likely require removal and backfilling in wet conditions (digging in an open pit through the water). Even at excavations depths less than 15 feet bgs, excavation practices would require additional shoring, ground improvement, or other support (e.g. ground freezing) to prevent settlement and/or damage to adjacent roadways, utilities, and structures. Constructing an encircled excavation area with sheet-piling and dewatering areas could result in bottom-heave of sand flows, resulting in soil failures outside the excavation area. Contaminated soil removal was retained for further evaluation.

8.1.11 IN-SITU SOIL STABILIZATION / SOLIDIFICATION (ISS)

This alternative reduces the mobility of contaminants in the environment through either physical or chemical means. This class of treatment technologies may not reduce toxicity, but they control risk by eliminating exposure pathways or migration routes. Typical field applications may include large auger or grout-injection systems to mix impacted soil with stabilizing agents for solidification. Soil stabilization technology may be implemented below the water table.

Solidification and/or stabilization ranks above average for inorganic COPCs and average for SVOCs[2]. Stabilization technologies require significant disturbance at the Site in order to implement, would likely require demolition of the building, can alter groundwater flow in the subsurface, impede future installation of subsurface utilities, and can carry high per cubic yard unit cost for soil treated. For shallow soils, these technologies may not be cost effective when compared against soil excavation and disposal. In-situ soil stabilization/solidification (ISS) treatment technology is retained for further evaluation, specifically for on-site impacts to 15 feet bgs. It should be noted that stabilization/solidification is also taken into consideration for ISCO/bio options as the in-situ processes in those technologies will likely preferentially remediate the lighter phase hydrocarbons, leaving a comparatively even less soluble and less volatile source, in essence leaving it stable and solidified in place.

8.1.12 THERMAL TREATMENT (TT)

In-situ thermal technology uses a heater system (e.g. electrical resistive heating [ERH] or steam injection [SI]) to increase the volatilization rate of volatile and semi-volatile constituents to facilitate extraction with a multi-phase extraction system. Heavier contaminants that are heated by contact with heated groundwater or steam become more mobile and are captured by multi-phase extraction points as vapor or liquid.

In-situ thermal treatment rates are above average for all organic COPCs and below average for metals. In-situ thermal treatment typically responds to large and continuous areas of subsurface contamination that allows for the effects of the treatment technology to be transmitted with minimal required infrastructure. ERH performs well at sites where contaminants are trapped in fine grained units (e.g. silt and clay) that are more electrically conductive. At the Site, where there are few fine-grained units, SI would likely be the preferred method of thermal treatment. Although costly, installation of a SI system under West Marine View Drive and near the BNSF railroad corridor is possible with temporary road closures, construction of temporary roadways, and protection of

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[2] Federal Remediation Technologies Roundtable Table 3-2, Treatment Technologies Screening Matrix, March 2007.

utilities. Installation of a SI system on-property would likely not require full removal of the building but would require protection of utilities and structures and careful planning for vapor recovery. In-situ thermal treatment technology via SI was retained for further evaluation.

8.1.13 HIGH VACUUM MULTI PHASE EXTRACTION (HVMPE)

Multi-phase extraction is a combined system that uses both a high vacuum system and dewatering to remove contaminated groundwater and treat soil through vapor extraction. Extracted liquids and vapor are treated and collected for disposal or treated and re-injected where permitted.

Multi-phase extraction is rated above average for all COPCs except inorganics, which are rated below average. A multi-phase system at the Site is not expected to perform well compared to other available treatment technologies due to the low vapor pressure of the creosote and PAHs present in the subsurface. In addition, considering the highly transmissive sands at the Site and the proximity to a surface water, it is unlikely that the Site could be significantly dewatered without pumping and treating at very high rates. Also, the sands beneath the site are so transmissive that it is unlikely that a high vacuum could be maintained during extraction which would be necessary to promote volatilization of the target organics. High Vacuum Multi-Phase Extraction (HVMPE) is used during SI as a means to capture vapor, product, and water driven by the steam injections. HVMPE is not retained as a standalone treatment alternative but would be used in conjunction with thermal treatment technologies.

8.2 SEDIMENT CLEANUP ACTIONS

This section presents a screening evaluation of potentially applicable general response actions and remediation technologies for marine sediments at the Site. Based on the screening evaluation, selected response actions and technologies are carried forward for use in the development of cleanup action alternatives for sediments. Table 8.2 provides a summary of this screening evaluation.

8.2.1 NO ACTION

The No Action alternative for sediments does not achieve the sediment cleanup action objective of protecting human health; thus, it is not retained for further evaluation.

8.2.2 INSTITUTIONAL CONTROLS

For any aquatic construction project (e.g., dredging), environmental reviews are conducted by permitting agencies including the Corps, Ecology, and other resource agencies. These reviews include a review of area files relating to sediment conditions and requirements to address materials management and water quality.

Additional institutional controls may be implemented as appropriate, depending on the selected cleanup action alternative. Such additional controls could include restricting activities with potential for human exposure using site security measures, physical barriers, restrictive covenants for platted tidelands, use authorizations for state-owned aquatic lands, and/or documenting the Site cleanup action in Corps and regulatory agency permit records and records maintained by the State of Washington for state-owned aquatic lands.

Institutional controls can be an effective, implementable, and cost-effective method to control potential exposure and protect human health, provided that the cleanup action for which the institutional controls are implemented is consistent with marine land and navigation uses. In cases where the proposed cleanup action is incompatible with land use or navigation uses, conflicts can result, which can jeopardize the effectiveness of institutional controls or require mitigation.

While the use of institutional controls is not carried forward in this FS as an independent remedial alternative for detailed evaluation, the use of institutional controls may be appropriate in combination with other general response actions for sediments, and thus would be considered as an additive requirement where appropriate.

8.2.3 MONITORED NATURAL RECOVERY

Monitored natural recovery (MNR) relies on net sedimentation as well as natural biodegradation processes to reduce risks following source control, while monitoring recovery over time to verify remedy success (Magar et al., 2009). MNR lines of evidence can be developed from analysis of Site data that characterize the role of natural processes in reducing risk. Key factors for determining whether MNR is an appropriate remedy include the ability to achieve and sustain an acceptable level of risk reduction through natural processes within an acceptable period of time (within 10 years of completion of construction, in accordance with SMS).

Predicting future natural recovery rates requires site-specific inputs to numerical models, such as the net sedimentation rate (which averages approximately 0.17 ± 0.08 cm/year, as described in Section 4.3.2.2.6), to quantify processes described in the CSM and associated lines of evidence. Numerical models can be used to develop estimates of time to recovery using baseline data to determine the likely effectiveness of MNR implementation.

A key element of MNR as a sediment remediation technology is ensuring effective source control. As discussed in Section 5, the RI/FS data reveal that the recontamination potential of current Site upland areas is not significant. Sediment dioxin/furan concentrations that exceed cleanup levels are due to historical legacy releases (e.g., hog fuel burner emissions from historical wood products manufacturing operations in the Site vicinity).

The Site has relatively low average sedimentation rates compared to other sediment cleanup sites in Puget Sound, suggesting that natural recovery processes have been and may continue to be relatively slow. As such, MNR may be more appropriate within certain areas of the Site than in others. The following areas may be most suited to MNR:

- Areas where recontamination from source areas is not a significant concern
- Areas where COC concentrations are low enough that natural recovery can be achieved within 10 years under natural net sedimentation and biodegradation rates (i.e., where SWACs would meet human health or PQL-based RALs, assuming post-construction replacement values for remediated areas)

- Areas where restrictions associated with certain institutional controls are not compatible with future land use, property ownership, or navigation requirements.

8.2.4 ENHANCED MONITORED NATURAL RECOVERY

Enhanced monitored natural recovery (EMNR) involves active measures, such as the placement of a thin layer of suitable sand or sediment, to accelerate the natural recovery process. EMNR is often applied in areas where natural recovery may appear to be an appropriate remedy, yet the rate of sedimentation or other natural processes is insufficient to reduce potentially unacceptable risks within an acceptable timeframe (EPA, 2005). The acceleration of natural recovery most often occurs due to burial and/or incorporation and mixing of the clean material into the contaminated surface sediments through bioturbation and physical mixing processes. Other recovery processes can also occur, such as binding of contaminants to organic carbon in the clean material, particularly if the material is from a clean sediment source with naturally occurring organic carbon. Placement of such EMNR materials is typically different than capping because it is not designed to provide long-term isolation of contaminants. Clean sand or sediment can be placed in a relatively uniform thin layer over a contaminated area, or it can be placed in berms or windrows, allowing natural sediment transport processes to distribute the clean material over wider areas. As with MNR, EMNR includes both monitoring and contingency plan components to verify that recovery is occurring as expected, and to respond accordingly.

EMNR can be highly effective where natural recovery is occurring, but at a slower rate than desired. Given the relatively low net sedimentation rates in the Site area (i.e., approximately 0.17 ± 0.08 cm/year; see Section 4.3.2.2.6), EMNR may be particularly applicable to much or all of the tidal mudflat area. EMNR is also been used throughout Puget Sound as an effective strategy for managing dredge residuals, as discussed below. EMNR has been retained as a general response action for this FS and would include placement of a nominal 6- to 12-inch-thick layer of clean sediment.

EMNR material would be obtained from a clean upland source or marine beneficial reuse sediment source. A specific source for this material has not been identified for this FS. Prior project experience suggests that the availability of clean material from local or regional beneficial reuse projects changes over time, and thus the availability of sources would need to be more fully understood and evaluated during remedial design. If material is only available on a limited basis each year, this could extend the implementation timeline of those projects that require larger volumes of EMNR sediments.

EMNR placement is more appropriate for certain areas than others. It is particularly applicable to much of the tidal mudflats within the Site because it is best suited to the following:

- Areas where recontamination from source areas is not a significant concern
- Areas where COC concentrations are low enough that natural recovery can be achieved within 10 years when accelerated by the addition of a thin, clean layer of EMNR material
- Areas where restrictions associated with institutional controls are not compatible with future land use, property ownership, or navigation requirements
- Flat or shallow sloping areas with stable sediments

- Areas where EMNR material can be placed in the dry, minimizing water quality impacts and ensuring placement accuracy

8.2.5 IN-SITU TREATMENT

In-situ treatment via contaminant immobilization is an innovative sediment remediation approach that involves introducing sorbent amendments into contaminated sediments to alter sediment geochemistry, increasing contaminant binding and therefore decreasing bioavailability. As discussed in Section 4.3.3.2, the existing sequestering capacity of Site sediments can be augmented through the placement of engineered black carbons such as activated carbon to further reduce bioavailability in-situ. Bench- and field-scale application of activated carbon at other sediment sites suggests that porewater concentrations and bio-uptake of hydrophobic contaminants such as PCBs and dioxins/furans can be reduced between 70% and 99% at activated carbon doses similar to the native organic carbon content of sediment (Ghosh et al., 2011). More than 25 field-scale demonstration or full-scale activated carbon sediment in-situ sediment treatment projects spanning a range of environmental conditions have now either been completed or are currently underway in the United States and Norway (Patmont et al., 2015).

Field-scale projects have demonstrated the efficacy of full-scale in-situ sediment immobilization treatment technologies to reduce the bioavailability of hydrophobic contaminants such as PCBs and dioxins/furans. The basic technology involves placement of targeted amendments using a range of options, all of which have now been demonstrated at the field scale, including:

- Direct application of activated carbon, with or without binder and weighting agents
- Mixing amendments with sediment or sand either in-situ or as an amended cover/cap
- Placement of amendments below cover materials or caps

In-situ immobilization treatment can be a permanent sediment cleanup remedy that rapidly and sustainably addresses bioaccumulation exposures, and becomes more effective over time (Ghosh et al., 2011). In-situ treatment is also less energy-intensive, less disruptive to the environment, and can be significantly less expensive than conventional remedial technologies such as engineered containment or removal. For example, a field demonstration of this technology was recently completed in San Francisco Bay by applying approximately 2% to 3% activated carbon and mechanically mixing the material into the top 1 foot of tidal mudflat sediments during low tide conditions, successfully reducing PCB bioavailability with relatively minimal construction-related impacts (Cho et al., 2009). In-situ sediment treatment using activated carbon placement may be particularly promising in sensitive habitat areas such as the Site tidal mudflats.

In-situ treatment is most effective in areas with higher bioavailability of contaminants. The bioavailability of PCBs and dioxins/furans in sediments at the Site has been determined to be relatively low based on low site-specific BSAFs (see Section 4.4.1). Due to the low site-specific bioavailability calculated for PCBs and dioxins/furans in sediments at the Site, in-situ treatment was not retained as a general response action for this FS.

8.2.6 ENGINEERED CONTAINMENT

Commented [ES(16]: This section is light on discussion regarding long-term maintenance and monitoring of engineered caps.

Engineered containment for sediments involves placing a suitable cap to isolate contaminated material to protect biological receptors of interest (e.g., soft shell clams) that may be consumed by humans. In the aquatic environment, the containment must be designed to withstand erosive forces generated by wave action and propeller wash, and must be thick enough to provide the required isolation of the material contained by the cap. Monitoring results at other sites in the Puget Sound region have shown that containment can provide effective sediment remediation without the risks involved in removing contaminants by dredging (Sumeri, 1996). Engineered containment was retained for further evaluation in this FS.

Placing a layer of cap material (1 to 2 feet thick, depending on location-specific environmental requirements) can provide isolation of potentially contaminated sediments. Aggregate caps (e.g., with a gravel surface) may potentially be appropriate for consideration in sediment areas with high potential for disturbance (e.g., from wind-generated wave forces) or in higher intertidal zones at the Site where the natural habitat is relatively coarse-grained.

Sediment caps would be constructed of clean silt/sand and/or sand and gravel materials and could be placed by a number of mechanical and hydraulic methods. Cap material would either be provided from a beneficial reuse marine dredging project or from a commercial quarry in cases where beneficial reuse material would not provide the appropriate grain size. The grain size requirements would be determined during remedial design based on consideration of erosive forces (e.g., wind/wave) and habitat compatibility, and would likely vary depending on elevation and location. Beneficial reuse of Snohomish River maintenance dredged material or other suitable sediments would be considered during remedial design and is generally preferred over quarried material.

Caps designed according to the EPA and Corps guidance have been demonstrated to be protective of human health and the environment (EPA, 2005). Design specifications for in-situ engineered caps would be further refined during remedial design based on detailed analysis of the following components:

- Bioturbation
- Habitat compatibility
- Erosion (e.g., tidal currents, waves, and wakes)
- Chemical isolation
- Consolidation
- Operational considerations (e.g., placement inaccuracies)

During remedial design, appropriate cap designs for different SMAs would be determined individually for each component based on location-specific design parameters. For the purposes of this FS, a conceptual-level average 2-foot-thick cap design was considered to be applicable across the Site based on a review of engineered caps designed, approved, and successfully constructed and monitored in other areas of Puget Sound, also taking into consideration site-specific habitat conditions. While a 2-foot-thick cap is expected to provide an appropriate representation for the capping technology, actual cap thicknesses developed during remedial design could range from 1 to 3 feet for various areas of the Site depending on area-specific environmental factors such as elevation, habitat, and erosion. While in-situ was not retained as a general response action for the Site, the potential use of a sequestering agent as an amendment in caps for various areas of the Site will be evaluated during design.

Containment may be more appropriate within certain areas of the Site than in others. It is best suited to the following:

- Areas with deeper contamination or where higher concentrations are found at depth and where the risk of recontamination from dredging residuals is higher
- Areas adjacent to steep slopes where removal poses a higher risk and where shoring would likely be required
- Areas where restrictions associated with institutional controls are compatible with future land use, property ownership, and navigation
- Areas with flat or shallow sloping fine-grained substrate where cap material can be placed accurately and will be retained at the sediment surface where placed
- Areas where cap material can be placed in the dry, minimizing water quality impacts

8.2.7 REMOVAL

Removal of sediments from the aquatic environment is a common approach to addressing materials that require remedial action. If selected as a part of the final remedy, tidal mudflat sediments could be excavated under lower tide conditions using low ground-pressure upland-based equipment and mud mats. The use of standard water-based dredging equipment would be limited due to the elevation of tidal mudflat sediment and typical drift requirements for marine dredging equipment. Removal using upland-based equipment was retained as a response action for more detailed evaluation in this FS.

A number of site-specific operational conditions influence the effect of environmental dredging of contaminated sediment on aquatic systems. Experience documented on other sediment cleanup projects shows that resuspension of contaminated sediment and release of contaminants occur during dredging and that contaminated sediment residuals will remain following operations. This can affect the magnitude, distribution, and bioavailability of the contaminants and the exposure and risk to receptors of concern. Dredging residuals have been shown to be particularly problematic at sites with considerable debris (Patmont and Palermo, 2007). Because of the historical use of the Site tidal mudflats for log rafting, considerable subsurface logs and other debris are anticipated to be encountered during removal, complicating the excavation operations. Moreover, even after decades of sediment remediation project experience, there are still substantial uncertainties regarding the risk reduction that can be achieved by removal, particularly for bioaccumulative chemicals such as PCBs and dioxins/furans (e.g., EPA, 2005, Bridges et al., 2008, Bridges et al., 2010).

Where removal is considered, residuals management strategies would need to be considered. Considerable experience from prior removal projects shows that the historical approach of using multiple cleanup passes to address residuals is ineffective. More recently, sediment remedies have incorporated a residuals management strategy that includes placement of a post-removal clean cover. For Site sediment cleanup alternatives that include a removal component, residuals would be managed by backfilling the removal footprint to the existing grade.

For each removal alternative, the horizontal extent of removal was defined either by the boundary of the SMA or sub-area specific to that alternative. The vertical extent of removal was defined based on the results of sediment coring, supplemented as appropriate with the surface sample results. For surface samples where core data are not available, a preliminary removal depth of 2 feet has been incorporated into the volume estimates. Should removal be selected as part of the final remedy, the extent of the removal prisms would be refined by performing additional core sampling during remedial design.

The current sediment FS practice is to “scale up” estimated removal volumes from the preliminary removal prism neatlines summarized above. Based on a review of similar sediment cleanup projects, appropriate scaling factors range from 1.2 to 2 times the neatline estimate of removal volumes, depending on-site understanding at the time of the FS, and the level of engineering that was used in developing the volume estimate. Removal volumes calculated in this FS are based on the horizontal and vertical extents as described above and include a 0.25-foot overdepth allowance on the neatline removal volumes. This volume is then further scaled up by an additional factor of 20% to accommodate potential uncertainty in actual distribution of potential contamination, and considering engineering factors such as side slopes and level cuts that would be implemented during remedial design development, consistent with recent Corps guidance (Palermo et al., 2008).

Removal may be more appropriate within certain areas of the Site than in others. It is best suited to the following:

- Areas where contamination is relatively shallow and where removal could be done in the dry, posing a lower risk of recontamination
- Areas with higher contaminant concentrations
- Areas with flatter adjacent slopes that would not require shoring
- Areas where restrictions associated with institutional controls are compatible with future land use, property ownership, and navigation

8.2.7.1 DISPOSAL OPTIONS

There are several options for disposal of marine sediments removed through excavation. For those sediments that are determined by the DMMP to be suitable for open-water disposal, such sediments may be transloaded onto a barge for transport and disposal at an unconfined open-water disposal site, including the Port Gardner DMMP disposal site. Some of the tidal mudflat sediment areas adjacent to the Knoll Area that contain elevated total PCB concentrations but relatively low dioxin/furan TEQ levels appear to be within DMMP suitability criteria for open-water disposal and could potentially be pursued further during remedial design.

For debris and other sediments that are not suitable for open-water disposal, upland beneficial reuse and/or disposal at a permitted municipal or private landfill (e.g., construction debris landfill or Subtitle D landfill) may be needed for alternatives that include a removal component.

Sediments excavated using land-based equipment could be transloaded from the upland area of the Site onto a barge, and shipped directly to a commercial landfill, or to a barge-truck-rail transloading facility for shipment to a United States landfill with rail access. Alternately, an on-site staging and truck loading area could be set up to process sediments and debris and load this material into trucks for off-site transport and disposal. Where chemistry results allow for potential beneficial reuse, additional alternatives for managing excavated material may be available as discussed below.

8.2.7.2 REUSE OPTIONS

There may be practicable opportunities to reuse some of the excavated materials beneficially, including as backfill for potential upland excavation areas, or as surface fill in other upland areas of the Site (e.g. in the Woodlife Area). As discussed above, some of the tidal mudflat sediments adjacent to the Knoll Area contain total PCB concentrations and dioxin/furan TEQ levels that may be below final upland soil cleanup standards, even for unrestricted use sites. For these materials, there may be opportunities to protectively manage the materials at the Site for beneficial reuse. In this case, debris would need to be screened out prior to reuse, and the geotechnical suitability of the material for reuse addressed to ensure that the reuse is compatible with potential future site uses. For purposes of this FS, on-site beneficial reuse was considered to be a potential component of Site-wide cleanup alternatives; however, a specific volume was not assumed and cost estimates do not include on-site beneficial reuse. This option will be evaluated further during remedial design.

8.2.7.3 EX-SITU TREATMENT

Ex-situ treatment entails additional processing steps that are taken with site sediments after they have been excavated and removed from the marine area. Ex-situ treatment could be used as part of a treatment train to support off-site disposal by adding dewatering reagents to sediments prior to shipment. In this case, ex-situ treatment would not be an independent response action.

Other ex-situ treatment technologies such as thermal desorption and incineration could potentially be applied to Site sediments; however, such technologies are substantially more expensive than off-site landfill disposal, and many of these technologies have limited effectiveness for sediments with a high organic content.

Ex-situ treatment is best suited for scenarios where treatment to reduce contaminant concentrations is needed prior to beneficial reuse or where pre-treatment is needed to meet upland disposal requirements. It is not anticipated that material from any sediment cleanup areas will require pre-treatment prior to upland disposal. While beneficial reuse is considered a potential option for material meeting suitability criteria, ex-situ treatment of PCBs and dioxins/furans to allow for beneficial reuse would not be cost-effective given the relatively small quantity of material that could be disposed of in potential upland excavations. Thus, no ex-situ treatment technologies are retained as independent general response actions. Ex-situ treatment through the addition of dewatering reagents, to the extent that they might be required, is retained for consideration as part of the off-site disposal process.

8.3 SUMMARY OF RETAINED REMEDIATION TECHNOLOGIES

This section summarizes the retained remediation technologies for the uplands and the marine area.

8.3.1 UPLAND SITE AREAS

Table 8.4.1-1 presents the retained remediation technologies for the identified upland assessment areas.

8.3.2 MARINE SEDIMENT AREAS

Exhibit 8.3.2 summarizes the retained remediation technologies for the marine area, including the estimated unit cost (on a per acre or per cubic yard basis) for each technology, based on recent regional project experience.

Exhibit 8.3.2
Retained Marine Area Remediation Technologies

ACTION	ESTIMATED UNIT COST
Institutional Controls	$16,500 See Note 1
Monitored Natural Recovery (MNR)	$22,000/acre
Enhanced Monitored Natural Recovery (EMNR)	$75,000 to $130,000/acre
Engineered Containment	$145,000 to $260,000/acre (technology retained in Feasibility Study, some alternatives in combination with removal)
Removal	$327,000 to $835,000/acre (2-foot-thick removal, disposal, and cap) $50 to $190/cubic yard (removal and disposal)

Notes:

1. The costs for implementing and maintaining institutional controls are highly location- and alternative-specific and would be refined during remedial design.
2. Unit cost range for removal is based on a low-range cost that includes on-site upland beneficial reuse and a high-range cost that includes offsite landfill disposal.
3. Unit costs do not include indirect construction costs (design, permitting, project management, etc.)
4. Unit costs do not include contingency. For FS level costs, a contingency of 30% is typically applied, and has been included in the total cost for the remedial alternatives described in this report.

8.4 DEVELOPMENT OF UPLAND CLEANUP ACTION ALTERNATIVES

Cleanup action alternatives were developed and evaluated based on the requirements and the criteria specified in WAC 173-340-360, Selection of Cleanup Actions and WAC 173-340-370, Expectations for Cleanup Action Alternatives. This section summarizes the remedial alternatives for each selected area that were developed and evaluated for the Site. For each alternative, the key components are described. Components and unit pricing were developed based on prior experience and current vendor information, as available. These data were used to develop conceptual scenarios and to estimate costs associated with each of the listed alternatives.

All proposed cleanup action alternatives include provisions for compliance monitoring that will meet the requirements identified in WAC 173-340-410 including protection of human health and the environment; performance of the cleanup action; and conformational monitoring. A final compliance monitoring program will be included as part of the CAP. Where appropriate, specific monitoring requirements are included as part of the cleanup action alternative.

8.4.1 CREOSOTE AREA REMEDIAL ACTION ALTERNATIVES

The following alternatives have been assembled to address the Creosote Area including on- and off- property impacts to soil, soil vapor, and groundwater to approximately 15 feet bgs, and deeper soil and groundwater. A summary table listing each alternative and the specific technology that is being used to address the different areas of impacts is included as Table 8.4.1-1.

8.4.1.1 ALTERNATIVE 1: SUB-SLAB DEPRESSURIZATION, ENGINEERING CONTROLS, AND INSTITUTIONAL CONTROLS (SSD, EC, & IC)

Deleted: SD

Alternative 1 consists of on-property SSD, engineering controls (establishing surface capping on unpaved portions of the on-property area and the maintenance of all existing surface capping), long-term monitoring of groundwater, and institutional controls.

The purpose of the SSD would be to limit the potential for migration of volatile and semi-volatile compounds from soil and groundwater to indoor air of the existing main manufacturing building via vapor intrusion. SSD would be accomplished for on-property impacts by installing several suction pits within the building. The exact number of pits and their spacing would be determined based on the results of pilot testing but the corresponding cost estimate for Alternative 1 assumed four. These pits would be approximately 2 feet square and 2 feet deep. A 3-inch PVC pipe will be installed to withdraw vapors from the pit. The piping will be run along existing columns to a common header that exits through a building wall to a blower system. Activated carbon treatment of the SSD system effluent would be installed, if required. Sub-slab vapor monitoring points would be installed around the suction pits to confirm that a vacuum compared to building pressure is being maintained under the building.

The purpose of the engineering controls (surface capping) would be to limit groundwater infiltration as well as to create a barrier to the direct exposure pathway. A portion of the contaminated area is currently covered by existing building slabs and surface pavements. An approximately 6,000 square foot unpaved landscaped area is located along the southeast side of the main warehouse adjacent to West Marine View Drive. After installing appropriate erosion control measures, surface capping activities would begin with the excavation and on-site stockpiling of approximately two feet of clean overburden in currently unpaved areas (approximately 450 cubic yards). Under this alternative, a colored polyurethane liner would be installed throughout the excavated area at two feet bgs. The stockpiled soil would be placed atop the polyurethane liner and compacted. Additional clean backfill material would be imported, as necessary. Imported material, if necessary, would be analytically tested prior to placement. The soil cover would be seeded with native grasses. The integrity of the existing building slabs and surface pavements would be inspected on an annual basis for 20 years, and repairs would be completed as necessary to provide contiguous surface capping throughout the area.

The purpose of the long-term monitoring would be to confirm the stability and natural attenuation of the existing groundwater contamination over the course of an estimated 20 years to confirm stability of the groundwater plume. After completion of the surface capping activities, an estimated five groundwater monitoring wells would be installed to monitor the subsurface conditions of the contaminated area. In addition, five existing monitoring wells would be monitored and sampled on a quarterly basis from year one to year five and on an annual basis from year six to year 20. After year 20, the groundwater monitoring wells would be decommissioned, pending the analysis of groundwater samples confirming a stable or shrinking groundwater plume.

Commented [AM(17]: It is unlikely any cleanup levels will be met in 20 years. Ground water monitoring well cannot be decommissioned until cleanup levels are met. Perpetual groundwater monitoring will continue under this alternative. Adjust language.

Institutional controls including a deed restriction would be placed on the property to restrict the types of future development. A soil management plan would be developed to control potential exposure risks posed by direct exposure to subsurface contamination and to protect the integrity of the remedy.

8.4.1.2 ALTERNATIVE 2: IN-SITU BIOREMEDIATION, SUB-SLAB DEPRESSURIZATION, MONITORED NATURAL ATTENUATION, ENGINEERING CONTROLS, AND INSTITUTIONAL CONTROLS (ISB, SSD, MNA, EC, & IC)

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Commented [AM(18]: It seems MNA will be necessary for this alternative.

Alternative 2 includes installation and operation of a hybrid bioremediation system on- and off-property, engineering controls (establishing surface capping on unpaved portions of the on-property area and the maintenance of all existing surface capping), and short-term institutional controls (see Figure 8.4.1.1-A).

The enhanced Bio system will be installed both on- and off-property to address soil and groundwater impacts to a depth of approximately 50 feet bgs (deep zone treatment at select areas). Prior to installing the system, approximately 10 monitoring wells and 20 temporary Geoprobe points will be completed to further refine the final system size and treatment interval (Figure 8.4.1.1-a). It is expected that some of these wells will be used for performance monitoring of the system. Pilot testing of the Bio system will be performed on-property to determine injection and extraction rates, the rate of nutrient consumption, the performance of vertical recirculation wells, and the performance of deep air injection wells. This data will be used to finalize the design parameters for the system.

The Bio system will consist of several components as follows: 1) a series of recirculation wells (horizontal and vertical) for injection of the nitrate/nutrient/surfactant (NNS) solution; 2) a conveyance system for the recirculation system; 3) a water treatment and chemical addition system; 4) a series of wells to inject air in the shallow and deep zones; 5) an air collection system to capture the injected air; and 6) compressors and blowers to operate the air injection system. These components are described in the following paragraphs.

The NNS injection system will consist of a series of wells throughout the shallow impacted area to a depth of approximately 15 feet spaced approximately 100 feet on center. Approximately half of the wells would be operated as extraction wells and the other half would function as injection points. All the wells constructed for this system would have sumps to collect and recover any DNAPL that might accumulate during treatment. The screen pack for treatment wells will be designed to be as coarse as possible to facilitate the collection of DNAPL and to minimize losses during extraction or injection. Wells located off-property would be installed just west of the railroad as shown on Figure 8.4.1.1-A. Deeper impacts would be addressed through vertical recirculation wells. Three vertical recirculation wells would be located on-property and two would be located off-property as shown on Figure 8.4.1.1-A. These wells would extract groundwater from the deeper zone from 45 to 50 feet, pump it to the NNS addition system and the NNS treated water would be reinjected at a depth of 15 to 20 feet.

Commented [AM(19]: Treated water has a different connotation. Use "NNS treated" instead.

Treatment wells would be connected to two sets of PVC or HDPE piping – injection and extraction – so that each well could be configured to run as an injection or extraction well. Perforated piping to capture injected air would also be installed in the same trench.

Groundwater will be pumped from the extraction points by submersible pumps and conveyed to the NNS addition system at a total rate of approximately 60 gpm (actual pumping rate to be obtained during pilot testing). The system would consist of an influent settling tank to allow for settling of solids and separation of product, followed by a nitrate/nutrient addition tank. Nitrate, other nutrients, and surfactants would be added to the addition mix tank. After the nitrate addition the water would be pumped through sand filters to remove any undissolved materials prior to injection. The filtered water would then be directed to the various wells in the injection field. It is expected that the NNS solution will only be added periodically, but the recirculation will continue without NNS additions to enhance the contact of the NNS solution and injected air within the formation.

Commented [AM(20]: Given the site's location to marine environment which is N limited, it is preferable to use sulfate. We understand, nitrate is preferred electron acceptor when compared with sulfate and denitrification can occur in anoxic environment (+50 to -50 mV ORP). Therefore, there will be monitoring of nitrate in downstream MWs to make sure it is not migrating from treatment area.

Air injection will be performed through a series of 1-inch diameter wells installed on a roughly 80 foot spacing over the area of shallow impacts. The deep zone would be addressed by the installation of 6 deep wells on-property and 4 deep wells off-property as shown on Figure 8.4.1.1-a. Injected air will be recovered by a series of perforated pipes installed in the trenches containing the NNS and air injection piping. The air recovery system on property will also function to mitigate vapors that could migrate into the building. The compressors, blowers, and emission controls for the air injection system will be installed in the same compound as the NNS system.

The system will initially be operated similarly to an AS/SVE system that will focus on removal of more volatile hydrocarbons. When the concentration of hydrocarbons in the extracted vapor begins to significantly decrease (which is expected in the first six months of operation), the NNS will begin operation. The air injection system will continue to operate, but it is expected that over time the system would run in a pulsed mode, assisting with in-situ groundwater mixing. Two NNS injection events are anticipated – one near the end of the first year of AS/SVE operation and the second after nitrate is no longer detected in the extracted groundwater, which is expected to occur two years after the first injection. However, recirculation using the NNS system will continue between chemical additions.

It is estimated that the bioremediation system would be in operation for approximately 5 years based on results of groundwater monitoring. Performance monitoring will be completed semi-

Commented [AM(21]: At what level of COCs, we would say ISB is complete and successful. Transition to MNA. Establish a remediation level (REL) for IHS before ISB can shut down and MNA can take place through demonstration. REL as 5X cleanup level is a good start. However, it needs to conform to the cleanup technology.

annually during operation of the system at approximately 4 downgradient locations and 6 locations within the plume. After decommissioning the Bio system, 10 wells will be monitored annually for five years to confirm that any residual impacts remaining are stable or decreasing in concentration.

Commented [AM(22]: Does this mean, CUL will be reached in 5 years after biological treatment?

Commented [AM(23]: This is not an acceptable condition for MNA. You need to demonstrate MNA is working through three lines of evidence per EPA guidance (2008).

The air recovery component of the Bio system on-property will serve as an SSD system for the existing main manufacturing building. Pilot testing for an SSD system will be conducted to ensure the Bio air recovery configuration and specifications adequately abate the potential vapor intrusion pathway.

Engineering controls (surface capping) will be completed as described for Alternative 1.

Short-term institutional controls, including development of a soil management plan, will be completed as described for Alternative 1.

8.4.1.3 ALTERNATIVE 3: IN-SITU CHEMICAL OXIDATION, SUB-SLAB DEPRESSURIZATION, MONITORED NATURAL ATTENUATION, ENGINEERING CONTROLS, AND INSTITUTIONAL CONTROLS (ISCO, SSD, MNA, EC & IC)

Commented [AM(24]: Will this alternative rely on MNA?

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Alternative 3 includes ISCO on-property, engineering controls (establishing surface capping on unpaved portions of the on-property area and the maintenance of all existing surface capping), and short-term institutional controls (Figure 8.4.1.1-B).

The ISCO program will be performed on-property to address the concentrations of volatile and semi-volatile contaminants to a depth of up to 50 feet. Prior to beginning the program approximately 10 monitoring wells and 30 temporary Geoprobe points will be installed to further refine the lateral extents and the target depth interval for treatment (Figure 8.4.1.1-B). It is expected that some of these wells will be used for performance monitoring of the system. Pilot testing of ISCO would be performed by injecting in four locations. Three monitoring wells within the expected influence of the injections will also be installed. Samples from the monitoring wells before and after injections will be compared to estimate the destruction of hydrocarbons in the subsurface.

Commented [AM(25]: What would be a typical performance criterion? Again, need to establish REL for IHS. REL as 5X cleanup level is a good start. However, it needs to conform to the cleanup technology.

ISCO will be used to target the soils to a maximum depth of 50 feet on-property. The purpose of the on-property injections would also be to treat groundwater above PCLs with creosote/TPH impacts in-situ. The injected material would consist of sodium persulfate with water. Three injection events would be performed, approximately 6 months apart (2 years of treatment). Injection events will consist of utilizing a direct push drilling rig with specialized injection tooling to deliver the solution to the subsurface. Injection activities would necessitate a water supply, either from a nearby hydrant (pending permitting requirements) or a water-supply truck. Water and the solution will be mixed on-site prior to injecting at pre-determined injection rates based on the findings of the pilot test.

Performance monitoring will be performed 2 and 4 months after each injection event to evaluate treatment performance and identify areas that require additional injections. Soil performance monitoring and one year of quarterly performance groundwater monitoring will be performed at 10 locations following the final injection event. Compliance monitoring will be performed semiannually for 3 years and annually for 1 year following the last injection event to document that residual impacts are stable or decreasing.

ISCO is not proposed for addressing the off-property impacts because the required spacing of the injection points is estimated to be limited to 6 to 10 feet. Performing ISCO in the West Marine View Drive right of way and near many utilities would result in multiple closures of the road as well as potential damage to the road bedding and/or utilities by the injection of treatment solutions. The marsh on the eastern side precluded access for injection of treatment solution due to the soft ground and standing water. The marsh also posed additional risk releasing treatment solution to surface water through surface fracturing. Therefore, injections off-property were not considered technically practicable.

Commented [AM(26]: Is there any other options should be used for off property soils?

Commented [AM(27]: Technically, this alternative should be thrown out if it does not address off property areas. "Not addressing contamination in off property areas" fails to meet MTCA threshold and minimum requirement.

An SSD system will be pilot tested and installed as described in Alternative 1.

Engineering controls (surface capping) will be completed as described in Alternative 1.

Short-term institutional controls will be completed as described in Alternative 2.

8.4.1.4 ALTERNATIVE 4: SOIL REMOVAL, IN-SITU BIOREMEDIATION, MONITORED NATURAL ATTENUATION, AND INSTITUTIONAL CONTROLS (SR, ISB, MNA, IC)

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Alternative 4 includes mass excavation and off-site disposal of contaminated soil on-property to 15 feet bgs, bioremediation treatment for deeper on-site groundwater and shallow and deeper off-site groundwater, and short-term institutional controls (Figure 8.4.1.1-C).

To better determine the required extent of the excavation and to collect soil samples for geotechnical testing a series of 10 monitoring wells and 30 temporary Geoprobe points would be installed. This information will be used to locate and design shoring necessary for the excavation of impacted soils to a depth of 15 feet.

Excavation of contaminated soil would be removed to a maximum depth of 15 feet bgs. Due to the shallow groundwater and potential for flowing sands excavation would require shoring by sheet pile or a reinforced bentonite concrete wall to protect structures, roadways, and utilities. The excavation will proceed by sections, with shorter sections along the wall being excavated first. The wall would be braced during this phase until clean soil is backfilled and compacted behind the wall. Once the wall has been braced with clean backfill, interior cells can then be excavated.

This will require that a signification portion of the existing main manufacturing building be demolished and rebuilt after the excavation. Demolition of the building will require the potential abatement of ACM and/or lead based paint. It is expected that the shoring method (sheet pile or wall) will reduce the amount of water that must be pumped to capture groundwater in the excavation. Enough data does not exist at this point to design water handling systems, but it is assumed for cost estimating in this report that the system will operate at approximately 100 gpm to control water in the excavation. The extents of the excavation would be based on existing analytical data supplemented with additional investigation described above. The approximate extent of the excavation is shown on Figure 8.4.1.1-C.

Commented [AM(28]: Rebuilt is not eligible remedial action cost and needs to be removed from cost consideration.

Commented [AM(29]: This seems overly conservative. With sheet pile wall shoring there will be less groundwater flow. With 100 gpm you can pump more than 1 acre-ft of water per day which is unlikely to be produced at the site.

It is assumed that 80% of the soil to a depth of 5 feet would be clean overburden. Separating clean from impacted soils during the excavation of the saturated zone would be difficult without groundwater depression. For this report cost estimate it is assumed that 20% of the saturated soils could contain product and be considered a Persistent Waste increasing handling and disposal costs.

Commented [AM(30]: Form boring logs and groundwater elevation data, it seems water table is below 5 ft. There is no need for groundwater depression. Clean unsaturated soil can be stockpiled at a separate location and can be used to backfill by segment.

Commented [AM(31]: It seems this is unnecessary as it increases the cost of this alternative disproportionately. If areas of pooled NAPL present, that volume could be pretreated before disposal. SLR contends in other areas there is no contiguous NAPL present in the site.

The excavation would be backfilled with clean stockpiled overburden and imported granular fill. The soil will be placed and compacted to allow for the reconstruction of the building. Due to the prolonged disruption and required closures that would be necessary, excavation would not include soil beneath West Marine View Drive or BNSF property. Excavation of contaminated soil is estimated to take up to a year, including building demolition, shoring installation and testing following the removal activities.

Commented [AM(32]: Ecology does not believe this will take a year. The excavation of 10000 tons of soil can typically be done in one month. In addition, due to nature of stratigraphy (sand and loose material and no big gravel or rocks), excavation will be easy and fast.

Performance groundwater monitoring would be performed semiannually for 5 years at 10 wells and annually for 5 years to evaluate reductions in concentrations in groundwater.

On-property impacts deeper than 15 feet and off-property impacts will be addressed through a Bio system as described in Alternative 2, and as applicable.

Short-term institutional controls will be completed as described in Alternative 2.

8.4.1.5 ALTERNATIVE 5: THERMAL TREATMENT, SUB-SLAB DEPRESSURIZATION, MONITORED NATURAL ATTENUATION, ENGINEERING CONTROLS, AND INSTITUTIONAL CONTROLS (TT, SSD, MNA, EC, IC)

Commented [AM(33]: Is MNA necessary for this Alternative?

Alternative 5 includes thermal treatment (TT) using steam enhanced extraction (SEE) targeting on-property and off-property soil and groundwater (shallow and deep), and a temporary SSD system, engineering controls, and short-term institutional controls to be employed during SEE activities (Figure 8.4.1.1-D).

Prior to the installation of a TT system a series of 30 temporary Geoprobe points will be installed to better define the extent of impacts. Samples of impacted soils would also be collected for bench testing for TT. TT will focus on areas that are heavily impacted or contain DNAPL.

TT involves heating the subsurface to volatilize contaminants or liquify heavier constituents to a more mobile state so that they can be recovered though multi-phase extraction points. The heating can be achieved through different methods such as electrical resistance heating, thermal conductive heating, or steam enhanced extraction (SEE). At this site, the contaminants and sandy soils are most amenable to SEE.

The use of SEE will require the installation of a steam plant and liquid and vapor treatment equipment at the Site. In addition, existing monitoring wells, abandoned borings, or potential utility access points within the treatment area will have to be abandoned with heat resistant concrete as the heat will damage PVC wells and steam could escape through the well. Utilities that are buried shallower than five feet may not be affected by SEE but will need to be evaluated for protection measures. Deeper utilities may require relocation or the design of the SSE wells may have to be adjusted to avoid damage to critical utilities. SEE should not require the demolition of the building and can be performed in the roadway with partial temporary closures. Because of safety concerns the sidewalks in the treatment area may need be closed during the duration of treatment activities.

SEE is typically performed using a series of steam injection wells that are installed around a central extraction point. The wells will be screened to address impacts at certain depths. Multiple wells, at different depths, will be needed to treat the soils from 5 to 50 feet bgs. Steam is injected around the periphery wells which forces contaminants in vapor and liquid form to migrate to the extraction point. At higher temperatures creosote can become less dense to the point where it will float in the groundwater. The vapors and liquids are conveyed to the treatment systems where they are cooled, liquids separated into water and product, and the vapor and water are further treated and discharged.

During SEE, monitoring of the soil temperature, energy input, and the amount of hydrocarbons being extracted are the key variables used to determine the progress of the remediation of a cell. Initially, "hot" soil samples will be collected to confirm that monitoring the system parameters were correctly predicting remediation of the cell. Thereafter, these parameters will be used as the primary indicators that remediation has been completed in a cell. A final round of confirmatory sampling will be performed shortly before the SEE work is complete and the contractor demobilizes. A total of approximately 50 locations will be sampled to confirm the remediation of the Site.

The SEE is expected to require 12 months to design and permitting, 3 months to construct, and will operate for approximately 6 months. After completion of the project and the soil has cooled, 10 new monitoring wells will be installed for performance monitoring. These wells will be sampled semi-annually for 2 years to verify the performance of the SEE.

Commented [AM(34]: Will cleanup levels be reached after treatment? If not, establish REL and mention MNA as next step.

To address potential concerns related to vapor intrusion and direct contact, a temporary SSD system, engineering controls, and short-term institutional controls (as described in Alternative 3) will be in-place during the duration of SEE activities.

8.4.1.6 ALTERNATIVE 6: IN-SITU SOIL STABILIZATION/SOLIDIFICATION, THERMAL TREATMENT, AND INSTITUTIONAL CONTROLS (ISS, TT, IC)

Commented [AM(35]: Is MNA necessary?

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Alternative 6 includes In-Situ Soil Stabilization/Solidification (ISS) targeting on-property impacts, TT (via SEE) targeting off-property impacts, and short-term institutional controls (Figure 8.4.1.1-E).

Prior to the installation of a TT system and performing ISS, a series of 30 temporary Geoprobe points will be installed to better define the extent of impacts both on- and off-property. Samples of impacted soils would also be collected for bench testing for TT and ISS. Both TT and ISS will focus on areas that are heavily impacted or contain DNAPL.

ISS will be performed by using a large diameter auger/paddle rig to inject cement or other amendments into soil while mixing with the auger/paddle rig. The permeability of the soil "column" is greatly reduced and the contaminants are bound into the soil with the amendments effectively becoming insoluble. To determine the best amendment for the product at the Site, soil samples with product will be collected for bench scale pilot testing.

Large diameter augers, from 4 to 12 feet in diameter would be used to inject the amendments and mix the soil. The exact diameter depends on soil type and depth of impacts, with smaller augers generally being used for deeper impacts. Demolition of the building will be required for the large cranes and augers to be able to access the target area (as described in Alternative 3). A mix plant will be assembled on the Site to store and prepare the large volumes of amendment that will be injected into the soil.

TT will be performed on the off-property areas as described in Alternative 5, as applicable. It is assumed that the ISS and TT work can proceed independently of each other, although some coordination will be required at the transition areas between ISS and TT.

After the completion of ISS and TT new wells will be installed for performance verification. For the ISS area four wells (two shallow and two deep) will be installed near both the upgradient and downgradient edge of the ISS area. Four wells (two shallow and two deep) will also be installed on the east side of West Marine View Drive to monitor the upgradient area of the TT area. These wells will be monitored semi-annually for 2 years after the completion of the work to document the performance of the remediation.

8.4.1.7 ALTERNATIVE 7: HOTSPOT SOIL REMOVAL, IN-SITU BIOREMEDIATION, MONITORED NATURAL ATTENUATION, AND INSTITUTIONAL CONTROLS (HSR, ISB, MNA, IC)

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8.4.2 WOODLIFE AREA REMEDIAL ACTION ALTERNATIVES

The following alternatives have been assembled to address the Woodlife Area including on property impacts to soil and the associated impacts to groundwater.

8.4.2.1 ALTERNATIVE 1: ENGINEERING CONTROLS, INSTITUTIONAL CONTROLS AND LONG-TERM MONITORING

Alternative 1 for the Woodlife Area consists of engineering controls (maintaining the existing surface caps), installing additional monitoring wells for long-term monitoring, and institutional controls (see Figure 8.4.2.1-A).

The purpose of the surface capping would be to limit groundwater infiltration as well as to create a barrier to the direct exposure pathway. The majority of the Woodlife Area is currently covered by existing building slabs and surface pavements with the exception of a small landscaped area adjacent to the NTD.

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Four additional groundwater monitoring wells will be installed as part of the long-term monitoring. These monitoring wells will be installed around the perimeter of the impacts identified during RI activities focused on the Woodlife Area.

Performance monitoring for Alternative 1 includes semiannual monitoring at 6 shallow monitoring wells (existing monitoring wells MW-6 and MW-7, and four newly installed monitoring wells) for 5 years; and annual monitoring for 15 years after completion of surface capping to confirm the stability and natural attenuation of the remaining groundwater contamination. In addition, annual surface capping inspections will be performed, likely in conjunction with the scheduled groundwater monitoring events. Compromised integrity of the surface capping will be documented and repaired as needed.

After year 20, the groundwater monitoring wells would be decommissioned, pending the analysis of groundwater samples confirming a stable or shrinking groundwater plume.

Commented [AM(36]: Groundwater monitoring well cannot be decommissioned until cleanup levels are met. This alternative will not result in meeting ground water cleanup levels in 20 years and perpetual monitoring will continue. Adjust the text.

Institutional controls will include recording an environmental covenant to restrict the future development activities in the Woodlife Area to prevent potential exposure to contaminated media.

8.4.2.2 ALTERNATIVE 2: SOIL REMOVAL

Alternative 2 for the Woodlife Area includes soil excavation followed by MNA, engineering controls (re-establishing the existing surface caps) and institutional controls (see Figure 8.4.2.1-B).

The purpose of the on-site soil excavation for the Woodlife Area would be to remove the impacted soil for off-site disposal.

After installing appropriate erosion control measures, approximately 22,000 square feet of the existing asphalt pavement and concrete surfaces (interior and exterior of existing building) would be removed. A portion of the existing main manufacturing building will need to be supported in anticipation of excavation activities that extend within the footprint of the building. Impacted soil from approximately 0 to 5 feet bgs would be excavated and hauled to an appropriate off-site disposal facility as special waste. Approximately 5,500 tons of soil would be excavated. The use of dewatering equipment (Banker tanks, pumps, etc.) would likely be needed as the excavation would extend into the shallow groundwater table. The water would be treated on-site with bag filters and activated carbon before being discharged to the city sanitary sewer (pending a permit). Clean backfill would be imported and placed into the excavation. Imported material would be analytically tested prior to placement. The backfill would be compacted and the excavation area would be finished with an estimated three inches of asphalt surface capping to match the existing surface capping to ensure contiguous surface capping throughout the contaminated area.

Dioxins primarily adhere to soil and would be removed during the soil excavation. Performance soil samples will be collected from the excavation extents and bottom to document removal of contaminated soil. Performance groundwater monitoring would be performed quarterly for one year following soil removal to evaluate reductions in COC concentrations in groundwater followed by annual compliance monitoring events for an estimated 5 years to confirm cleanup action completion. Institutional controls would be implemented as detailed in Alternative 1 during this period of post removal monitoring.

Commented [AM(37]: What is the level performance sampling will be compared to? Establish a REL for D/F. Ecology proposes a value of 5X CUL.

8.4.3 AREA 3 (KNOLL FILL AREA) REMEDIAL ACTION ALTERNATIVES

Alternatives to address the Knoll Fill Area including impacts to groundwater and potential transport to near-shore sediments were considered; however, due to identified contaminated media and potential transport pathways, remedial action for the Knoll Fill Area contamination is included as part of Marine cleanup action alternatives (Section 8.5)

8.5 DEVELOPMENT OF MARINE CLEANUP ACTION ALTERNATIVES

Under MTCA and SMS, sediment cleanup alternatives are evaluated on the basis of the requirements and the criteria specified in WAC 173-204-570. This section summarizes the nine remedial alternatives that were developed and evaluated for the sediments portion of the Site. The following are included as components of each of the nine alternatives:

- Removal and disposal of piling and creosote-treated wood debris
- Demolition and disposal of two shoreline bulkheads and a remnant barge structure
- Shoreline erosion protection along the top of the bank adjacent to SMA 3

Key components for each individual alternative are described in the sections below. Components and unit pricing were developed based on prior experience and current vendor information. These data were used to develop conceptual-level designs for each alternative, and to estimate costs associated with each alternative. The nine sediment cleanup alternatives evaluated in this FS include:

- Alternative M1: Source Control and Natural Recovery
- Alternative M2: Capping Focus (armored shoreline)
- Alternative M3: Capping Focus (soft shoreline)
- Alternative M4a: Targeted Removal Focus – North Inlet Area (2-foot removal)
- Alternative M4b: Targeted Removal Focus – North Inlet Area (4-foot removal)
- Alternative M5: Targeted Removal Focus – Southern Areas
- Alternative M6: Removal Focus
- Alternative M7: Full Removal Focus
- Alternative M8: Full Removal

Exhibit 8.5 provides a summary of the components of each of the marine area alternatives as they relate to the specific SMAs described in Section 7.

Exhibit 8.5
Summary of Marine Area Alternatives

ALTERNATIVE NUMBER	DESCRIPTION	ACTION FOR EACH AREA		
		SMA 1	SMA 2	SMA 3
M1	Source Control and Natural Recovery	MNR	MNR	MNR
M2	Capping Focus (armored shoreline)	MNR	EMNR (6- to 12-inch Cover)	Engineered cap-on-grade (2-foot thickness) riprap shoreline
M3	Capping Focus (soft shoreline)	MNR	EMNR (6- to 12-inch Cover)	Engineered cap-on-grade (2-foot thickness) with overlying lift to reduce need for armor creating a softer shoreline
M4a	Targeted Removal Focus – North Inlet Area[a,b]	MNR	EMNR (6- to 12-inch Cover)	Engineered cap-on-grade (2-foot thickness) and 2-foot removal and cap (inlet area)
M4b	Targeted Removal Focus – North Inlet Area[a,b]	MNR	EMNR	Engineered cap-on-grade (2-foot thickness) and 4-foot removal and cap (inlet area)
M5	Targeted Removal Focus- South Areas[a]	MNR	EMNR (6- to 12-inch Cover)	Engineered cap-on-grade (2-foot thickness) and 2-foot removal and cap (southern areas)
M6	Removal Focus	MNR	EMNR (6- to 12-inch Cover)	Removal of top 2 feet and engineered cap
M7	Full Removal Focus	MNR	EMNR (6- to 12-inch Cover)	Removal to clean and backfill
M8	Full Removal	Removal to Clean and Backfill	Removal to Clean and Backfill	Removal to clean and backfill

Notes:
EMNR = enhanced monitored natural recovery

MNR = monitored natural recovery
SMA = sediment management area
[a] Post-dredging actions are assigned on a sub-SMA basis.
[b] Inlet grades may change as a result of remedial action as required for geotechnical stability.

8.5.1 MARINE ALTERNATIVE 1: NATURAL RECOVERY

As discussed in Section 8.2.3, the sediment dioxin/furan concentrations that exceed cleanup levels are due to historical legacy releases and the potential upland cleanup areas are not considered a potential source for future recontamination of the Site tidal mudflats. The potential upland cleanup technologies are described in Section 8.1.

Marine Alternative 1 (Alternative M1) consists of shoreline protection and piling and structure removal described in Section 8.5, along with MNR of approximately 16.6 acres of surface sediments in SMAs 1, 2, and 3. The MNR alternative would include long-term sediment sampling to measure concentrations of total PCBs and dioxin/furan TEQ within the biologically active zone (surface to 1 foot below mudline). Typical sampling schedules at other MNR sites in Puget Sound include sampling and analysis at years 2, 5, 10, 15, 20, and 30 following construction of the shoreline stabilization action. The details of MNR sampling, including sample station locations, analytes, and sampling schedule would be determined by Ecology during development of the draft CAP. Shoreline protection would consist of appropriately sized riprap armor and filter layers on the upper, steepened, portions of the shoreline adjacent to SMA 3.

The construction duration of Alternative M1 is estimated to be 1 to 2 months. Figure 8.5-1 depicts a plan view of Alternative M1.

8.5.2 MARINE ALTERNATIVE 2: CAPPING FOCUS (ARMORED SHORELINE)

In addition to the shoreline protection and piling and structure removal described in Section 8.5; Marine Alternative M2 consists of the following major elements:

- Monitor the natural recovery of approximately 8.2 acres of surface sediments in SMA 1
- Place an EMNR layer as follows:
    - o Procure approximately 13,325 tons of clean silty sand from a commercial upland or beneficial reuse source (dredged silty sand materials from the Snohomish River, for example).
    - o Place a nominal 6-inch-thick layer of clean silty sand over 5.5 acres in SMA 2 using land-based low ground pressure equipment and placement methods as appropriate.
    - o Monitor the effectiveness of EMNR actions upon completion of construction.
- Construct an engineered cap-on-grade over sediments as follows:
    - o Procure an estimated 17,680 tons of material from a commercial upland source.
    - o Construct a 2-foot-thick cap over 2.9 acres in SMA 3 using land-based low ground pressure equipment and placement methods as appropriate.
    - o Monitor the physical integrity of the engineered cap upon completion of construction.

Placement of EMNR material and engineered caps using land-based equipment and working in the dry will allow for more accurate placement and verification than through water column subtidal placement methods. As with the MNR described in Alternative M1, long-term monitoring under this alternative would include periodic post-construction sampling and testing of sediments within the biologically active zone to verify that cleanup standards are met and continue to be met. The scope and details of the long-term monitoring would be determined during development of the draft CAP and may be refined as part of remedial design.

The estimated construction duration of Alternative M2 is a single in-water work season (approximately 3 to 4 months).

Figure 8.5-2 depicts a plan view of Alternative M2.

8.5.3 MARINE ALTERNATIVE 3: CAPPING FOCUS (SOFT SHORELINE PROTECTION)

In addition to the piling and structure removal described in Section 8.5; Marine Alternative M3 consists of the following major elements:

- Soft-armoring the shoreline adjacent to SMA 3 by creating a bench to flatten the slope and allow for elevations and smaller grain-size material that would support salt marsh vegetation.
- Monitor the natural recovery of approximately 8.2 acres of surface sediments in SMA 1.
- Place an EMNR layer as follows:
    - Procure approximately 13,325 tons of clean silty sand from a commercial upland or beneficial reuse source (dredged silty sand materials from the Snohomish River, for example).
    - Place a nominal 6-inch-thick layer of clean silty sand over 5.5 acres in SMA 2 using land-based low ground pressure equipment and placement methods as appropriate.
    - Monitor the effectiveness of EMNR actions upon completion of construction.
- Construct an engineered cap-on-grade over sediments as follows:
    - Procure an estimated 17,680 tons of material from a commercial upland source.
    - Construct a 2-foot-thick cap over 2.9 acres in SMA 3 using land-based low ground pressure equipment and placement methods as appropriate.
    - Monitor the physical integrity of the engineered cap upon completion of construction.

Placement of EMNR material and engineered caps using land-based equipment and working in the dry will allow for more accurate placement and verification than through water column subtidal placement methods. As with the MNR described in Alternative M1, long-term monitoring under this alternative would include periodic post-construction sampling and testing of sediments within the biologically active zone to verify that cleanup standards are met and continue to be met. The scope and details of the long-term monitoring would be determined during development of the draft CAP and may be refined as part of remedial design.

The estimated construction duration of Alternative M3 is a single in-water work season (approximately 4 to 5 months).

Figure 8.5-3 depicts a plan view of Alternative M3.

8.5.4 MARINE ALTERNATIVE 4A: TARGETED REMOVAL FOCUS – INLET AREA

In addition to the shoreline protection and piling and structure removal described in Section 8.5; Marine Alternative M4a would consist of the following major elements:

- Monitor the natural recovery of 8.2 acres of surface sediments in SMA 1.
- Place an EMNR layer as follows:
    - Procure approximately 13,325 tons of clean silty sand from a commercial upland or beneficial reuse source (dredged silty sand materials from the Snohomish River, for example).
    - Place a nominal 6-inch-thick layer of clean silty sand over 5.5 acres in SMA 2.
    - Monitor the effectiveness of EMNR actions upon completion of construction.
- Construct an engineered cap-on-grade over sediments as follows:
    - Procure an estimated 17,680 tons of material from a commercial upland source.
    - Construct a 2-foot-thick cap over 2.9 acres in SMA 3 using land-based low ground pressure equipment and placement methods as appropriate.
    - Monitor the physical integrity of the engineered cap upon completion of construction.
- Excavate sediments in the north inlet area (top 2 feet) as follows:
    - Remove up to approximately 2,047 cubic yards of sediments from the top 2 feet of 0.47 acres in SMA 3 using land-based low ground pressure equipment and placement methods as appropriate.
    - Excavation in the north inlet area may also require shoring to protect the adjacent upland area where an access road and underground utilities are located at the top of the slope.
    - Removal volumes include an assumed overdepth allowance of 0.25 feet, and are scaled up by 20% to account for engineering factors (side slopes, level cuts, etc.) that would need to be considered during remedial design, as well as potential buried debris that may result in additional removal volumes.
    - Remove any temporary shoring used to protect the slope adjacent to the upland side of the excavation.
- Manage excavated material as follows:
    - Temporarily stockpile excavated material in an upland stockpile area constructed to contain all water generated from sediment dewatering and precipitation.
    - Treat water generated from temporary stockpiles for discharge as required by permits.

    - Dispose of the dewatered excavated material in an offsite Subtitle D landfill.
    - Excavations would be 2-foot thickness, matching the engineered cap thickness. No backfill would be required to match the post-excavation grades once excavated areas are capped.

Removal in this alternative would entail accessing excavation areas from the shoreline at low tide using land-based equipment. Excavation residuals would be managed by capping excavated areas. Placement of EMNR material and engineered caps using land-based equipment and working in the dry will allow for more accurate placement and verification than through water column subtidal placement methods.

Engineered cap-on-grade monitoring and maintenance would be conducted in accordance with an approved, long-term, operations, monitoring and maintenance (OMM) plan, which would be developed as part of remedial design. Long-term monitoring would be subject to the same sampling scope and approval considerations as described for Alternative M2. The estimated construction duration for this alternative would span one in-water construction season (approximately 4 to 5 months).

Figure 8.5-4 depicts a plan view of Alternative M4a.

8.5.5 MARINE ALTERNATIVE 4B: TARGETED REMOVAL FOCUS – INLET AREA

In addition to the shoreline protection and piling and structure removal described in Section 8.5; Marine Alternative M4b would consist of the following major elements:

- Monitor the natural recovery of 8.2 acres of surface sediments in SMA 1.
- Place an EMNR layer as follows:
    - Procure approximately 13,325 tons of clean silty sand from a commercial upland or beneficial reuse source (dredged silty sand materials from the Snohomish River, for example).
    - Place a nominal 6-inch-thick layer of clean silty sand over 5.5 acres in SMA 2.
    - Monitor the effectiveness of EMNR actions upon completion of construction.
- Construct an engineered cap-on-grade over sediments as follows:
    - Procure an estimated 17,680 tons of material from a commercial upland source.
    - Construct a 2-foot-thick cap over 2.9 acres in SMA 3 using land-based low ground pressure equipment and placement methods as appropriate.
    - Monitor the physical integrity of the engineered cap upon completion of construction.
- Excavate sediments (top 4 feet) in the inlet area as follows:
    - Remove up to approximately 3,866 cubic yards of sediments from the top 4 feet of 0.47 acre in SMA 3 using land-based low ground pressure equipment and placement methods as appropriate.

  - Excavation in the north inlet area will also require shoring to protect the adjacent upland area where an access road and underground utilities are located at the top of the slope.
  - Removal volumes include an assumed overdepth allowance of 0.25 feet and are scaled up by 20% to account for engineering factors (side slopes, level cuts, etc.) that would need to be considered during remedial design.
- Manage excavated material as follows:
  - Temporarily stockpile excavated material in an upland stockpile area constructed to contain all water generated from sediment dewatering and precipitation.
  - Treat water generated from temporary stockpiles for discharge as required by permits.
  - Dispose of the dewatered excavated material in an offsite Subtitle D landfill.
  - Excavations would be 4-foot thickness, matching the engineered cap thickness. Partial backfill would be required to match the post-excavation grades once excavated areas are capped.
- Backfill sediments in the inlet excavation footprint:
  - Procure an estimated 1,933 cubic yards of material from a beneficial use and/or commercial source.
  - Place backfill over the removal footprint using land-based low ground pressure equipment and placement methods as appropriate to bring grades in the excavation footprint to within 2 feet of the original mudline and allow for the 2-foot cap to be constructed over the backfill to match the original grades.
  - Remove temporary shoring used to protect the slope adjacent to the upland side of the excavation.

Removal in this alternative would entail accessing excavation areas from the shoreline at low tide using land-based equipment. Excavation residuals would be managed by capping excavated areas. Placement of EMNR material and engineered caps using land-based equipment and working in the dry will allow for more accurate placement and verification than through water column subtidal placement methods.

Engineered cap-on-grade monitoring and maintenance would be conducted in accordance with an approved, long-term OMM plan, which would be developed as part of remedial design. Long-term monitoring would be subject to the same sampling scope and approval considerations as described for Alternative M2. The estimated construction duration for this alternative would span one in-water construction season (approximately 5 months).

Figure 8.5-5 depicts a plan view of Alternative M4b.

8.5.6 MARINE ALTERNATIVE 5: TARGET REMOVAL FOCUS – SOUTH SHORE LINE

In addition to the shoreline protection, piling and structure removal described in Section 8.5, Marine Alternative M5 would consist of the following major elements:

- Monitor the natural recovery of 8.2 acres of surface sediments in SMA 1.
- Place an EMNR layer as follows:
    - Procure approximately 13,325 tons of clean silty sand from a commercial upland or beneficial reuse source (dredged silty sand materials from the Snohomish River, for example).
    - Place a nominal 6-inch-thick layer of clean silty sand over 5.5 acres in SMA 2.
    - Monitor the effectiveness of EMNR actions upon completion of construction.
- Construct an engineered cap-on-grade over sediments as follows:
    - Procure an estimated 17,680 tons of material from a commercial upland source.
    - Construct a 2-foot-thick cap over 2.9 acres in SMA 3 using land-based low ground pressure equipment and placement methods as appropriate.
    - Monitor the physical integrity of the engineered cap upon completion of construction.
- Excavate sediments (top 2 feet) in the south shoreline area as follows:
    - Remove up to approximately 10,682 cubic yards of sediments from the top 2 feet of 2.45 acres in SMA 3 using land-based low ground pressure equipment and placement methods as appropriate.
    - Removal volumes include an assumed overdepth allowance of 0.25 feet and are scaled up by 20% to account for engineering factors (side slopes, level cuts, etc.) that would need to be considered during remedial design.
- Manage excavated material as follows:
    - Temporarily stockpile excavated material in an upland stockpile area constructed to contain all water generated from sediment dewatering and precipitation.
    - Treat water generated from temporary stockpiles for discharge as required by permits.
    - Dispose of the dewatered excavated material in an offsite Subtitle D landfill.
    - Excavations would be 2-foot thickness, matching the engineered cap thickness. No backfill would be required to match the post-excavation grades once excavated areas are capped.

Removal in this alternative would entail accessing excavation areas from the shoreline at low tide using land-based equipment. Excavation residuals would be managed by capping excavated areas. Placement of EMNR material and engineered caps using land-based equipment and working in the dry will allow for more accurate placement and verification than through water column subtidal placement methods.

Engineered cap-on-grade monitoring and maintenance would be conducted in accordance with an approved, long-term OMM plan, which would be developed as part of remedial design. Long-term monitoring would be subject to the same sampling scope and approval considerations as described for Alternative M2. The estimated construction duration for this alternative would span one in-water construction season (approximately 5 months).

Figure 8.5-6 depicts a plan view of Alternative M5.

8.5.7 MARINE ALTERNATIVE 6: REMOVAL FOCUS

In addition to the shoreline protection and piling and structure removal described in Section 8.5, Marine Alternative M6 would consist of the following major elements:

- Monitor the natural recovery of 8.2 acres of surface sediments in SMA 1.
- Place an EMNR layer as follows:
    - Procure approximately 13,325 tons of clean silty sand from a commercial upland or beneficial reuse source (dredged silty sand materials from the Snohomish River, for example).
    - Place a nominal 6-inch-thick layer of clean silty sand over 5.5 acres in SMA 2.
    - Monitor the effectiveness of EMNR actions upon completion of construction.
- Construct an engineered cap over SMA 3, following excavation, as follows:
    - Procure an estimated 17,680 tons of material from a commercial upland source.
    - Construct a 2-foot-thick cap over 2.9 acres in SMA 3 using land-based low ground pressure equipment and placement methods as appropriate.
    - Monitor the physical integrity of the engineered cap upon completion of construction.
- Excavate sediments (top 2 feet) in SMA 3 as follows:
    - Remove up to approximately 12,729 cubic yards of sediments from the top 2 feet of 2.9 acres in SMA 3 using land-based low ground pressure equipment and placement methods as appropriate.
    - Excavation in the north inlet area will also require shoring to protect the adjacent upland area where an access road and underground utilities are located at the top of the slope.
    - Removal volumes include an assumed overdepth allowance of 0.25 feet and are scaled up by 20% to account for engineering factors (side slopes, level cuts, etc.) that would need to be considered during remedial design.
    - Remove temporary shoring used to protect the slope adjacent to the upland side of the excavation.
- Manage excavated material as follows:
    - Temporarily stockpile excavated material in an upland stockpile area constructed to contain all water generated from sediment dewatering and precipitation.
    - Treat water generated from temporary stockpiles for discharge as required by permits.

    - Dispose of the dewatered excavated material in an offsite Subtitle D landfill.
    - Excavations would be 2-foot thickness, matching the engineered cap thickness. No backfill would be required to match the post-excavation grades once excavated areas are capped.

Removal in this alternative would entail accessing excavation areas from the shoreline at low tide using land-based equipment. Excavation residuals would be managed by capping excavated areas. Placement of EMNR material and engineered caps using land-based equipment and working in the dry will allow for more accurate placement and verification than through water column subtidal placement methods.

Engineered cap-on-grade monitoring and maintenance would be conducted in accordance with an approved, long-term OMM plan, which would be developed as part of remedial design. Long-term monitoring would be subject to the same sampling scope and approval considerations as described for Alternative M2. The estimated construction duration for this alternative would span one in-water construction season (approximately 5 months).

Figure 8.5-7 depicts a plan view of Alternative M6.

8.5.8 MARINE ALTERNATIVE 7: FULL REMOVAL FOCUS

In addition to the shoreline protection and piling and structure removal described in Section 8.5, Marine Alternative M7 would consist of the following major elements:

- Monitor the natural recovery of 8.2 acres of surface sediments in SMA 1.
- Place an EMNR layer as follows:
    - Procure approximately 13,325 tons of clean silty sand from a commercial upland or beneficial reuse source (dredged silty sand materials from the Snohomish River, for example).
    - Place a nominal 6-inch-thick layer of clean silty sand over 5.5 acres in SMA 2.
    - Monitor the effectiveness of EMNR actions upon completion of construction.
- Excavate sediments (estimated depths 2, 4, 9 feet) in all of SMA 3 as follows:
    - Remove up to approximately 24,371 cubic yards of sediments from the top 2, 4, or 9 feet of 2.9 acres in SMA 3 using land-based low ground pressure equipment and placement methods as appropriate.
    - Excavation in the inlet area will also require shoring to protect the adjacent upland area where an access road and underground utilities are located at the top of the slope.
    - Removal volumes include an assumed overdepth allowance of 0.25 feet and are scaled up by 20% to account for engineering factors (side slopes, level cuts, etc.) that would need to be considered during remedial design.
    - Remove temporary shoring used to protect the slope adjacent to the upland side of the excavation.

- Manage excavated material as follows:
    - Temporarily stockpile excavated material in an upland stockpile area constructed to contain all water generated from sediment dewatering and precipitation.
    - Treat water generated from temporary stockpiles for discharge as required by permits.
    - Dispose of the dewatered excavated material in an offsite Subtitle D landfill.
    - Excavations would target all sediment exceeding RALs in SMA 3. No capping would be necessary in SMA 3; excavations would be backfilled to match the post-excavation grades.
- Backfill sediments in the SMA 3 excavation footprint:
    - Procure an estimated 24,371 cubic yards of material from a beneficial use and/or commercial source.
    - Place backfill over the removal footprint using land-based low ground pressure equipment and placement methods as appropriate to bring grades in the excavation footprint to match the original grades.
    - Remove temporary shoring used to protect the slope adjacent to the upland side of the excavation.

Removal in this alternative would entail accessing excavation areas from the shoreline at low tide using land-based equipment. Excavation residuals would be managed by capping excavated areas. Placement of EMNR material and engineered caps using land-based equipment and working in the dry will allow for more accurate placement and verification than through water column subtidal placement methods.

Long-term monitoring would be subject to the same sampling scope and approval considerations as described for Alternative M2. The estimated construction duration for this alternative could span multiple in-water construction season (approximately 7 to 8 months).

Figure 8.5-8 depicts a plan view of Alternative M7.

8.5.9 MARINE ALTERNATIVE 8: FULL REMOVAL

In addition to the shoreline protection and piling and structure removal described in Section 8.5, Marine Alternative M7 would consist of the following major elements:

- Excavate sediments (estimated depths 2, 4, 9 feet below mudline) in SMA 1, SMA 2, and SMA 3 as follows:
    - Remove up to approximately 103,000 cubic yards of sediments from the top 2, 4, or 9 feet of 16.6 acres including SMA 1, SMA 2, and SMA 3 using land-based low ground pressure equipment and placement methods as appropriate.
    - Excavation in the inlet area will also require shoring to protect the adjacent upland area where an access road and underground utilities are located at the top of the slope.

    - Removal volumes include an assumed overdepth allowance of 0.25 feet and are scaled up by 20% to account for engineering factors (side slopes, level cuts, etc.) that would need to be considered during remedial design.
    - Remove temporary shoring used to protect the slope adjacent to the upland side of the excavation.
- Manage excavated material as follows:
    - Temporarily stockpile excavated material in an upland stockpile area constructed to contain all water generated from sediment dewatering and precipitation.
    - Treat water generated from temporary stockpiles for discharge as required by permits.
    - Dispose of the dewatered excavated material in an offsite Subtitle D landfill.
    - Excavations would target all sediment throughout the Site (SMA 1, SMA 2, and SMA 3). No capping, MNR, or EMNR would be necessary following remediation; excavations would be backfilled to match the post-excavation grades.
- Backfill sediments in the SMA 3 excavation footprint:
    - Procure an estimated 103,000 cubic yards of material from a beneficial use and/or commercial source.
    - Place backfill over the removal footprint using land-based low ground pressure equipment and placement methods as appropriate to bring grades in the excavation footprint to match the original grades.
    - Remove temporary shoring used to protect the slope adjacent to the upland side of the excavation.

Removal in this alternative would entail accessing excavation areas from the shoreline at low tide using land-based equipment. Long-term monitoring would be subject to the same sampling scope and approval considerations as described for Alternative M2. The estimated construction duration for this alternative could span multiple in-water construction seasons (approximately 18 months).

Figure 8.5-9 depicts a plan view of Alternative M8.

9. EVALUATION BASIS FOR CLEANUP ACTION ALTERNATIVES

This section presents a description of the threshold requirements for cleanup actions under MTCA and the additional criteria used to evaluate the cleanup action alternatives.

9.1 MTCA THRESHOLD REQUIREMENTS

Cleanup actions are subject to the threshold requirements set forth in WAC 173-340-360(2)(a). Under the threshold requirements, the cleanup action shall:

- Protect human health and the environment
- Comply with cleanup standards
- Comply with applicable state and federal laws
- Provide for compliance monitoring

9.1.1 PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT

Cleanup actions performed under MTCA must ensure that both human health and the environment are protected as a result of the action.

9.1.2 COMPLIANCE WITH CLEANUP STANDARDS

Compliance with cleanup standards requires, in part, that cleanup levels are met at the applicable points of compliance. Where a cleanup action involves containment of soils and sediments with hazardous substance concentrations exceeding cleanup levels at the point of compliance, the cleanup action may be determined to comply with cleanup standards, provided the requirements specified in WAC 173-340-740(6)(f) are met, specifically:

- The remedy is permanent to the maximum extent practicable
- The remedy is protective of human health
- The remedy is protective of terrestrial ecological receptors
- Institutional controls are implemented
- Compliance monitoring is provided (also a threshold requirement) with periodic reviews
- The type and amount of hazardous substance remaining on-site, and measures to prevent migration of, and contact with, these substances are specified.

9.1.3 COMPLIANCE WITH ARARS

Cleanup actions under MTCA must comply with applicable state and federal laws. The term “applicable state and federal laws” includes legally applicable requirements, and those requirements that Ecology determines to be relevant and appropriate as described in WAC 173-340-710.

9.1.4 PROVISION FOR COMPLIANCE MONITORING

The cleanup action must allow for compliance monitoring in accordance with WAC 173-340-410. Compliance monitoring consists of protection monitoring, performance monitoring, and confirmation monitoring. Protection monitoring is conducted to confirm that human health and the environment are adequately protected during construction and the operation and maintenance period of a cleanup action. Performance monitoring is conducted to confirm that the cleanup action has attained cleanup standards and, if appropriate, remediation levels or other performance standards. Confirmation monitoring is conducted to confirm the long-term effectiveness of the cleanup action once cleanup standards and, if appropriate, remediation levels or other performance standards have been attained.

9.2 ADDITIONAL MTCA REQUIREMENTS

For cleanup actions that meet the threshold requirements, the selected action shall:

- Use permanent solutions to the maximum extent practicable;
- Provide for a reasonable restoration time frame; and
- Consider public concerns.

9.2.1 USE PERMANENT SOLUTIONS TO THE MAXIMUM EXTENT PRACTICABLE

MTCA requires that when selecting from cleanup action alternatives that fulfill the threshold requirements, the selected action shall use permanent solutions to the maximum extent practicable (WAC 173-340-360[2][b][i]). MTCA specifies that the permanence of these qualifying alternatives shall be evaluated by balancing the costs and benefits of each of the alternatives using a DCA in accordance with WAC 173-340-360(3)(e).

9.2.2 PROVIDE FOR A REASONABLE RESTORATION TIME FRAME

In accordance with WAC 173-340-360(2)(b)(ii), MTCA places a preference on those cleanup action alternatives that, while equivalent in other respects, can be implemented in a shorter period of time. MTCA includes a summary of factors to be considered in evaluating whether a cleanup action provides for a reasonable restoration timeframe (WAC 173-340-360[4][b]).

9.2.3 CONSIDER PUBLIC CONCERNS

Ecology will consider public comments submitted during the RI/FS process in making its preliminary selection of an appropriate cleanup action alternative. This preliminary selection is subject to further public review and comment when the proposed remedy is published by Ecology in a draft CAP. While public concerns are addressed by Ecology through the review process, they are also expressly considered as an element of the DCA evaluation for each alternative.

9.2.4 ADDITIONAL SMS EVALUATION CRITERIA

Remedy selection criteria under SMS regulations are generally the same as those required under MTCA. The SMS evaluation criteria are specified in WAC 173-204-560(4)(f) through (k). While most of the requirements have a direct correlation to MTCA criteria, three additional SMS criteria are not specifically addressed by MTCA:

- Use of recycling, reuse, and waste minimization
- Consideration of environmental impacts
- Alternatives that achieve cleanup standards within 10 years of completion of construction of the active components of the cleanup are presumed to have a reasonable restoration timeframe

These criteria are discussed in more detail in Section 9.3.

9.3 MTCA DISPROPORTIONATE COST ANALYSIS AND OTHER CRITERIA

The MTCA/SMS DCA described in WAC 173-340-360(3)(e) is used to evaluate which of the alternatives that meet the threshold requirements are protective to the maximum extent practicable. This analysis involves comparing the costs and benefits of alternatives and selecting the alternative whose incremental costs are not disproportionate to the incremental benefits. The evaluation criteria for the DCA are specified in WAC 173-340-360(3)(f), and include protectiveness, permanence, effectiveness over the long term, management of short-term risks, implementability, consideration of public concerns, and costs.

Commented [AM(38]: Based on this there is no need to do DCA or cost estimate for Alternative 1 of both upland and marine section.

In order to favor the benefits of criteria associated with the primary goals of the remedial action, a weighting system was used in this FS for the DCA. That is, the criteria associated with environmentally based benefits are more highly weighted than other criteria that are associated with non-environmental factors. Each of the MTCA/SMS criteria used in the DCA and the weighting factors ascribed to the criteria are described below.

9.3.1 PROTECTIVENESS

The cleanup action alternatives are evaluated for overall protectiveness of human health and the environment, including the degree to which existing risks are reduced, time required to reduce risk at the facility and attain cleanup standards, on-site and off-site risks resulting from implementing the alternative, and improvement of the overall environmental quality. For this FS, a weighting factor of 30% was applied toward the overall benefit analysis. The high weight placed on protectiveness relative to the other factors is warranted due to the overall importance of protection of human health and the environment as a primary goal of cleanup at the Site.

9.3.2 PERMANENCE

The permanence of a cleanup action is defined as the degree to which the alternative permanently reduces the toxicity, mobility or volume of hazardous substances, including the adequacy of the alternative in destroying the hazardous substances, the reduction or elimination of hazardous substance releases and sources of releases, the degree of irreversibility of waste treatment process, and the characteristics and quantity of treatment residuals generated. A weighing factor of 20% was assigned to the numeric values associated with this evaluation criterion.

9.3.3 EFFECTIVENESS OVER THE LONG TERM

Long-term effectiveness includes the degree of certainty that the alternative will be successful, the reliability of the alternative during the period of time hazardous substances are expected to remain on-site at concentrations that exceed cleanup levels, the magnitude of residual risk with the alternative in place, and the effectiveness of controls required to manage treatment residues or remaining wastes. The MTCA and SMS regulations provide guidelines for ranking cleanup action components when assessing the relative degree of long-term effectiveness. These elements are, in descending order: reuse or recycling; destruction or detoxification; immobilization or solidification; on-site or off-site disposal in an engineered, lined and monitored facility; on-site isolation or containment with attendant engineering controls; and institutional controls and monitoring. The MTCA preference ranking must be considered along with other site-specific factors in the evaluation of long-term effectiveness. The site-specific factors included in the long-term effectiveness evaluation include climate change and seismic vulnerabilities. A weighting factor of 20% was assigned to the long-term effectiveness criterion.

9.3.4 MANAGEMENT OF SHORT-TERM RISKS

This criterion considers potential risk to human health and the environment associated with the alternative during construction and implementation, and the effectiveness of measures that will be taken to manage such risks. Examples of risks include potential exposure to hazardous substances by site workers during implementation, mobilization of contaminants during construction, or general safety risks and construction hazards. A weighting factor of 10% was assigned to this criterion. This lower rating is based on the limited timeframe associated with the risks and the general ability to correct short-term risks during construction without significant effect on human health and the environment.

9.3.5 TECHNICAL AND ADMINISTRATIVE IMPLEMENTABILITY

This criterion considers the ability of a selected remedy to be implemented, including consideration of whether the alternative is technically possible, the availability of necessary off-site facilities, services and materials, administrative and regulatory requirements, scheduling, size, complexity, monitoring requirements, access for construction operations and monitoring, and integration with existing facility operations and other current or potential remedial actions. The weighting factor for implementability is 10%. Implementability is less associated with the primary goal of the cleanup action—protection of human health and the environment—and therefore has a lower weighting factor. In addition, the issues associated with the implementability are reflected in the remedy costs.

9.3.6 CONSIDERATION OF PUBLIC CONCERNS

The public involvement process under MTCA and SMS is used to identify potential public concerns regarding cleanup action alternatives. The extent to which an alternative addresses those concerns is considered as part of the evaluation process. This includes concerns raised by individuals, community groups, local governments, tribes, federal and state agencies, and other organizations with an interest in the Site. The weighting factor used for this criterion was 10%. Similar to the applied factor for implementability, the low weighting of public concerns prevents duplication of issues that are addressed with other criteria. Historically, public concerns for most sites are typically related to environmental concerns and performance of the cleanup action, which are addressed under other MTCA/SMS criteria such as protectiveness and permanence.

9.3.7 COST

The costs to implement the cleanup action alternatives are evaluated, including the direct and indirect cost of construction, the long-term monitoring costs, and agency oversight costs that are cost recoverable. Long-term costs include cap maintenance costs, monitoring costs, and the cost of maintaining institutional controls. The design life of the cleanup action has been estimated and the cost of replacement or repair of major elements has been included in the cost estimate. Costs were compared against benefits to assess cost-effectiveness and practicability of the cleanup action alternatives. No weighting factor was applied to this quantitative category.

9.3.8 ADDITIONAL SMS CRITERIA

The following additional criteria are considered under SMS. While not specifically incorporated as a score under the DCA, these criteria can be used to help differentiate alternatives that otherwise score similarly under the DCA, and thus are given a relative ranking compared to the other alternatives, as opposed to an absolute score.

9.3.8.1 USE OF RECYCLING, REUSE, AND WASTE MINIMIZATION

The use of recycling, reuse, and waste minimization for a given alternative considers whether materials can effectively be beneficially reused. Opportunities include beneficial reuse of tidal mudflat sediments that may be excavated or dredged during cleanup actions as backfill for upland excavations, and beneficial reuse of suitable dredged sediments for residuals cover, backfill or cap materials generated by another project that would otherwise be disposed of in a DMMP open-water disposal site. Beneficial reuse of suitable sediments for cover and cap material can result in significant cost efficiency and is desirable from a resource standpoint. Depending on the final cleanup actions selected, Ecology and JELD-WEN would continue to explore opportunities and sources of beneficial reuse materials in greater detail during remedial design.

9.3.8.2 CONSIDERATION OF ENVIRONMENTAL IMPACTS

This criterion considers potential risk to human health and the environment associated with the alternative during construction and implementation, and the effectiveness of measures that will be taken to manage such risks. Examples of risks include potential exposure to hazardous substances by Site workers during implementation, mobilization of contaminants during construction, or general safety risks and construction hazards. As described in the SMS regulations, this evaluation criterion considers the following for sediment remedies:

- Significant short-term environmental impacts
- Significant long-term environmental impacts
- Significant irrevocable commitments of natural resources
- Significant environmental impacts that cannot be mitigated

Short term-impacts to habitat functions and water quality, including turbidity associated with dredging and capping, are considered under this criterion. In addition, emissions related to the construction activity, both on the water and off-site (through transloading and shipment of materials) are also considered. Irrevocable commitments of natural resources are also considered, such as the use of aggregates from commercial or other sources for cap material and the use of fossil fuel for construction equipment.

Typically, longer-duration construction projects will have the highest potential environmental impacts due to air quality issues associated with greenhouse gas emissions from construction equipment. Furthermore, sediment remedies that include dredging will have relatively higher environmental impacts due to dredging releases and turbidity.

10. EVALUATION OF CLEANUP ACTION ALTERNATIVES

This section provides detailed evaluation of the upland and marine area cleanup action alternatives. Each alternative is discussed independently relative to the MTCA criteria used in the DCA, and a raw score is provided for the alternative, on a scale of 1 to 10. In this scheme, a raw score of 10 is the highest (i.e. the most favorable) potential ranking, and a raw score of 1 represents the least favorable potential raking. Raw scores are carried forward into the DCA, where they are weighted according to the factors discussed in Section 9.

10.1 UPLAND AREAS

Consistent with MTCA regulations and Ecology guidance, the upland remedial alternatives were evaluated for the seven criteria listed in WAC 173-340-360(3)(f). These criteria include protectiveness, permanence, effectiveness over the long term, management of short-term risks, technical and administrative implementability, consideration of public concerns, and cost. The minimum requirements for cleanup actions (WAC 173-340-360(2)) were also considered in the evaluation.

The results of the evaluation are summarized below by area and presented as a numeric scoring system in Table 10.1-1 (Creosote Area) and Table 10.1-2 (Woodlife Area). Figure 10.1-1 (Creosote Area) and Figure 10.1-2 graphically depict the costs and benefits based on the discussion and scoring described in this section. For reference, a summary of the treatment technologies by area (on-property vs off-property, shallow vs deep, etc.) for each alternative are presented in Table 8.4.1-1.

10.1.1 CREOSOTE AREA

Commented [AM(39]: Adjust the language in the text based on Ecology provided DCA matrix and narrative.

The six cleanup action alternatives for the Creosote Area described in Section 8.4.1 were evaluated in detail using the MTCA threshold and additional criteria, and the DCA criteria provided in WAC 173-340-360 as described above. The evaluation is provided in Table 10.1-1 and described in detail below.

PROTECTIVENESS

Protection of human health and the environment is a threshold requirement. Alternative 1 leaves contamination in place with long-term engineering and institutional controls and does not provide for a reasonable restoration timeframe; therefore, Alternative 1 scores the lowest possible score. Alternative 6 reduces the mobility of shallow contaminants but leaves deeper contamination in place. Alternatives 2, 3, 4, and 6 remove or treat the majority of contamination from the Site; Alternative 4 scores slightly higher than Alternatives 2 and 3 due to the greater degree of certainty associated with removal and the shorter restoration timeframe. Alternative 5 destroys Site contamination, reducing mobility, toxicity, and volume to meet Site cleanup levels and therefore scores highest.

PERMANENCE

Contaminants in the Creosote Area have low mobility; higher scoring is provided for alternatives that primarily reduce toxicity or volume. Alternative 1 does not reduce toxicity, mobility, or volume, but ensures exposure pathways remain incomplete through engineering and institutional controls. Because it does not reduce toxicity or volume of contamination on the Site, Alternative 1 scores the lowest of the alternatives considered. Alternatives 4 and 5 permanently remove or treat the majority of contamination on the Site; however, Alternative 5 provides for the most complete treatment of the Site and therefore scores the highest. Alternatives 2, 3, and 6 achieve similar levels of reduction in toxicity and volume for Site contamination. Alternative 6 scores slightly higher than Alternatives 2 or 3 due to the additional treatment proposed for the off-property vadose zone.

EFFECTIVENESS OVER THE LONG-TERM

Proven treatment technologies, site-tested treatment technologies, and technologies with a shorter restoration timeframe generally receive a higher ranking. Complex treatment technologies and technologies requiring longer durations generally are ranked lower. Scores reflect MTCA's preferences for (in order) recycling/reuse, destruction/detoxification, immobilization/solidification, off-site disposal, isolation/containment, and institutional and engineering controls. Alternative 1 includes barriers to prevent exposure to hazardous substances but requires long-term monitoring to demonstrate compliance, and therefore scores the lowest. Alternative 5 scores highest due to the complete destruction of hazardous substances on Site within an approximately 2-year period. Alternatives 2, 3, and 4 score similarly since Alternatives 2 and 3 destroy contamination over a longer period that requires some monitored natural attenuation, while Alternative 4 relies on off-site disposal for on-property contamination and the same technology as Alternative 2 for off-property contamination.

MANAGEMENT OF SHORT-TERM RISKS

Scoring for management of short-term risks uses a relative scale to evaluate construction risks to human health and safety; larger more complex projects are considered to carry greater risk than simpler smaller projects. Technology-specific risks have been considered (e.g. thermal treatment has temperature related risks, excavation has cave-in, heave, and shoring risks, ISCO has chemical handling risks, etc.).

Alternative 1 poses minimal short-term risks, and therefore scores the highest. Alternative 2 includes only modest installation risks for the drilling and system installation of the Bio system and therefore is the next highest score. Alternative 3, on-property ISCO treatment, poses an elevated risk of worker injury associated with handling and injecting high-ionic strength solution, as well as potential risk of damage to near-surface utilities. Alternatives 4, 5, and 6 pose significant short term risks that include high potential risk of worker injury that may include excavation failures, potential burns or damage associated with high pressure steam, injuries associated with building demolition, and/or damage to near surface utilities and are therefore ranked the lowest.

TECHNICAL AND ADMINISTRATIVE IMPLEMENTABILITY

The scoring evaluates the overall difficulty of implementing each of the proposed alternatives considering the size and complexity of the project, maturity of the remedial technology for the Site conditions and contaminants, and availability of local experienced contractors and materials. Because it can be readily implemented with minimal difficulty Alternative 1 scores the highest. Alternatives 2 and 3 use mature technologies that have been demonstrated to be effective for conditions observed at the Site and comprise projects of moderate size and complexity. Alternative 3 requires chemical amendments that are more difficult to procure and safely handle at the scale required for treatment, and therefore ranks slightly lower than Alternative 2. Alternative 5 also uses mature technology that has demonstrated efficacy at the Site but includes a greater degree of complexity to construct and operate throughout the entire period required to reach cleanup levels. Both Alternatives 4 and 6 require prolonged, extensive, high-risk demolition, construction, and restoration to be fully implemented and therefore score the lowest.

CONSIDERATION OF PUBLIC CONCERNS

Alternatives were scored based on the balance between public desire for more active clean-up actions and potentially negative impacts to the community that may include economic (prolonged shutdowns or disruption to local business), public safety (e.g. heavy haul traffic on public roads), or other nuisance (e.g. construction noise and duration) considerations. Alternative 1 has minimal public impact but offers the least active cleanup and therefore received a moderate score.

Alternatives 2 and 5 offer more active cleanup of contamination on Site with the least potential public impact and were therefore scored the highest of the Alternatives. Alternatives 3, 4, 6 all include greater public impacts including extended construction schedules, increased haul traffic on public roads, handling and injection of reactive chemicals below the water table, and prolonged disruption to business activity on the Site and were therefore scored the lowest.

COSTS

Detailed costs for each alternative are provided in Appendix M. Figure 10.1-1 provides a summary of the estimated total cost for each alternative, including construction as well as non-construction costs. Alternative 1 was the lowest cost alternative, estimated to cost $1.2 million to implement; however, as previously noted Alternative 1 does not meet all threshold requirements for cleanup actions. Alternative 2 was the most cost-effective alternative that met threshold requirements, costing $5.5 million to implement. Costs for Alternatives 3 and 5 were similar, but increased considerably from Alternative 2, ranging from $7.9 to $11.3 million dollars to implement. Alternatives 4 and 6 were the most expensive alternatives, costing between $23 and $25 million dollars to implement.

10.1.2 WOODLIFE AREA

The two cleanup action alternatives for the Woodlife Area described in Section 8.4.2 were evaluated in detail using the MTCA threshold and additional criteria, and the DCA criteria provided in WAC 173-340-360 as described above. The evaluation is provided in Table 10.1-2 and described in detail below.

PROTECTIVENESS

Protection of human health and the environment is a threshold requirement. Alternative 1 leaves contamination in place with long-term engineering and institutional controls and does not provide for a reasonable restoration timeframe and therefore scores the lowest possible score. Alternative 2 removes contamination, reducing mobility, toxicity, and volume to meet Site cleanup levels and therefore scores highest.

PERMANENCE

Contaminants in the Woodlife Area have low mobility; higher scoring is provided for alternatives that primarily reduce toxicity or volume. Alternative 1 does not reduce toxicity, mobility, or volume, but ensures exposure pathways remain incomplete through engineering and institutional controls and therefore scores the lowest. Alternative 2 permanently removes the majority of contamination in this area.

EFFECTIVENESS OVER THE LONG-TERM

Proven treatment technologies, site-tested treatment technologies, and technologies with a shorter restoration timeframe generally receive a higher ranking. Complex treatment technologies and technologies requiring longer durations generally are ranked lower. Scores reflect MTCA's preferences for (in order) recycling/reuse, destruction/detoxification, immobilization/solidification, off-site disposal, isolation/containment, and institutional and engineering controls. Alternative 1 includes barriers to prevent exposure to hazardous substances but requires long-term monitoring and therefore scores the lowest. Alternative 2 relies on off-site disposal for on-property contamination however is scored preferentially to Alternative 1.

MANAGEMENT OF SHORT-TERM RISKS

The scoring uses the relative scale of active construction to evaluate construction risks to human health and safety; larger more complex projects are considered to carry greater risk than simpler smaller projects. Technology-specific risks have been considered (e.g. excavation has cave-in and heave risks etc.). Alternative 1 poses minimal short-term risks, and therefore scores the highest. Alternative 2 poses significant short-term risks that include risks of worker injury that may include excavation failures and/or damage to near surface utilities and is therefore ranked the lowest.

TECHNICAL AND ADMINISTRATIVE IMPLEMENTABILITY

Scoring evaluates the overall difficulty of implementing each of the proposed alternatives considering the size and complexity of the project, maturity of the remedial technology for the Site conditions and contaminants, and availability of local experienced contractors and materials. Because it can be readily implemented with minimal difficulty Alternative 1 scores the highest. Alternatives 2 uses mature technologies that have been demonstrated to be effective for conditions observed at the Site and comprises a project of moderate size and complexity.

CONSIDERATION OF PUBLIC CONCERNS

Alternatives were scored based on the balance between public desire for more active clean-up actions and potentially negative impacts to the community that may include economic (prolonged shutdowns or disruption to local business), public safety (e.g. heavy haul traffic on public roads), or other nuisance (e.g. construction noise and duration) considerations. Alternative 1 has minimal public impact but offers the least active cleanup. Alternatives 2 includes greater public impacts including extended construction schedules, increased haul traffic on public roads, and prolonged disruption to business activity on the Site.

COSTS

Detailed costs for each alternative are provided in Appendix 10. Table 10.1-2 provides a summary of the estimated total cost for each alternative, including construction as well as non-construction costs. Total costs for the two alternatives for the Woodlife Area range from approximately $500,000 to $1.7 million.

10.1.3 AREA 3 (KNOLL FILL AREA)

Cleanup alternatives related to impacts identified for the Knoll Fill Area are included in the marine area alternative comparison (Section 10.2).

10.1.4 DISPROPORTIONATE COST ANALYSIS

The purpose of a DCA is to facilitate selection of the cleanup alternative that provides the highest degree of permanence to the maximum extent practicable for the conditions identified at the Site. Cleanup action alternatives for upland areas that met threshold criteria were evaluated according to the methodology provided by Ecology (2009) and per WAC 173-340-360(3)(e). Scores for each of the criteria, for each alternative were assigned as described in sections 10.1.1 and 10.1.2.

A MTCA Composite Benefit Score was calculated for each alternative by summing the product of the criterion score times the assigned weighting factor, the resulting Composite Benefit Score is the measure of human health and environmental benefit that would be realized with implementation for each cleanup alternative. For example, using the assigned weighting criteria of Protectiveness at 30%, Permanence at 20%, Long-Term Effectiveness at 20%, Short-Term Effectiveness at 10%, Implementability at 10%, and Public Concerns at 10%, and corresponding scores for each of these criteria of 7.5, 7, 6, 3, 7, and 6, respectively, the Composite Benefit Score is calculated as: (7.5)*(0.3) + (7)*(0.2) + (6)*(0.2) + (3)*(0.1) + (7)*(0.1) + (6)*(0.1) = 6.5. A score of 6.5 represents moderate to good Composite Benefit on a scale of 1 to 10, with 10 having the highest Composite Benefit and 1 having the lowest Composite Benefit.

Five of the six alternatives developed for the Creosote Area met threshold and other criteria under MTCA. Both alternatives for the Woodlife Area were evaluated, using the alternative that did not meet other criteria (Alternative 1) as a baseline for comparison.

Creosote Area

Implementing Alternative 1, which does not meet threshold criteria but does prevent exposure to contaminated media, results in a Composite Benefit Score of 3.4. The cost of Alternative 1 is estimated to be $1.2 million. To meet threshold criteria a minimum additional cost of $4.3 million dollars is required to implement Alternative 2. Alternative 2 has a Composite Benefit Score of 6.5, representing moderate to good Composite Benefit. The cost per unit of Composite Benefit Score for Alternative 1 is $353,000; the cost per unit of Composite Benefit Score for Alternative 2 is $847,000.

Alternatives 3, 4, and 6 have lower Composite Benefit Scores than Alternative 2, and therefore are less preferable than Alternative 2 both in terms of overall benefits achieved through implementation, and benefits offered per unit cost. Alternative 5 has a Composite Benefit Score of 7.2 and represents a greater degree of Composite Benefit than Alternative 2; however, Alternative 5 has an estimated cost of $11.8 million dollars compared to the $5.5 million cost for Alternative 2. This represents a relatively marginal 10% overall increase in Composite Benefit over Alternative 2 with cost increases greater than 50%.

Both Alternative 2 and Alternative 5 meet threshold and other requirements for cleanup actions specified under MTCA. Because the marginal gain in Composite Benefit offered by Alternative 5 (score 7.2) compared to Alternative 2 (score 6.5) is achieved only through incurring additional and disproportionate costs of nearly $6.3 million dollars, Alternative 2 is preferred to Alternative 5 in the DCA. Alternative 2 therefore offers the greatest Composite Benefit at the most competitive unit rate of the cleanup alternatives that were evaluated and is considered to offer the highest degree of permanence that is practicable for the Site.

Woodlife Area

Both alternatives for the Woodlife Area met the threshold requirements protecting human health and the environment by controlling risks posed through the exposure pathways and migration routes; however, only Alternative 2, soil removal, provides a reasonable restoration timeframe.

Commented [AM(40]: Therefore, Alternative 1 does not meet MTCA minimum requirements for cleanup action.

10.2 MARINE AREA

This section describes the rationale for the scoring of the nine Marine Area alternatives. A summary of the DCA for the marine area is provided in Table 10.2-1, which includes a total weighted benefit score for each alternative, total costs, and benefit/cost ratios.

10.2.1 DETAILED EVALUATION AND COMPARISON OF MARINE ALTERNATIVES

Commented [AM(41]: Rewrite the marine alternative discussion based on Ecology provided DCA matrix and narrative.

Commented [ES(42]: MTCA criteria should be evaluated on an alternatives basis.

This section describes the DCA for the Marine Area alternatives M1 through M8. Figure 10.2-1 graphically depicts the costs and benefits, as well as the benefit/cost ratio for the alternatives based on the discussion and scoring described in this section. Scoring of the alternatives is based on a semi-quantitative evaluation where each remedial technology is scored relative to the specific MTCA criterion and area of the Site (SMA), then given an area-weighted score based on the percentage of the site where the technology would be applied under each alternative. The Site areas used for this evaluation are listed in Exhibit 10.2.1.

Exhibit 10.2.1
SMA Area Summary

Area	**Acreage**	**Percent of Site**
SMA 1	8.2	49%
SMA 2	5.5	33%
SMA 3 (Inlet)	0.5	3%
SMA 3 (Southern Shoreline Areas)	2.4	15%

The delineation of SMAs was based on the following:

- SMA 1: Concentrations support SWAC-Based RALs for MNR (MNR is proposed in SMA 1 for each alternative except for Alternative M8: Full Removal)
- SMA 2: Concentrations support SWAC-Based RALs for EMNR (EMNR is proposed in SMA 2 for each alternative except Alternative M1: MNR and Source Control) and Alternative M8: Full Removal.
- SMA 3: Concentrations do not support SWAC-Based RALs of MNR or EMNR; therefore, MNR or EMNR are not proposed in SMA 3 for any alternative except Alternative M1: MNR and Source Control.

10.2.1.1 MTCA THRESHOLD CRITERIA

As discussed previously, the net sedimentation rate is relatively low at the Site. At an average rate of 0.17 ± 0.08 cm/year, the recovery time frame for a 10 cm thick bioturbated surface layer would be on the order of 50 years for Marine Alternative M1, and considerably longer for a 30 cm thick biologically active zone. Because of this extended restoration timeframe, MNR and source control alone do not meet the threshold criterion of protection of human health for all areas of the Site, and do not comply with cleanup standards. Because threshold criteria would not be met under this option, Marine Alternative M1 will not be selected as a preferred cleanup option but has been retained in the DCA for comparison purposes only.

All other proposed Marine Alternatives meet the threshold criteria of protection of human health and the environment and attain cleanup standards. Each of the remaining alternatives has been configured to meet the required cleanup standards. Alternatives M2 through M8 will meet the cleanup standard immediately following implementation. Finally, cleanup will be achieved in compliance with applicable laws for the Marine Alternatives M2 though M8.

10.2.1.2 PROTECTIVENESS

MTCA defines protectiveness as:

> "Overall protectiveness of human health and the environment, including the degree to which existing risks are reduced, time required to reduce risk at the facility and attain cleanup standards, on-site and off-site risks resulting from implementing the alternative, and improvement of the overall environmental quality." (WAC 173-340-360(3)(f)(i))

The protectiveness of each alternative was evaluated based on its effectiveness in reducing risks and achieving cleanup standards (i.e., cleanup levels at the point of compliance). The protectiveness scores used in the DCA for each alternative are summarized below and presented in Table 10.2-1 relative to the two MTCA sub-criteria: 1) protection of human health and 2) protection of the environment.

Exhibit 10.2.2 summarizes the area-weighted scores for the protectiveness evaluation of the various alternatives. A summary of the individual protectiveness scores for each technology, as it applies to a specific SMA, follows.

Exhibit 10.2.2
Protectiveness Scoring

Alternative	**Protection of Human Health**	**Protection of the Environment**
M1 – MNR and Source Control	6.8	8.4
M2 – Capping Focus (Armored Shoreline)	9.8	9.8
M3 – Capping Focus (Soft Shoreline)	9.8	9.8
M4a – Targeted Removal Focus: North Inlet (2-foot removal)	9.8	9.8
M4b – Targeted Removal Focus: North Inlet (4-foot removal)	9.8	9.8
M5 – Targeted Removal Focus: Southern Areas	9.8	9.8
M6 – Removal Focus	9.8	9.8
M7 – Full Removal Focus	10	10
M8 – Full Removal	10	10

Protection of Human Health

Protection of human health was scored based on how effective the alternative would be at meeting human health cleanup standards following construction. The human health risk at the Site for total PCBs is based on the SCO concentration protective of seafood consumption (30 µg/kg dw Total

PCBs). The human health risk at the Site for dioxin/furan TEQ is based on the PQL (5 ng/kg dw dioxin/furan TEQ). These human health risk-based concentrations are applied as a site-wide average concentration (SWAC). An RAL was developed for total PCBs to achieve the post-construction SWAC protective of human health. The RALs are 117 µg/kg dw Total PCBs and 8 ng/kg dw dioxin/furan TEQ. These risk-based concentrations were used to evaluate the protectiveness of human health under the various proposed cleanup technologies for each SMA within the Site.

SMA 1: Defined as areas of the Site that are less than 117 µg/kg dw Total PCBs and 8 ng/kg dw dioxin/furan TEQ (Exhibit 7.1.2). These pre-construction surface sediment concentrations achieve a post-construction SWAC that meets the human health risk-based concentrations for total PCBs and the PQL for dioxin/furan TEQ (i.e., where SWACs would meet human health or PQL-based RALs, assuming post-construction replacement values for remediated areas). Since there is no human health risk in SMA 1, all proposed technologies, including MNR, are equally effective in SMA 1, relative to protection of human health.

SMA 2: Defined as areas of the Site that are between 117 and 130 µg/kg dw Total PCBs and between 8 and 15 ng/kg dw dioxin/furan TEQ (Exhibit 7.1.2). These pre-construction surface sediment concentrations are marginally above the human health risk-based concentrations for total PCBs and the PQL for dioxin/furan TEQ. They are below the direct contact concentrations for dioxin/furan TEQ (15 ng/kg dw dioxin/furan TEQ), published in the Ecology SCUM (Ecology 2019) and the SMS total PCB concentration for benthic protection (130 µg/kg dw Total PCBs). The inherent incremental risk to human health associated with these concentrations is relatively minor. For the remedial technologies proposed in SMA 2 (MNR, EMNR, dredge to clean and backfill), EMNR and dredging are equally effective relative to protection of human health, given the surface sediment concentration in SMA 2. MNR alone would be marginally less protective than EMNR or dredging, relative to protection of human health, given the concentrations in SMA 2. MNR in SMA 2 would, however, impact the post-construction SWAC, thus reducing the protectiveness of MNR in SMA 1.

SMA 3: Defined as areas of the Site that are greater than 130 µg/kg dw Total PCBs and greater than 15 ng/kg dw dioxin/furan TEQ (Exhibit 7.1.2). These pre-construction surface sediment concentrations are above the concentrations protective of human health if left in place within the upper 1 foot of sediment at the site. MNR in SMA 3 would not achieve risk-based concentrations within the 10-year restoration timeframe. Engineered capping on-grade, dredging and engineered capping, and dredging to clean are similarly effective relative to protection of human health because they all eliminate exposure throughout the point of compliance immediately following construction. Capping on-grade was given the same score relative to dredge and cap technologies for protection of human health due to the complete replacement of the bioactive zone and chemical isolation (elimination of the direct contact exposure route) associated with both capping scenarios. Dredging was scored highest for SMA 3 because contaminated sediment would be removed; however, risks to human health from dredging residuals are not factored in this evaluation (these risks are included in the residual risk evaluation under the permanence criteria).

Each alternative was given an area-weighted score using the areas presented in Section 10.2.1 and relative protectiveness values assigned by the technology and SMA as shown in Exhibit

10.2.3. The area-weighted scores for protection of human health are included in the total weighted benefit scores for each alternative evaluated in Table 10.2-1.

Exhibit 10.2.3
Technology and SMA Scores for Protection of Human Health

Technology and SMA Scores for Protection of Human Health				
Technology	SMA 1	SMA 2	SMA 3(south shoreline)	SMA 3 (inlet area)
MNR and source control	10	5	1	1
EMNR	--	10	--	--
Engineered cap-on-grade	--	--	9	9
Dredge 2 feet and engineered cap	--	--	9	9
Dredge 4 feet and engineered cap	--	--	--	9
Dredge to clean and backfill	10	10	10	10

Note: -- indicates technology is not proposed in the SMA under any of the alternatives.

Protection of the Environment

Protection of the environment was scored based on how effective the alternative would be at addressing ecological risks following construction. As discussed in Appendix K, comparisons of Site tissue data with ecological risk benchmarks reveal that there is unlikely to be any potential risk to wildlife exposed to Site COPCs. The only area of the Site where sediment concentrations may have potential ecological risks are within SMA 3.

SMA 1: Defined as areas of the Site that are less than 117 µg/kg dw Total PCBs and 8 ng/kg dw dioxin/furan TEQ (Exhibit 7.1.2). These pre-construction surface sediment concentrations do not present ecological risk. As a result, all proposed technologies, including MNR, are equally effective in SMA 1 relative to protection of the environment.

SMA 2: Defined as areas of the Site that are between 117 and 130 µg/kg dw Total PCBs and between 8 and 15 ng/kg dw dioxin/furan TEQ (Exhibit 7.1.2). These pre-construction surface sediment concentrations do not present ecological risk. As a result, all proposed technologies, including MNR, are equally effective in SMA 2 relative to protection of the environment.

SMA 3: Defined as areas of the Site that are greater than 130 µg/kg dw Total PCBs and greater than 15 ng/kg dw dioxin/furan TEQ (Exhibit 7.1.2). These pre-construction surface sediment concentrations may present some ecological risk. As a result, MNR is not protective relative to environmental risks in SMA 3. Engineered capping on-grade, dredging and engineered capping, and dredging to clean are similarly effective relative to protection of the environment because they all eliminate exposure throughout the point of compliance immediately following construction. Capping on-grade was given the same score relative to dredge and cap technologies for protection of the environment due to the complete replacement of the bioactive zone and chemical isolation (elimination of the direct contact exposure route) associated with both capping scenarios. Dredging was scored highest for SMA 3 because contaminated sediment would be removed; however, risks to the environment from dredging residuals are not factored in this evaluation (these risks are included in the residual risk evaluation under the permanence criteria).

Each alternative was given an area-weighted score using the areas in Section 10.2.1 and relative protectiveness values assigned by the technology and SMA shown in Exhibit 10.2.4. The area-weighted scores for protection of the environment and are included in the total weighted benefit scores for each alternative evaluated in Table 10.2-1.

Exhibit 10.2.4
Technology and SMA Scores for Protection of Environment

Technology and SMA Scores for Protection of the Environment				
Technology	SMA 1	SMA 2	SMA 3(south shoreline)	SMA 3 (inlet area)
MNR and source control	10	10	1	1
EMNR	--	10	--	--
Engineered cap-on-grade	--	--	9	9
Dredge 2 feet and engineered cap	--	--	9	9
Dredge 4 feet and engineered cap	--	--	--	9
Dredge to clean and backfill	10	10	10	10

Note: -- indicates technology is not proposed in the SMA under any of the alternatives.

10.2.1.3 PERMANENCE

MTCA defines permanence as:

> The degree to which the alternative permanently reduces the toxicity, mobility, or volume of hazardous substances, including the adequacy of the alternative in destroying the hazardous substances, the reduction or elimination of hazardous substance releases and sources of releases, the degree of irreversibility of waste treatment process, and the characteristics and quantity of treatment residuals generated. (WAC-173-340 360(3)(f)(ii))

Permanence was evaluated based on the degree to which toxicity, mobility, and quantity of contaminants would be permanently reduced by each of the alternatives. The basis for permanence scores used the two MTCA sub-criteria: 1) certainty and reliability of each alternative;

and 2) residual risks (considering relative percent mass removal of PCBs and dioxin/furan TEQ associated with each alternative).

Exhibit 10.2-5 summarizes the area-weighted scores for the permanence evaluation of the various alternatives. A summary of the individual permanence scores for each technology, as it applies to a specific SMA, follows.

Exhibit 10.2.5
Permanence Scoring

Alternative	Certainty and Reliability	Residual Risks
M1 – MNR and Source Control	7.8	5.4
M2 – Capping Focus (Armored Shoreline)	9.1	8.4
M3 – Capping Focus (Soft Shoreline)	9.1	8.4
M4a – Targeted Removal Focus: North Inlet (2 foot removal)	9.2	8.5
M4b – Targeted Removal Focus: North Inlet (4 foot removal)	9.2	8.5
M5 – Targeted Removal Focus: Southern Areas	9.4	9.5
M6 – Removal Focus	9.5	9.5
M7 – Full Removal Focus	9.7	9.8
M8 – Full Removal	10	9

Certainty and Reliability

The certainty and reliability criterion was scored based how each technology would permanently reduce the toxicity, mobility, or volume of contaminants when applied within each SMA. None of the proposed remedial technologies destroy or treat hazardous substances found at the Site. As discussed in Section 5, there are no ongoing releases or potential sources of releases to marine sediment at the Site, with the possible exception of PCBs in porewater at the Knoll Area (SMA 3).

SMA 1: As discussed in Section 8.2.3, areas where COC concentrations are low enough that natural recovery can be achieved within 10 years under natural net sedimentation and biodegradation rates (i.e., where SWACs would meet human health or PQL-based RALs, assuming post-construction replacement values for remediated areas) are appropriate for MNR. The certainty and reliability of MNR is very high, but only when applied in areas with appropriately low initial contaminant concentrations. Conversely, removal is a technology with very high certainty under wider range of concentrations, although at higher concentrations the certainty and reliability of removal is limited by dredging residuals.

SMA 2: As discussed in Section 8.2.4, EMNR is highly effective where natural recovery is occurring, but at a slower rate than desired. While SMA 1 surface sediment concentrations are low enough that SWACs would meet human health or PQL-based RALs following remediation, assuming post-construction replacement values for remediated areas, SMA 2 surface sediment concentrations are slightly higher. Although SMA 2 surface sediment concentrations may not meet human health or PQL-based RALs following remediation, with the application of EMNR they would. EMNR material would be applied to SMA 2 in-the-dry, which provides high certainty and reliability of this technology in SMA 2. As with MNR, the certainty and reliability of EMNR is very high, but only when applied in areas with appropriate initial contaminant concentrations. Conversely, removal is a technology with very high certainty under wider range of concentrations, although at higher concentrations the certainty and reliability of removal is limited by residuals.

SMA 3: For SMA 3 the certainty and reliability of the evaluated technologies is more variable compared to SMA 1 and SMA 2. MNR would not reduce the toxicity, mobility, or volume of PCBs or dioxin/furans within the restoration timeframe and EMNR becomes less certain and reliable as concentrations in surface sediment increase. Removal is a technology with high certainty and reliability for SMA 3. Accordingly, capping and combined removal/capping alternatives are given intermediate scores relative to removal, and MNR scores low in SMA 3. The certainty and reliability of engineered caps is improved when combined with partial removal that would reduce contaminant volume and reduce contaminant concentrations immediately below the cap layers.

Each alternative was given an area-weighted score using the areas in Section 10.2.1 and relative certainty and reliability values assigned by the technology and SMA shown in Exhibit 10.2.6. The area-weighted scores for certainty and reliability are included in the total weighted benefit scores for each alternative evaluated in Table 10.2.1.

Exhibit 10.2.6
Technology and SMA Scores for Certainty and Reliability

Technology and SMA Scores for Certainty and Reliability				
Technology	SMA 1	SMA 2	SMA 3(south shoreline)	SMA 3 (inlet area)
MNR and source control	10	8	1	1
EMNR	--	9	--	--
Engineered cap-on-grade	--	--	7	7
Dredge 2 feet and engineered cap*	--	--	9	8
Dredge 4 feet and engineered cap*	--	--	--	9
Dredge to clean and backfill*	10	10	10	10

Notes: -- indicates technology is not proposed in the SMA under any of the alternatives.

*Does not consider dredge residuals generated during removal actions

Residual Risks

Residual risk is scored based on the degree to which the alternative reduces contaminant mass at the Site. Each technology is evaluated and scored accordingly, relative to the areas of the Site where they may be applied.

SMA 1: Surface sediment concentrations in SMA 1 are below the concentrations that pose risks to human health or the environment. As such, the residual risks in SMA 1 associated with any of the remedial technologies, including MNR, are low. MNR has a low residual risk in SMA 1 because the SWAC, immediately following construction, would meet the SCO concentration protective of human health for total PCBs and dioxin/furan TEQ. Although contaminant concentrations in SMA 1 are relatively low, dredging could produce residual contamination that would remain following construction, which reduces the dredging score for residual risks in SMA 1.

SMA 2: Surface sediment concentrations in SMA 2 are slightly above the concentrations that may pose a risk to human health. As such, the residual risks in SMA 2 associated with the proposed remedial technologies other than MNR, are relatively low. MNR would not address residual risk in SMA 2 since contaminant concentrations would not be reduced within the restoration timeframe and the SWAC following construction would not meet concentrations protective of human health for total PCBs or dioxin/furan TEQ. Although post-construction SMA 2 surface sediment concentrations would not be adequately addressed using MNR, with the application of EMNR they would meet concentrations protective of human health for total PCBs and dioxin/furan TEQ. Placement of the EMNR material in-the-dry further ensures protective concentrations would be met. There are no residual risks in SMA 2 when EMNR material is applied given the initial contaminant concentrations. Removal in SMA 2 would remove contaminant mass; however, residual concentrations would remain and limit the ability for dredging to reduce residual risks in SMA 2.

SMA 3: For SMA 3 the residual risks associated with the evaluated technologies is more variable. MNR would not reduce the contaminant mass for PCBs or dioxins/furans within the restoration timeframe. EMNR was not a remedial option considered for SMA 3 under any of the proposed alternatives since it is less effective as surface sediment concentrations increase. Removal may provide the highest benefit relative to residual risk in SMA 3 by reducing the contaminant mass; although residuals would be generated and remain following construction. Engineered caps are highly effective at reducing the contaminant mobility but do not provide mass removal. For the cap-on-grade option, there would be no reduction in contaminant mass following construction. Dredge and cap options reduce contaminant mass and isolate contaminants that remain. Contaminant mass reduction from partial dredge and cap options is higher in the southern shoreline areas of SMA 3 where contaminants are near the sediment surface, than in the inlet area of SMA 3, where contamination extends deeper. This difference in the contaminant mass removal from dredge and cap options in areas of SMA 3 is reflected in the scoring.

Each alternative was given an area-weighted score using the areas in Section 10.2.1 and relative residual risk values assigned by the technology and SMA shown in Exhibit 10.2.7. The area-weighted scores for residual risks are included in the total weighted benefit scores for each alternative evaluated in Table 10.2-1.

Exhibit 10.2.7
Technology and SMA Scores for Residual Risks

Technology and SMA Scores for Residual Risks				
Technology	SMA 1	SMA 2	SMA 3(south shoreline)	SMA 3 (inlet area)
MNR and source control	10	1	1	1
EMNR	--	10	--	--
Engineered cap-on-grade	--	--	1	1
Dredge 2 feet and engineered cap	--	--	8	4
Dredge 4 feet and engineered cap	--	--	--	5
Dredge to clean and backfill	9	9	9	9

Note: -- indicates technology is not proposed in the SMA under any of the alternatives.

10.2.1.4 EFFECTIVENESS OVER THE LONG-TERM

MTCA defines effectiveness over the long-term as:

> "Long-term effectiveness includes the degree of certainty that the alternative will be successful, the reliability of the alternative during the period of time hazardous substances are expected to remain on-site at concentrations that exceed cleanup levels, the magnitude of residual risk with the alternative in place, and the effectiveness of controls required to manage treatment residues or remaining wastes" (WAC 173-340-360(3)(iv))

The long-term effectiveness was evaluated based on the certainty that each technology and alternative would be successful throughout the timeframe that hazardous substances would be expected to remain at the Site in concentrations exceeding cleanup levels with considerations for climate change and seismic events as discussed subsequently.

The evaluation of the long-term effectiveness of each alternative includes climate change vulnerabilities relating to sea level rise and increased occurrence of severe storms (winds, waves, increase precipitation, and flooding). These factors have the potential to reduce the long-term effectiveness of alternatives and technologies where contamination is left in place and subjected to the erosive forces from severe storms. Remedial designs for engineered caps would need to consider climate change parameters, which have some degree of uncertainty over the life of the design. In addition to climate change, vulnerability relating to earthquakes is also a consideration for the long-term effectiveness of an alternative. The marine areas of the Site are primarily intertidal mudflats. Like many marine sediments, these areas may be subject to liquefaction-induced settlement during strong earthquake shaking. Marine sediments may also be subject to erosion during a severe storm.

Marine contaminants are concentrated on relatively flat intertidal zones and are located within a larger mudflat area that is not impacted by Site COPCs. Erosive forces from increased storm intensities have more erosive potential on steeper slopes than on flatter areas. Engineered caps placed on the flat intertidal sediments may experience some cap thinning or lateral cap movement may occur during an earthquake; however, deformed or damaged caps can be easily repaired. Riprap shoreline protection will need to be designed for stability during an earthquake; however, shoreline slopes and elevation differences (between the intertidal mudflat areas and the upland ground surface) are not steep or high enough to pose a significant concern for failure during an earthquake. A more detailed evaluation of the potential effects of earthquakes and erosion would be conducted during design as warranted. Because the marine area SMAs are already subject to tidal inundation they have limited vulnerability related to sea level rise. The climate change vulnerabilities due to increased storm intensities are discussed below relative to the SMAs and technologies proposed under each alternative.

Exhibit 10.2.8 summarizes the area-weighted scores for the long-term effectiveness evaluation of the various alternatives. A summary of the individual long-term effectiveness evaluation scores for each technology, as it applies to a specific SMA, follows.

Exhibit 10.2.8
Long-term Effectiveness Score

Alternative	**Effectiveness over the Long-term**
M1 – MNR and Source Control	5.4
M2 – Capping Focus (Armored Shoreline)	9.1
M3- Capping Focus (Soft Shoreline)	9.1
M4a – Targeted Removal Focus: North Inlet (2-foot removal)	9.2
M4b – Targeted Removal Focus: North Inlet (4-foot removal)	9.2
M5 – Targeted Removal Focus: Southern Areas	9.3
M6 – Removal Focus	9.3
M7 – Full Removal Focus	9.7
M8 – Full Removal	10

SMA 1: Surface sediment concentrations in SMA 1 are below the concentrations that pose risks to human health or the environment. Additionally, there are no areas of deep contamination that could potentially become exposed by increased erosion related to increased storm intensity. As such, the climate change vulnerabilities SMA 1 associated with any of the remedial technologies,

including MNR, are low. MNR is highly resilient to climate change in SMA 1 because the SWAC following construction would not pose a human health risk and disturbance of these sediments would not change this risk. Similarly, removal in SMA 1 would not be subject to climate change vulnerabilities for the same reasons.

SMA 2: Surface sediment concentrations in SMA 2 are above the concentrations that pose risks to human health. As such, MNR applied as the remedial technology in SMA 2 would be highly vulnerable to climate change factors, whereas EMNR in SMA 2 is highly resilient to climate change because the SWAC following construction would not pose a human health risk and the function of EMNR material placement is not to create a stable isolation cap but to enhance the natural recovery process. EMNR material is intended to be dynamic and the performance of an EMNR remedy would be evaluated based on achieving the SWAC not achieving and maintaining a long-term stable design thickness. Removal in SMA 2 would not be subject to climate change vulnerabilities because only residual contaminant impacts would remain following construction.

SMA 3: For SMA 3, MNR applied as the remedial technology in would be highly vulnerable to climate change factors because higher concentrations would remain in surface sediment and natural recovery would be severely disrupted by storms that disturbed sediments. Engineered caps would be designed to account for future conditions using conservative climate change projections. However, due to the uncertainty with these projections engineered caps would be more vulnerable to climate change relative to alternatives that use removal in SMA 3.
Each alternative was given an area-weighted score using the areas in Section 10.2.1 and long-term effectiveness values assigned by the technology and SMA shown in Exhibit 10.2.9. The area-weighted scores for risks resulting from implementation are included in the total weighted benefit scores for each alternative evaluated in Table 10.2-1.

Exhibit 10.2.9
Technology and SMA Scores for Long-term Effectiveness

Technology and SMA Scores for Long-term Effectiveness				
Technology	SMA 1	SMA 2	SMA 3(south shoreline)	SMA 3 (inlet area)
MNR and source control	10	1	1	1
EMNR	--	9	--	--
Engineered cap-on-grade	--	--	7	7
Dredge 2 feet and engineered cap	--	--	8	8
Dredge 4 feet and engineered cap	--	--	--	9
Dredge to clean and backfill	10	10	10	10

10.2.1.5 MANAGEMENT OF SHORT-TERM RISKS

MTCA defines management of short-term risk as:

> *"The risk to human health and the environment associated with the alternative during construction and implementation, and the effectiveness of measures that will be taken to manage such risks."* (WAC 173 340 360(3)(f)(v))

Short term risks are primarily associated with construction activities. Common to all active remediation alternatives, construction equipment operations result in greenhouse gas and particulate emissions, which present health risks to the adjacent community from degraded air quality. Construction itself is inherently dangerous, presenting a safety risk to workers at the Site and to the public during transportation of materials and equipment to and from the Site. To the extent that these short-term risks apply to all construction activities, the overall risk for shorter-duration and less construction-intensive projects is comparatively lower than for longer-duration and more intensive construction projects.

In addition to health and safety short-term risks, alternatives that include removal present risks to water quality because of releases associated with dredging, and to the benthic community due to short-term disruption of habitat, as well as generated dredging residuals. The magnitude of short-term water quality and sediment quality risks associated with removal alternatives are directly correlated with the volume of sediment removed. Based on these considerations, short-term risks are comparatively lower for shorter-duration actions and for EMNR or cap-on-grade where excavation is not used. The short-term risks relative to the SMAs and technologies proposed under each alternative are discussed below.

Exhibit 10.2.10 summarizes the area-weighted scores for the short-term risk evaluation of the various alternatives. A summary of the individual short-term risk evaluation scores for each technology, as it applies to a specific SMA, follows.

Exhibit 10.2.10
Short-term Risk Scoring

Alternative	**Management of Short-Term Risks**
M1 – MNR and Source Control	10
M2 – Capping Focus (Armored Shoreline)	9.3
M3- Capping Focus (Soft Shoreline)	9.3
M4a – Targeted Removal Focus: North Inlet (2-foot removal)	9.3
M4b – Targeted Removal Focus: North Inlet (4-foot removal)	9.3
M5 – Targeted Removal Focus: Southern Areas	9.2
M6 – Removal Focus	9.1
M7 – Full Removal Focus	8.8

SMA 1: The short-term construction risks in SMA 1 are lowest for MNR which does not include active construction, and highest for dredging which has increased risks from active construction and specifically from removal. In addition to the general construction and excavation risks discussed above, SMA 1 has some specific risks associated with excavation. SMA 1 is generally located furthest from the upland area and in lower elevation intertidal zones relative to the other SMAs. This location presents increased risks associated with shorter in-the-dry daily work windows and potentially softer, less stable, subgrades for land-based construction equipment to access and operate on. Subgrades may not support equipment, and the use of temporary access roads, crane mats, or highly specialized equipment may be required. Within SMA 1, the inlet area has unique construction risks due to steep, unstable slopes immediately adjacent to potential excavation areas, which would likely require shoring. These risks apply to active construction technologies and especially apply to excavation alternatives, which can destabilize saturated subgrades.

SMA 2: SMA 2 is also located off-shore and has similar construction risks as described for SMA 1, including shorter in-the-dry daily work windows and potentially softer, less stable, subgrades for land-based construction equipment to access. Within SMA 2, the inlet area has unique construction risks due to steep, unstable slopes immediately adjacent to potential excavation areas. In addition, SMA 2 has risks associated with excavation residuals and management of excavated material stockpiles off-site in upland areas. Similar to SMA 1, short-term construction related risks are lowest for MNR which does not entail active construction and highest for dredging. EMNR has more risk than MNR but less than dredging because access and slope stability risks are lower when no excavation is occurring. Construction activities for EMNR are also less intensive than for dredging.

SMA 3: SMA 3 has similar risks as SMA 1 and SMA 2 relating to access, excavation residuals, and management of excavated material stockpiles off-site in upland areas. The construction related risks for slope stability are highest in the inlet area of SMA 3 since this is where the deepest excavation would occur under a full removal scenario. Short-term construction related risks are lowest for MNR which does not entail active construction and highest for dredging. Engineered capping has more risk than MNR but less than dredging because access and slope stability risks are lower when no excavation is occurring. Risks associated with dredge technologies increase as the depth of excavation increases.

Each alternative was given an area-weighted score using the areas in Section 10.2.1 and relative short-term risk values assigned by the technology and SMA shown in Exhibit 10.2.11. The area-weighted scores for risks resulting from implementation are included in the total weighted benefit scores for each alternative evaluated in Table 10.2-1.

Exhibit 10.2.11

Technology and SMA Scores for Short-term Risks

Technology and SMA Scores for Short-term Risks				
Technology	SMA 1	SMA 2	SMA 3(south shoreline)	SMA 3 (inlet area)
MNR and source control	10	10	10	10

EMNR	--	9	--	--
Engineered cap-on-grade	--	--	8	8
Dredge 2 feet and engineered cap	--	--	7	7
Dredge 4 feet and engineered cap	--	--	--	6
Dredge to clean and backfill	1	5	5	5

Note: -- indicates technology is not proposed in the SMA under any of the alternatives.

10.2.1.6 TECHNICAL & ADMINISTRATIVE IMPLEMENTABILITY

Implementability is the criterion expressing the relative difficulty and uncertainty of implementing the cleanup action (Section 9.3.5). This section describes both the technical and administrative implementability considerations and scoring for the marina area alternatives.

MTCA defines technical and administrative implementability as:

> *"Ability to be implemented including consideration of whether the alternative is technically possible, availability of necessary off-site facilities, services and materials, administrative and regulatory requirements, scheduling, size, complexity, monitoring requirements, access for construction operations and monitoring, and integration with existing facility operations and other current or potential remedial actions."* (WAC 173 340 360(3)(f)(vi))

Exhibit 10.2.12 summarizes the area-weighted scores for the implementability evaluation of the various alternatives. A summary of the individual implementability evaluation scores for each technology, as it applies to a specific SMA, follows.

Exhibit 10.2.12
Implementability Scores

Alternative	**Technical Implementability**	**Administrative Implementability**
M1 – MNR and Source Control	6.8	10
M2 – Capping Focus (Armored Shoreline)	9	8.6
M3- Capping Focus (Soft Shoreline)	9	8.6
M4a – Targeted Removal Focus: North Inlet (2-foot removal)	8.9	8.7
M4b – Targeted Removal Focus: North Inlet (4-foot removal)	8.9	8.7
M5 – Targeted Removal Focus: Southern Areas	8.8	8.9

M6 – Removal Focus	8.8	8.9
M7 – Full Removal Focus	8.5	10
M8 – Full Removal	3.6	10

Technical Implementability

All the technologies included in the evaluation of alternatives incorporate well-established and proven methods of remediation. As a result, materials are readily available locally and there is a pool of qualified contractors. The technical challenges and complexities that impact the feasibility of the proposed technologies generally include excavation in the inlet area, where there are technical challenges associated with slope stability and shoring; and excavation, in areas with deeper cuts or cuts that are further from the shoreline where subgrade stability and access present additional challenges.

SMA 1: The technical implementability in SMA 1 is highest for MNR, which does not require active construction, and lowest for dredging, which requires active construction and the associated challenges of access for construction equipment. These conditions can present technical challenges and complexities that reduce the technical implementability by adversely impacting construction schedules, reducing production rates, impacting worker safety, and creating contractual issues such as claims and change orders based on unexpected site conditions.

SMA 2: The technical implementability in SMA 2 is highest for EMNR which does not require excavation but still presents challenges associated with active construction including access for construction equipment. MNR in SMA 2 would not be sufficiently protective based on the contaminant concentration limiting the technical implementability of MNR in SMA 2. The technical implementability of dredging in SMA 2 is also limited by challenges and increased complexity associated with access and slope stability. Again, these challenges reduce the technical implementability by adversely impacting construction schedules, reducing production rates, impacting worker safety, and creating contractual issues such as claims and change orders based on unexpected site conditions.

SMA 3: SMA 3 has similar challenges to SMA 1 and SMA 2 that reduce the technical implementability of removal alternatives. In the inlet area of SMA 3 there is increased complexity associated slope stability since this is where the deepest excavation would occur under a full removal. Additionally, excavation dewatering may be necessary to achieve the deepest excavations in the inlet. MNR would not be sufficiently protective or technically feasible in SMA 3, based on the contaminant concentrations. Engineered capping has fewer challenges and complexities than dredging in SMA 3 because slope stability would not be affected by capping. Combined dredging and capping alternatives have technical feasibilities that fall between dredging to clean and cap-on-grade, with increase complexity associated with greater depths of excavation.

Each alternative was given an area-weighted score using the areas in Section 10.2.1 and relative short-term risk values assigned by the technology and SMA shown in Exhibit 10.2.13. The area-weighted scores for risks resulting from implementation are included in the total weighted benefit scores for each alternative evaluated in Table 10.2-1.

Exhibit 10.2.13
Technology and SMA Scores for Technical Implementability

Technology	**SMA 1**	**SMA 2**	**SMA 3(south shoreline)**	**SMA 3 (inlet area)**
MNR and source control	10	5	1	1
EMNR	--	8	--	--
Engineered cap-on-grade	--	--	8	8
Dredge 2 feet and engineered cap	--	--	7	6
Dredge 4 feet and engineered cap	--	--	--	4
Dredge to clean and backfill	2	5	6	2

Note: -- indicates technology is not proposed in the SMA under any of the alternatives.

Administrative Implementability

There are also administrative challenges associated with the proposed technologies that impact implementability. Administrative challenges include regulatory approvals, permitting requirements and potential land use or navigational restrictions associated with environmental caps (institutional controls).

SMA 1: The two remedial technologies evaluated for SMA 1 are MNR and dredge to clean and backfill. These technologies would not be difficult to permit or require institutional controls; therefore, their administrative implementability is high.

SMA 2: The three remedial technologies evaluated for SMA 2 are MNR, EMNR, and dredge to clean and backfill. These technologies would not be difficult to permit or require institutional controls; therefore, their administrative implementability is high.

SMA 3: The three remedial technologies evaluated for SMA 3 are MNR, capping, and dredge to clean and backfill. MNR and dredging to clean would not be difficult to permit or require institutional controls; therefore, their administrative implementability is high. Dredge and cap technologies may require institutional controls potentially limiting land use or navigation; however, caps would be constructed on privately-owned intertidal marine parcels it is anticipated that requirements for institutional controls would be less onerous than for caps placed on public land. The potential requirement for institutional controls reduces the administrative implementability for dredge and cap technologies in SMA 3. Engineered cap-on-grade technology in SMA 3 would result in increased post-construction surface elevations. This may present increased permitting challenges as well as possibly requiring institutional controls, making the engineered cap-on-grade option least administratively implementable.

Exhibit 10.2.14
Technology and SMA Scores for Administrative Implementability

Technology	SMA 1	SMA 2	SMA 3(south shoreline)	SMA 3 (inlet area)
MNR and source control	10	10	10	10
EMNR	--	10	--	--
Engineered cap-on-grade	--	--	2	2
Dredge 2 feet and engineered cap	--	--	4	4
Dredge 4 feet and engineered cap	--	--	--	4
Dredge to clean and backfill	10	10	10	10

Note: -- indicates technology is not proposed in the SMA under any of the alternatives.

10.2.1.7 CONSIDERATION OF PUBLIC CONCERNS

MTCA defines consideration of public concerns as:

> *“Whether the community has concerns regarding the alternative and, if so, the extent to which the alternative addresses those concerns. This process includes concerns from individuals, community groups, local governments, tribes, federal and state agencies, or any other organization that may have an interest in or knowledge of the site.”* (WAC 173 340 360(3)(f)(vii))

The public involvement process under MTCA is used to identify potential public concerns regarding cleanup action alternatives. The extent to which an alternative would address those concerns is considered as part of the evaluation process. This includes concerns raised by individuals, community groups, local governments, tribes, federal and state agencies, local businesses, and other organizations with an interest in the cleanup action. Potential impacts to cultural resources from a given remedy and potential impacts during remedy implementation are considered under this evaluation criterion. Ecology will continue to evaluate public concerns through the public involvement process as the CAP is developed.

Input from members of the community is used to shape the remedial actions with respect to timing, local or cultural considerations, effects from disturbances including noise, light, and traffic that result from implementation methods or transportation routes, and the like. Different members of the community may have different priorities, and these priorities may or may not be aligned with the goals of the cleanup and/or the specific requirements of MTCA. Consistent with cleanup evaluations conducted by Ecology at other similar cleanup sites, preliminary consideration of public concerns for this disproportionate cost analysis balanced two potentially conflicting public interests:

1. One interest is environmental and generally supports remedial actions that remove the maximum amount of contamination

2. Another interest is economic and generally supports remedial actions that achieve regulatory requirements while minimizing impacts on local businesses

The consideration of public concern scores for each alternative are presented in Exhibit 10.2.15 and in Table 10.2-1. The scores are based on the degree that an alternative may balance these potentially conflicting priorities. In contrast to the other disproportionate cost analysis criteria, which tend to favor alternatives at one end of the range or the other, consideration of public concerns tends to score alternatives in the middle the highest, because of these countervailing priorities.

Exhibit 10.2.15 summarizes the area-weighted scores for the Consideration of Public Concerns evaluation of the various alternatives. A summary of the individual Consideration of Public Concerns evaluation scores for each technology, as it applies to a specific SMA, follows.

Exhibit 10.2.15
Consideration of Public Concerns Scores

Alternative	**Score**
M1 – MNR and Source Control	6.8
M2 – Capping Focus (Armored Shoreline)	9.1
M3- Capping Focus (Soft Shoreline)	9.1
M4a – Targeted Removal Focus: North Inlet (2-foot removal)	9.2
M4b – Targeted Removal Focus: North Inlet (4-foot removal)	9.2
M5 – Targeted Removal Focus: Southern Areas	9.4
M6 – Removal Focus	9.5
M7 – Full Removal Focus	10
M8 – Full Removal	3.9

There has been no input from the public on the proposed remedial alternatives for the Site to date. The following evaluation is based on general public concerns expressed on other similar cleanup sites in the Puget Sound relative to the remedial technologies included in the alternatives for each SMA.

SMA 1: It is expected that, overall, the public would generally favor MNR and generally oppose removal in SMA 1. It is anticipated that the disruption to the community from removal, including noise, light, traffic, and possibly to cultural resources, would outweigh any perceived benefits from active construction, given that there are no risks to human health or the environment in SMA 1.

SMA 2: It is expected that, overall, the public would favor EMNR in SMA 2. It is anticipated that the added disruption to the community from removal, including noise, light, traffic, and possibly to cultural resources, would outweigh any perceived additional benefits from removal, given that risks to human health and the environment in SMA 2 can be fully addressed by EMNR. It is anticipated that the public would oppose MNR in SMA 2, since there some human health risks that would remain beyond the restoration timeframe.

SMA 3: It is expected that, overall, the public would strongly favor removal in SMA 3, given that these are the areas with the highest contaminant concentrations. The public would likely favor engineered capping as well, with a preference for capping alternatives that also include partial removal. It is anticipated that the public would oppose MNR in SMA 3, since human health and environmental risks would remain following construction.

10.2.1.8 ADDITIONAL SMS CRITERIA

The use of recycling, reuse, and waste minimization was an evaluation criterion listed under the former SMS rule. However, specific reference to this criterion is not part of the revised SMS rule, which became effective in fall 2013. While the use of recycling and waste minimization in the context of cleanup is an important goal, recycling and waste minimization efforts are inherent to efficient and cost-effective construction projects, and there will be a natural tendency to maximize these efforts during project implementation. To the maximum extent possible, beneficial reuse opportunities will be explored both for the use of removed sediment, as well as for the imported clean cover and/or backfill materials as may be required for the marine area cleanup.

Consideration of environmental impacts will be evaluated for the selected marine area alternative through the SEPA process. SEPA considers impacts to air, animals, earth, energy, environmental health, land use, plants, public services, transportation, utilities, and water. Generally speaking, alternatives with shorter durations and that result in less disruption to the environment and public will be more likely to result in a determination of non-significance (DNS) or a mitigated DNS under SEPA. The sequential numeric ranking from least impact to most impact for each of the alternatives is M1 followed by M2, M3, M4a, M4b, M5, M6, M7, and M8 in that order.

10.2.1.9 COSTS

Detailed costs for each alternative are provided in Appendix N. Table 10.2-1 provides a summary of the estimated total cost for each alternative, including construction as well as non-construction costs. Total costs range from approximately $2,900,000 to $38,900,000 for alternatives M1 through M8.

10.2.2 ADDITIONAL MARINE AREA CLEANUP CONSIDERATIONS

10.2.2.1 PROTECTION OF CULTURAL RESOURCES

During the remedial design and permitting phase of the cleanup action, the implementing parties, in consultation with the Washington Department of Archaeology and Historic Preservation, the Tulalip Tribe, and other stakeholders as appropriate, will identify areas that may be affected by the cleanup action. These areas will include locations where cleanup-related disturbance may occur, including removal areas, staging areas, transport routes, and mooring areas, as appropriate. More detailed cultural resource evaluations will be integrated with studies for the engineering design phase of the project.

The cleanup action to be selected by Ecology for the Site in the forthcoming CAP will also include appropriate compliance monitoring provisions during implementation of the action, consistent with Section 106 requirements of the National Historic Preservation Act and Washington State laws. Detailed compliance monitoring plans will be developed during the remedial design and permitting phase, consistent with regulatory requirements. Appropriate cultural resource work plans, including a cultural resources treatment plan and an inadvertent discovery plan, will be included in the engineering design reports.

11. DCA SUMMARY AND CLOSING

Commented [AM(43]: Update this chapter based on Ecology provided alternatives and DCA.

This section summarizes the rationale for the selection of the preferred cleanup action alternatives for the upland areas and marine sediments at the Site.

11.1 SUMMARY OF UPLAND CLEANUP ACTION ALTERNATIVES

Under the Agreed Order (No. DE 5095) and with Ecology's oversight, JELD-WEN performed an RI that evaluated the nature and extent of contamination at the Site. The RI included collecting and evaluating environmental data and evaluating physical conditions on the Site sufficiently to develop appropriate cleanup actions that are consistent with MTCA and SMS requirements. Upland evaluations were made for the three upland assessment areas (Creosote Area, Woodlife Area, and Knoll Fill Area). The alternatives presented are based on the upland RI findings, the CSM developed for each area, the IHS present in each area, and the potential range of cleanup technologies considered in this FS. A detailed analysis of alternatives was performed, including a DCA that compared the relative costs and benefits of each alternative. Based on this evaluation, the cleanup alternative for each upland area is identified below.

11.1.1 CREOSOTE AREA

Based on the analysis presented in Section 10.1.4 and the DCA, Creosote Area - Alternative 2, consisting of bioremediation and sub-slab depressurization system below the building floor slabs is the preferred cleanup alternative for the Creosote Area. Figure 10.1-1 presents the weighted score for each alternative along with the estimated cost. Table 10.1-1 presents the total Composite Benefit Score, estimated cost, and unit cost (dollars per composite benefit score increment).

11.1.2 WOODLIFE AREA

Based on the analysis presented in Section 10.1.5 and the disproportionate cost analysis, Woodlife Area - Alternative 2, consisting of soil removal is the preferred cleanup alternative for the Woodlife Area. Figure 10.1-2 presents the weighted score for each alternative along with the estimated cost. Table 10.1-2 presents the total Composite Benefit Score, estimated cost, and unit cost (dollars per composite benefit score increment).

11.1.3 KNOLL FILL AREA

The most practicable permanent cleanup action for the Knoll Fill Area is discussed in the summary of marine cleanup action alternatives (Section 10.2).

11.2 SUMMARY OF MARINE CLEANUP ACTION ALTERNATIVES

Based on the marine sediment RI findings, nine FS alternatives were developed in consultation with Ecology that range from MNR and source control to full removal. Except for the MNR and source control only approach, all alternatives meet the threshold criteria at the completion of construction (although a 10-year post-construction recovery period is allowed under MTCA/SMS regulations) applying proven and permanent technologies. Alternative 2 has the highest benefit relative to cost ratio identified in MTCA/SMS DCA evaluation.

11.3 DATA GAPS EVALUATION

Identified data gaps remain as stated in this report. Those data gaps will be addressed through assessment and technology specific testing that will be conducted as part of the drafting of the CAP with Ecology's confirmation of the preferred cleanup alternative. This includes additional assessment of groundwater impacts in the Creosote Area to refine understood extent of those impacts. Specialized testing for further evaluation of potential treatment alternatives (i.e. injections/extraction) will be completed under Ecology's oversight during CAP development.

11.4 CLOSING

JELD-WEN and Ecology have worked cooperatively to develop this revised draft RI/FS report. This report incorporates the additional Site assessment work completed including the groundwater seep assessment, the groundwater seep sampling, the North Truck Dock assessment, Knoll Area/Knoll Fill Area assessment, sampling for PCBs in all shallow monitoring wells, and the 2019 transducer study. This report incorporates the meeting discussions, conference call discussions, and comments received by email. JELD-WEN is providing Ecology with this revised draft version of the report for Ecology's review and comment. This report has not been prepared for public review/public comment. With Ecology's review and comments, JELD-WEN is prepared to issue a version of this report to Ecology for public review. With Ecology's approval of RI/FS report and agreement on the cleanup alternatives, JELD-WEN is prepared to conduct data gap and the pre-design investigations in consultation with Ecology for CAP development.

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APPENDIX N

SUMMARY OF MARINE FS COSTS

July 8, 2020; JELD-WEN response to Ecology Comments on 2020 Revised Draft Remedial Investigation/Feasibility Study

JW JELD-WEN
WINDOWS & DOORS

7/8/2020

Mahbub Alam
Site Manager
Washington State Department of Ecology
Toxics Cleanup Program
PO Box 47600
Olympia, WA 98504-7600

RE: Revised Draft RI/FS report for the former Nord Door Site, Everett, WA
FSID Number: 2757 and CSID Number: 4402

Dear Mr. Alam:

Thank you for providing JELD-WEN with your comments on the revised draft RI/FS for the former Nord Door Site. Before and during this COVID-19 pandemic, JELD-WEN has remained committed to working cooperatively with Ecology.

General

In 2008, JELD-WEN signed an Agreed Order (AO) with Ecology to complete a Remedial Investigation/Feasibility Study (RI/FS) and Cleanup Action Plan. The initial draft RI/FS was submitted to Ecology in 2013 and the second draft RI/FS report was issued in 2016. Prior to February 2019, marine components of the RI/FS were considered largely complete and much of the Site work was focused on assessment and sampling of groundwater seeps and investigation of the North Truck Dock drainage. In February 2019, JELD-WEN received a letter of preliminary, "high level" comments on the marine components of the RI/FS. Ecology and JELD-WEN collaborated on the resolution of technical matters and source control investigations through 2019 and early 2020.

For the 2020 revised draft RI/FS report, the JELD-WEN and Ecology teams started with weekly face-to-face meetings at Ecology's office in February, which then became weekly video conference calls due to COVID-19-related travel restrictions. In the initial February meeting, Ecology notified JELD-WEN that its deadline to submit the RI/FS was April 30, 2020. Thereafter, a cooperative and productive tone was continued through these meetings and the numerous interim document submittals by JELD-WEN's consultant team. The teams worked together to prepare an Ecology "approvable" RI/FS submittal by the established April 30 deadline. From these meetings and document exchanges, two sediment remediation alternatives were added to the FS analysis per Ecology's request and the DCA scoring methodology was reviewed in detail. For the uplands portion of the Site, each remediation technology and cleanup alternative for the Creosote Area was presented and discussed with Ecology.

Given our cooperative meetings, JELD-WEN and the consulting team was surprised by your latest additions, recalculations, and rescoring of the cleanup alternatives (reference June 19, 2020: Ecology Comments on 2020 Revised Draft Remedial Investigation/Feasibility Study [Site Name: JELD-WEN, Inc.; FSID: 2757]). In our opinion, Ecology had more than adequate time, throughout our collaborative discussions, to consider and incorporate additional alternatives during the development of the draft RI/FS report.

Our continued intention is to work cooperatively with Ecology. JELD-WEN is requesting a schedule extension to incorporate Ecology's comments based on Ecology's surprising and unforeseen comments, the added alternatives, the re-scoring performed by Ecology, and the significant potential cost and schedule impacts.

After our next conference call, we will better understand the necessary timeline for incorporating Ecology's comments into the report and will, thereafter, provide you with a written request for that time extension or other formal notices provided for in the AO.

Uplands Section Comments

We agree that the ground water-to-surface water pathway text in the conceptual site model (CSM) needs to be changed. The RI/FS text will be changed to mutually agreed-upon language; we currently disagree with the narrative text that Ecology provided. The groundwater to surface water pathway is completed because shallow groundwater flows radially from the upland portion of the site toward marine surface water. The Creosote Area contaminants of concern (COCs) are not a concern for this surface water pathway because of their low mobility, and their presence appears to have remained at the area of use for more than 70 years. The sporadic and low-level detections of TPH and other COCs near surface water does not appear to be associated with the release at the Creosote Area.

Ecology has directed JELD-WEN to take the narrative explanation and the DCA benefit score that Ecology provided and change the language in the FS text. We feel that the scoring and narrative Ecology provided have deficiencies. Ecology's permanence scoring seems unbalanced, given that in-situ bioremediation destroys the COCs, which would be scored the same as Ecology's proposed soil excavation and on-site treatment. Ecology's scoring for protectiveness for Alternative 2 seems low, because sub-slab depressurization would be implemented quickly and would address the short-term exposure pathway to COCs. The Technical and Administrative Implementability and Management of Short-Term risk scores do not align with the work scope proposed in Ecology's Alternative 7. Scoring for Consideration of Public Concerns should consider the nuisance factor associated with excavation and handling of the material that has a strong odor, and the associative construction activities/traffic. The COCs in the Creosote Area have been present at that location for 70+ years; it is unclear how Ecology arrived at its narrative and scoring for Consideration of Public Concerns for the seven cleanup alternatives.

The cost analysis for Ecology's Alternative 7 excluded or reduced several necessary remediation cost items. Ecology's listed costs associated with building demolition, excavation shoring, and building replacement may not reflect the work scope from Ecology's Alternative 7. Our initial review indicates that Alternative 7 costs could be disproportionate to the benefit gained. The JELD-WEN team is still reviewing the costs and analysis for this alternative. JELD-WEN is prepared to work cooperatively with Ecology on the cost analysis, hot-spot soil removal approach, and scoring of the DCA.

Marine Section Comments

Ecology acknowledges in the comment letter that the requested quantitative approach to the DCA was presented in accordance with Ecology's previous request. In its review of the submittal, Ecology determined that some of the quantitative elements of the DCA, such as area and sediment management area weighting, no longer appropriate. While we do not agree with Ecology's changed position, we can accept the update in the DCA approach. We understand that Ecology presented a new alternative to management then set out to prepare scores using a completely qualitative approach to the DCA. As a result of the move from quantitative to qualitative evaluations, there appear to be significant inconsistencies in Ecology's qualitative approach. When these are addressed, the DCA is likely to point to a different preferred alternative even using Ecology's scoring method. We acknowledge that Ecology may use its discretion to select an alternative, despite cost proportionality. The following are the issues identified with Ecology's qualitative approach to scoring:

- Ecology reduced scores for engineered capping applied under evaluation criteria where such a reduction is not applicable (protectiveness and implementability). For example, Ecology's scoring for protection of human health and the environment results in score reductions of over 50% for engineered capping scenarios, even though properly designed and maintained engineered caps protect human health and the environment equally. Both capping and removal alternatives result in identical installation of a new sediment bioactive zone, thus eliminating risk to human health and environment equally.
- Ecology applied scores for permanence and long-term effectiveness that are not properly aligned with engineered capping technology to favor removal. For example, Ecology's scoring for long-term effectiveness and for certainty and reliability includes score reductions of over 50% for engineered capping scenarios, implying that engineered caps are highly unreliable and not effective over the long-term. We believe the demonstrated success of capping at other sites does not support the low score selected by Ecology.
- Ecology applied significant score reductions for technical and administrative implementability of engineered capping alternatives without justification. This also has the effect of double-counting criteria that should be evaluated under long-term effectiveness (i.e. functioning in perpetuity and long-term monitoring and maintenance) and identifying significant permitting difficulties which are not supported by precedent. Furthermore, enhanced resilience, qualitative habitat, and ecosystem function improvements included in Alternative 3 were simply ignored in the qualitative implementability evaluation. The technical and administrative feasibility for permitting, designing, monitoring, and maintaining engineered caps should be similar to excavating soft intertidal sediments which requires addressing associated slope stability issues.
- Ecology's scoring for consideration of public concerns favors removal and is highly subjective in the absence of any public comments.

At present, JELD-WEN cannot revise the FS text to reflect Ecology's scoring because we do not understand the technical rationale for the new scoring. We suggest that the JELD-WEN and Ecology teams collaborate to develop an appropriate qualitative rationale to re-score the DCA and update the FS text accordingly.

Next Step Summary

At this stage, we believe it is critical to have a common understanding with Ecology regarding the purpose of the AO-defined deliverables and regulatory basis in Model Toxics Control Act. At the highest level, the purpose of the FS and Cleanup Action Plan (CAP) are as follows:

- FS
    - Identify methods to eliminate exposure to contamination on the site
    - Assemble methods into a range of cleanup alternatives
    - Use environmental benefit versus cost analysis to choose a preferred alternative

- CAP
    - Describe Ecology's selected cleanup action, including,
        - Cleanup standards to protect human health and the environment
        - Schedule of next steps
        - Requirements for monitoring, operations, and maintenance.

The JELD-WEN team is prepared to collaborate with Ecology to address the Upland and Marine matters including those described above, confirm the preferred alternative based on the updated scoring, and finish the RI/FS report for Ecology's approval. The CAP will further elaborate on the preferred alternative selected for implementation including the scope of pre-remedial design investigations work to be completed upon finalization. In Remedial Design, the remedial areas, removal depths, cap specifications, and potentially technology assignments may be adjusted to reflect the pre-design investigation results in consultation with Ecology.

Despite our lack of consensus on key technical details, we appreciate that Ecology has indicated its preferences for the ultimate Remedial Action to be implemented at the Site. However, those preferences result in major additional cost outlays that present significant funding challenges for JELD-WEN and other potentially liable parties that are especially impactful, given the current global pandemic. JELD-WEN will need additional time to determine how to update the RI/FS and complete the CAP required by the AO.

We look forward to the resolution of these matters, in accordance with appropriate regulations, to finally move the Site into the actionable phase of project after more than a decade of study. We appreciate Ecology's efforts and our mutual commitment to permanently protecting human health and the environment.

Respectfully,
JELD-WEN, Inc.

Bonnie J. Basden, Director Environmental Permitting

August 17, 2020; SLR email to Ecology on Revised Woodlife Area Remedial Action Alternatives

From: R. Scott Miller
Sent: August 17, 2020 2:47 PM
To: Mahbub Alam (ECY)
Cc: Bonnie Basden
Subject: Ecology Comments on 2020 Revised Draft Remedial Investigation/Feasibility Study [Site Name: JELD-WEN, Inc.; FSID: 2757]
Attachments: Revised_WOODLIFE AREA REMEDIAL ACTION ALTERNATIVES_081220.docx; WOODLIFE FS ALT 2.pdf

Hello Mahbub,

Attached to this email are two documents related to the upland Woodlife area: the revised text from section 8.4.2 (Woodlife FS Alternatives) of the Revised Draft RI/FS report in the MS Word document and a revised Figure 8.4.2.1-B (Alternative 2 - Soil Removal), the pdf document. Changes in the text have been recorded as MS Word Track Changes mode in the attached document and are based on Ecology's comments and our subsequent phone conversations.

We are continuing to work on the other items we discussed and will have additional submittals to you soon.

Please let me know if you have any questions.

Thank you,
Scott

1.1.1 WOODLIFE AREA REMEDIAL ACTION ALTERNATIVES

The following alternatives have been assembled to address the Woodlife Area including on property impacts to soil and the associated impacts to groundwater.

1.1.1.1 ALTERNATIVE 1: ENGINEERING CONTROLS, INSTITUTIONAL CONTROLS AND LONG-TERM MONITORING

Alternative 1 for the Woodlife Area consists of engineering controls (maintaining the existing surface caps), installing additional monitoring wells for long-term monitoring, and institutional controls (see Figure 8.4.2.1-A).

The purpose of the surface capping would be to limit groundwater infiltration as well as to create a barrier to the direct exposure pathway. The majority of the Woodlife Area is currently covered by existing building slabs and surface pavements with the exception of a small ~~area of~~ landscaped area adjacent to the NTD.

Four additional groundwater monitoring wells will be installed as part of the long-term monitoring. These monitoring wells will be installed around the perimeter of the impacts identified during RI activities focused on the Woodlife Area.

Performance monitoring for Alternative 1 includes semiannual monitoring at 6 shallow monitoring wells (existing monitoring wells MW-6 and MW-7, and four newly installed monitoring wells) for 5 years; and annual monitoring for 15 years after completion of surface capping to confirm the stability and natural attenuation of the remaining groundwater contamination. In addition, annual surface capping inspections will be performed, likely in conjunction with the scheduled groundwater monitoring events. Compromised integrity of the surface capping will be documented and repaired as needed.

Once cleanup levels are met (estimated a~~A~~fter year 20 for costing purposes), the groundwater monitoring wells would be decommissioned~~, pending the analysis of groundwater samples confirming a stable or shrinking groundwater plume~~.

Institutional controls will include recording an environmental covenant to restrict the future development activities in the Woodlife Area to prevent potential exposure to contaminated media.

1.1.1.2 ALTERNATIVE 2: SOIL REMOVAL

Alternative 2 for the Woodlife Area includes soil excavation~~ followed by MNA~~, engineering controls (re-establishing the existing surface caps) and institutional controls (see Figure 8.4.2.1-B).

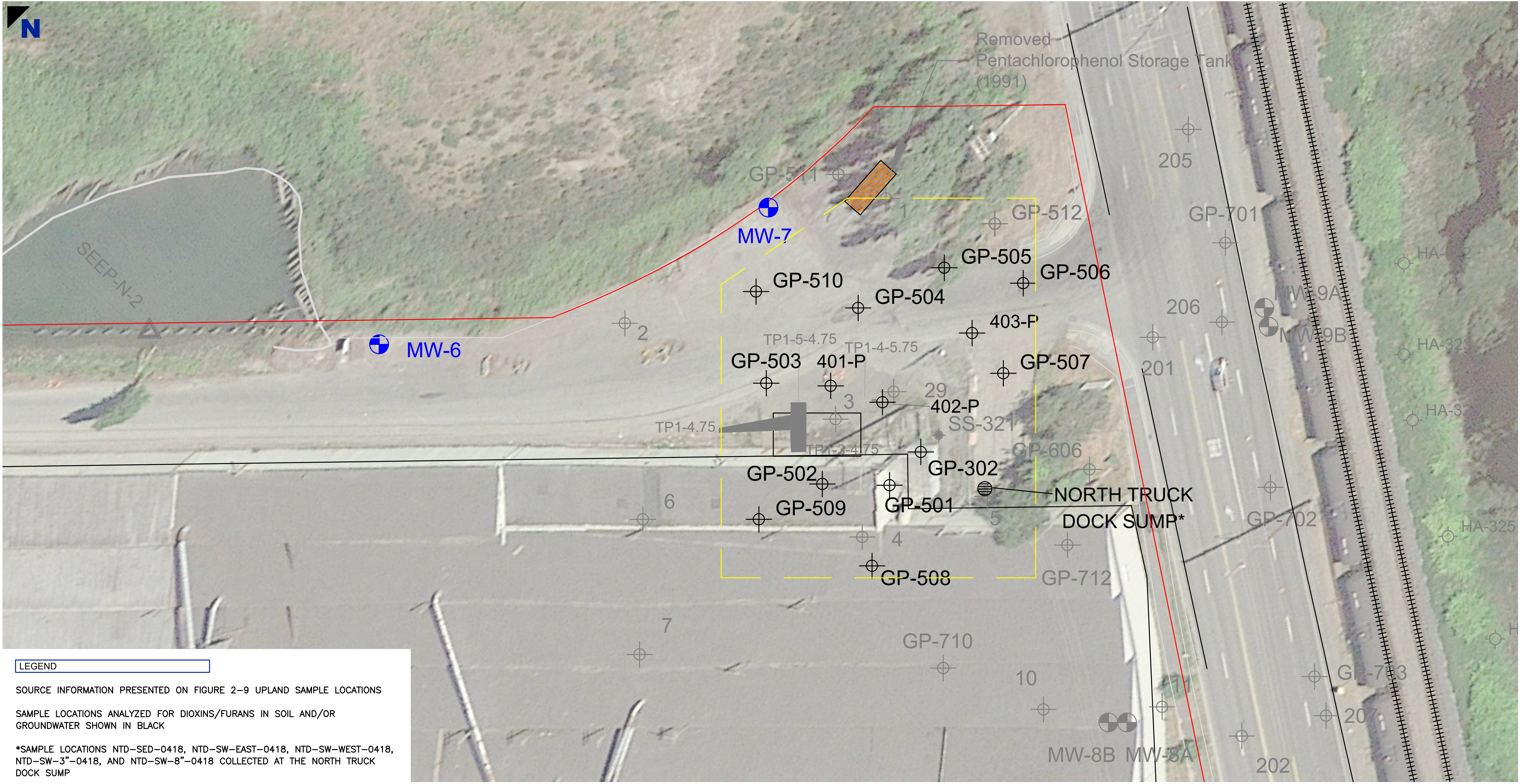
The purpose of the on-site soil excavation for the Woodlife Area would be to remove the impacted soil for off-site disposal.

After installing appropriate erosion control measures, approximately 22,000 square feet of the existing asphalt pavement and concrete surfaces (interior and exterior of existing building) would be removed. A portion of the existing main manufacturing building will need to be supported in anticipation of excavation activities that extend within the footprint of the building. Impacted soil ~~from approximately 0 to~~to an estimated maximum depth of 5 feet bgs would be excavated and hauled to an appropriate off-site disposal facility as special waste. Performance soil samples will be collected from the excavation extents and bottom to determine the ultimate extents of the excavation area and to document sufficient removal of contaminated soil to the cleanup level of 5.2 pg/g (based on background concentration). Based on the assumption that impacted soil extends to 5 feet bgs throughout the Woodlife Area, a~~A~~pproximately 5,500 tons of soil would be excavated; however, results from the RI investigation activities indicate that areas of deeper soil impacts are limited (to be confirmed via performance soil sampling). The use of dewatering equipment (Banker tanks, pumps, etc.) would likely be needed as the excavation would extend into the shallow groundwater table. The water would be treated on-site with bag filters and activated carbon before being discharged to the city sanitary sewer (pending a permit). Clean backfill would be imported and placed into the excavation. Imported material would be analytically tested prior to placement.

The backfill would be compacted and the excavation area would be finished with an estimated three inches of asphalt surface capping to match the existing surface capping to ensure contiguous surface capping throughout the contaminated area (i.e. engineering control).

~~Dioxins primarily adhere to soil and would be removed during the soil excavation. Performance soil samples will be collected from the excavation extents and bottom to document removal of contaminated soil. Performance groundwater monitoring would be performed quarterly for one year following soil removal to evaluate reductions in COC concentrations in groundwater followed by annual compliance monitoring events for an estimated 5 years to confirm cleanup action completion.~~ As the goal of the soil removal will be to remove soil impacts above the cleanup level, long-term monitoring is not proposed for this alternative; however, subsequent groundwater monitoring will be periodically performed at the existing downgradient monitoring wells MW-6 and MW-7 following soil removal activities. If the soil impacts can't be fully delineated due to site conditions or health & safety concerns (i.e. significant groundwater infiltration causing excavation/trenching concerns), and some contamination will remain in-place, JELD-WEN will work with Ecology to determine an appropriate remediation level (REL) to guide excavation limits (e.g. 5x cleanup level).

Institutional controls would be implemented as detailed in Alternative 1 during ~~this~~ the period of post removal monitoring.



LEGEND

SOURCE INFORMATION PRESENTED ON FIGURE 2-9 UPLAND SAMPLE LOCATIONS

SAMPLE LOCATIONS ANALYZED FOR DIOXINS/FURANS IN SOIL AND/OR GROUNDWATER SHOWN IN BLACK

*SAMPLE LOCATIONS NTD-SED-0418, NTD-SW-EAST-0418, NTD-SW-WEST-0418, NTD-SW-3"-0418, AND NTD-SW-8"-0418 COLLECTED AT THE NORTH TRUCK DOCK SUMP

MW-6 ⊕ EXISTING GROUNDWATER MONITORING WELLS

– – – ESTIMATED LIMITS OF EXCAVATION (ACTUAL HORIZONTAL AND VERTICAL EXTENTS TO BE DETERMINED BY CONFIRMATION SOIL SAMPLING)

—— APPROXIMATE PROPERTY BOUNDARY

SLR

ANCHOR QEA

NOTES

THE BUILDINGS, SURFACE UTILITIES, EDGE OF PAVEMENT, AND APPROXIMATE SHORELINE SHOWN ON THIS MAP ARE BASED ON A 2006 SURVEY PERFORMED BY WH PACIFIC.

0 45 90 135'

JELD-WEN/FORMER NORD DOOR FACILITY
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report
2020 REVISED RI/FS REPORT

Drawing
WOODLIFE AREA - ALTERNATIVE 2

Date	August 2020	Scale	AS SHOWN	Fig. No. 8.4.2.1-B
File Name	WOODLIFE FS ALT	Project No.	108.00228.00061	

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August 18, 2020; SLR email to Ecology on Revised Creosote/Fuel Oil Area CSM

From: R. Scott Miller
Sent: August 18, 2020 10:28 AM
To: Mahbub Alam (ECY)
Cc: Bonnie Basden
Subject: Ecology Comments on 2020 Revised Draft Remedial Investigation/Feasibility Study [Site Name: JELD-WEN, Inc.; FSID: 2757]
Attachments: Revised_CREOSOTE AREA CSM_081720.docx

Hello Mahbub,

Attached to this email revised text from Section 5.2 (Creosote/Fuel Oil Area Conceptual Site Model). Changes in the text have been recorded as MS Word Track Changes mode in the attached document and are based on Ecology's comments and our subsequent phone conversations.

We are continuing to work on the other items we discussed and will have additional submittals to you soon.

Please let me know if you have any questions.

Thank you,
Scott

1.1 CREOSOTE/FUEL OIL AREA

A conceptual site model including discussion of suspected points of release, contaminant fate and transport, and exposure pathways for the Creosote/Fuel Oil Area is provided below.

1.1.1 HISTORICAL USE

Characterization data and reported history of use indicate that the primary source of COPCs in soil and groundwater in the Creosote/Fuel Oil Area is the former pole treating operation on the Site. Prior to the early 1940s, National Pole Company operated a pole treating plant in the eastern portion of the Site and adjacent to the current placement of West Marine View Drive. Based on a review of aerial photographs and historical photos of the area it is likely that the roadway at that time was elevated on pilings (Appendix A).

Based on review of aerial photographs and historical maps, features associated with pole treating activities included two circular creosote ASTs of unknown capacity, three long rectangular ASTs possibly containing creosote, a rack for drying and storing treated poles, an oil house, and a rectangular building used as a combination lunchroom, engine room and machine shop (Figure 2.2-1), 1947 Aerial Photo with Site Features). The ~~Creosote~~ creosote ASTs, drying racks, and oil house were removed between 1943 and 1948. Pole treating operations are not observed in aerial photographs or site maps after 1948. Mudflats east adjacent to the pole treating operations and underneath the suspected elevated roadway appear to have been filled between 1938 and 1947 (Appendix A).

The Nord Door facility operated an oil-fired boiler on the eastern portion of the Site prior to 1957. Former fuel oil ASTs were located in the eastern portion of the Site along West Marine View Drive and also further to the west, beneath what is now the southern portion of the main manufacturing building. These ASTs were removed in the mid-to late-1950s.

1.1.2 PHYSICAL SETTING

The current location of West Marine View Drive historically consisted of tidally-influence mudflats that were likely filled between 1938 and 1947. Based on a review of boring logs from the Creosote/Fuel Oil Area, fill material appears to consist primarily of dredged sandy sediment with aggerate material below roadway pavement. Construction of West Marine View Drive in its current location (filled land versus elevated roadway on pilings) was completed by 1947 based on the available aerial photographs and Site maps. West Marine View Drive was modified as a wider paved roadway in the 1960’s.

Shallow groundwater has been measured as shallow as approximately 2 feet bgs and is likely influenced by surface water infiltration, site features, stormwater conveyance lines, and utilities infrastructure. Boring logs do not identify a continuous aquitard or aquiclude for the Site (Appendix F). Shallow groundwater samples at the Creosote/Fuel Oil Area have shown elevated conductivity, TDS, and salinity measurements indicating brackish groundwater conditions. The tidal influence assessment conducted in 2019 within the Creosote Area indicated changes in groundwater elevation associated with tidal swings were minimal.

Calculated shallow groundwater gradients reported during quarterly groundwater sampling activities, and data generated in the 2007 and 2019 transducer studies (Appendix G) indicate groundwater in the Creosote/Fuel Oil Area flows primarily west from the historical operations area towards Puget Sound with a gradient that averages 0.002 feet per foot (Appendix L). Groundwater below 15 feet bgs is considered "deep" groundwater for this RI/FS report. Calculated deep groundwater gradients reported during quarterly groundwater sampling activities indicate a similar westerly flow direction (Appendix G), and no vertical gradient has been measured in the paired wells (MW-8A-8B, MW-9A/9B, and MW-10A/10B).

Surface water in Maulsby Marsh flows west toward Puget Sound and drains through a culvert located on the southern edge of the marsh. Based on minimal tidal influence observed in monitoring wells in the Creosote/Fuel Oil Area, surface water elevations in Maulsby Marsh are not expected to be tidally influenced.

1.1.3 SUSPECTED AND CONFIRMED RELEASES

Based on historical documentation and analytical testing National Pole treated timber poles with a creosote wood preservative. Creosote is derived from coal tar and consists of a mixture of aromatic hydrocarbons, anthracene, naphthalene, and phenanthrene derivatives. Likely historical releases of COPCs to soil and groundwater associated with pole treating operations include spills and incidental releases of creosote to the ground associated with transporting and drying treated poles.

Releases of petroleum hydrocarbons in the Creosote/Fuel Oil Area are likely associated with the historical fuel storage tanks that were located south of the identified pole treating activities (Appendix A). The highest concentrations of COPCs in soil and groundwater were reported during pre-RI investigations in the central portion of the Creosote/Fuel Oil Area including borings GP-9, -10, -11, -12, -214, -215, and several borings under the existing West Marine View Drive (see Figure 5.2-1). Grading and filling activities associated with construction of West Marine View Drive likely resulted in burial of surficial contamination east of the primary operations area. Additional assessments focused on the Creosote/Fuel Oil Area were performed under Ecology-approved work plans.

Hand auger soil samples were collected from twelve locations in Maulsby Marsh in 2009 to assess potential impacts east-adjacent to the Site and the BNSF railroad tracks. The assessment analytical results indicate that ~~Creosote~~Creosote/Fuel Oil Area releases have not affected the marsh sediments or surface water. One soil sample (HA-329) from one-foot bgs measured elevated concentrations of TPH-Dx (diesel range) and PAHs above initial PCLs. Follow-up assessment of Maulsby Marsh sediment was completed in 2011 and it was determined that ~~Creosote~~Creosote/Fuel Oil Area-related COPCs were not present in the freshwater marsh sediments and the contaminants detected in the marsh sediments were not attributable to Site releases (see Appendix E).

Maulsby Marsh is adjacent to the BNSF railroad tracks where the application of herbicides/pesticides has been observed on the vegetated area that included sample location HA-329. Soil and groundwater analytical results from location HA-329 appear to be an outlier amongst the BNSF sampling, potentially associated with treated railroad ties, and are not considered representative of overall soil and groundwater conditions in the area between the BNSF railroad tracks and Maulsby Marsh.

1.1.4 CONTAMINANT FATE AND TRANSPORT

Soil

COPCs identified for the Site have relatively high partition coefficients and migrate slowly in soil through natural processes including density-driven flow, capillary draw, advection, and diffusion into the subsurface. RI data indicate that the migration pathway from soil to groundwater is complete at the Site; however, additional transport associated with groundwater flow through contaminated soil is also limited (see below). Droplets of non-aqueous phase liquid (NAPL) was observed in soil samples from Geoprobe boring locations, although not as a continuous unit. The presence of dense non-aqueous phase liquid (DNAPL) at depth indicates vertical migration of historical releases through density-driven flow. Soil cross sections for on-property and off-property portions of the ~~Creosote~~Creosote/Fuel Oil Area are included as Figure 5.2.4-1 and Figure 5.2.4-2

Soil Vapor

Migration of vapor from contaminated groundwater into soil gas has been assessed at the Site. Soil gas sampling from within the footprint of the existing main manufacturing building identified naphthalene and benzene exceedances of sub-slab soil gas vapor PCLs.

Groundwater

Groundwater sampling data has demonstrated that creosote impacts to soil and groundwater are localized around the former operation areas in the ~~Creosote~~Creosote/Fuel Oil Area and beneath West Marine View Drive. ~~Groundwater migration and/or seepage to surface water does not appear to be a mechanism for transport of creosote and/or fuel oil impacts at the Site.~~ Groundwater data collected during the RI/FS shows groundwater migration and/or seepage to surface water does not appear to be a significant mechanism for the transport of creosote and/or fuel oil impacts. ~~cPAH analytical results for two groundwater seeps on the north side of the Site (terminating in the “finger area”) did not measure any individual cPAH concentrations above laboratory PQLs.~~

Estimates of the shallow groundwater velocity in the ~~Creosote~~Creosote/Fuel Oil Area (Appendix L) are on the order of one-half foot per day. At this velocity, hundreds of soil porewater volume exchanges have occurred in the ~~Creosote~~Creosote/Fuel Oil Area over the estimated 70 years since the suspected release(s). However, creosote impacts to soil and groundwater remain localized in an area measuring approximately 650 by 500 feet. The analytical results indicate that groundwater transport is not a significant mechanism for ~~Creosote~~Creosote/Fuel Oil Area contaminant migration.

Deep groundwater impacts including concentrations of naphthalene (up to 15,900 ug/L, see Table 5.2-2) were reported for groundwater samples collected from deep monitoring well MW-8B. There does not appear to be a contiguous DNAPL plume in the shallow or deep zone as evidenced by NAPL only being observed as droplets in the soil matrix at select boring locations and the majority of groundwater impacts appear to be as dissolved phase; however, additional assessment is needed to define the horizontal extent of deep groundwater impacts. Sufficient deep zone groundwater plume data exists to complete the RI/FS with this identified data gap.

Surface Water and Stormwater

Creosote and fuel oil impacts at the Site in soil are primarily located at depth beneath buildings or pavement. Locations where creosote concentrations in soil exceeded the PCL in subsurface soil at unpaved areas include a thin strip of landscaping on the eastern portion of the Site and areas along the BNSF railroad ROW east of West Marine View Drive. Sediment and tissue sampling data in the adjacent marine and Maulsby Marsh areas did not identify creosote and/or fuel oil releases to surface water. Therefore, overland transport/surface runoff via stormwater is not considered a significant release mechanism for the creosote or fuel oil impacts at the Site.

Stormwater collection and transport via the on-site stormwater conveyance system has been identified as a likely potential historical contributor to sediment contamination on the north and south off-shore areas. However, the majority of the on-site stormwater conveyance system is located outside of the ~~Creosote~~Creosote/Fuel Oil Area (see Figure 3 from the SCE Summary Report, SLR, 2019a) and the primary COPCs in sediment are dioxins/furans and PCBs. Because the majority of subsurface contamination in the ~~Creosote~~Creosote/Fuel Oil Area occurs at depth, and minimal collection of stormwater occurs in the ~~Creosote~~Creosote/Fuel Oil Area, transport of ~~Creosote~~Creosote/Fuel Oil Area COPCs via the stormwater system is not considered a significant potential pathway for migration of COPCs at the Site.

1.1.5 CLIMATE CHANGE AND EARTHQUAKES

The potential effects of climate change and sea level rise are discussed in Section 3.4 of this report. Potential treatment technologies for the vadose zone within the timeframe for implementation and operation are discussed in the FS section of this report. For the ~~Creosote~~Creosote/Fuel Oil Area, it is anticipated that sea level rise will result in a corresponding rise in the groundwater table, reducing the thickness of the vadose zone, potentially limiting the effectiveness of remediation treatment technologies targeting the vadose zone. Two- and three-phase partition modeling of creosote and oils in the vadose zone (water, air, and residual oil) within a soil matrix indicate that rising sea levels will increase the oil holding capacity of the soil matrix while reducing the residual oil mobility.

A large magnitude earthquake could cause liquefaction of the silty, sandy soil identified in the ~~Creosote~~Creosote/Fuel Oil Area. An earthquake analysis/soil liquefaction analysis was not performed as part of this RI. The ~~Creosote~~Creosote/Fuel Oil Area is generally flat and significant land displacement is not expected during a liquefaction event; although a loss of bearing-capacity, settlement, and associated damage to on-site structures and roadways would be expected. Paved areas, and areas with overburden soil underlain by saturated sandy soil, could see upwelling of sandy soils into pavement base rock or onto the ground surface. The upwelling is expected to be limited to shallow depths and localized.

1.1.6 NATURE AND EXTENT OF CONTAMINATION

Soil contamination at the ~~Creosote~~Creosote/Fuel Oil Area includes TPH, PAHs, and VOCs primarily under the historical pole treating operations area with dimensions of approximately 650 feet by 385 feet (Figure 5.2-1). Soil impacts in the ~~Creosote~~Creosote/Fuel Oil Area are bounded laterally to the north, east, south and west by existing RI sampling data. Soil contamination is primarily located between approximately 5 and 15 feet bgs. Deep soil contamination was observed to a maximum depth of approximately 50 feet.

Deep monitoring well MW-8B was installed to a depth of 50 feet bgs and one year after installation, DNAPL has accumulated in the sump that was constructed at the bottom of the well. Based on previous observations at the Site, DNAPL is present in discontinuous ganglia and small pockets in the deep subsurface. A continuous DNAPL plume or lens has not been identified. Additional data collection during remedial design will bound the vertical extent of naphthalene contamination and the lateral extents of contamination at the ~~Creosote~~Creosote/Fuel Oil Area.

Shallow groundwater contamination in the ~~Creosote~~Creosote/Fuel Oil Area includes TPH, PAHs, VOCs, and SVOCs. The distribution of COPCs in groundwater is spatially consistent with the distribution observed for COPCs in soil. Shallow TPH, PAH, SVOC, and VOC contamination is limited to the historical pole treatment area and proximate to the historical fuel ASTs in the central portion of the ~~Creosote~~Creosote/Fuel Oil Area.

RI groundwater data bounds groundwater contamination in the ~~Creosote~~Creosote/Fuel Oil Area to the north, south, and west. Groundwater samples collected from hand-auger locations on the east edge of the Site were considered to represent the eastern edge of groundwater impacts because no known releases occurred in the marsh area and groundwater flows predominantly to the west.

Soil vapor is contaminated proximate to the area of shallow groundwater impacts. Neither soil nor groundwater contamination associated with the ~~Creosote~~Creosote/Fuel Oil Area extend to the marine “finger area” or into freshwater in Maulsby Marsh. No ~~Creosote~~Creosote/Fuel Oil Area COPCs were found in the adjacent Maulsby Marsh freshwater sediments.

1.1.7 AFFECTED MEDIA AND POTENTIAL EXPOSURE PATHWAYS

Results of the RI indicate that affected media at the ~~Creosote~~Creosote/Fuel Oil Area include soil, soil vapor, and groundwater and potentially complete exposure pathways related to these media in the ~~Creosote~~Creosote/Fuel Oil Area are described below.

Soil

The Property is zoned as industrial use and it is likely that industrial activities will continue to occupy the on-property portion of the ~~Creosote~~Creosote/Fuel Oil Area for the foreseeable future. Potentially complete exposure pathways for soil in the ~~Creosote~~Creosote/Fuel Oil Area include:

- Direct exposure by construction workers (e.g. dermal, incidental ingestion) associated with future on-site work or development work to a maximum depth of 15 feet or less.

- Terrestrial ecological exposure (e.g. dermal, ingestion, bio accumulative) to shallow soil in the unpaved areas only.

Shallow groundwater conditions are likely to limit potential future construction worker exposure to soil within less than approximately 5 feet from the ground surface. Due to the presence of asphalt caps, roadways, and structures on the Site, the terrestrial ecological exposure pathway is limited to a small landscaped area to the east of the main manufacturing building and the area in the BNSF ROW.

Due to the presence of shallow groundwater, surface structures, and the relatively conductive hydrogeology at the Site, no reasonable scenario exists for human or terrestrial ecological exposure to soil contamination greater than 15 feet bgs; therefore, no exposure pathway for deep soil is considered complete.

Soil Gas

Concentrations of naphthalene and benzene in soil gas samples exceeded applicable screening criteria under the existing main manufacturing building on the Site. Therefore, indoor air exposure pathway for workers on-Site is considered complete. Exposure to soil gas outside of existing buildings is unlikely due to immediate dilution by ambient air and lack of confinement to allow buildup of COPCs in the vapor phase

Groundwater

Groundwater at the Site is not considered potable because:

- It is not currently used as a source of drinking water; and,
- It contains natural background concentrations of constituents that make use of the water as a source of drinking water not practicable (brackish conditions).

Elevated Total Dissolved Solids (TDS) and/or salinity have been measured at monitoring wells MW-2, MW-3, MW-6, MW-8A, MW-9A, and MW-15, with a maximum TDS concentration of 15,490 mg/L (see Appendix G for field measurements from quarterly groundwater sampling events). Per MTCA, a TDS concentration in excess of 10,000 mg/L indicates that the groundwater contains natural background concentrations of organic or inorganic constituents that make use of the water as a drinking water source not practicable (173-340-200 (2)(b)(ii)).

In addition, according to MTCA the department recognizes that there may be sites where there is an extremely low probability that the groundwater will be used for domestic purposes because of the site's proximity to surface water that is not suitable as a domestic water supply (173-340-200 (2)(d)). While deep groundwater appears less saline than shallow groundwater, future use of deep groundwater is highly unlikely due to the potential for saltwater intrusion, difficulty of access, and the proximity to Puget Sound.

Groundwater impacts are currently contained under existing surface caps, buildings, and roadways, further limiting potential exposure. Sampling of adjacent shoreline seeps and Maulsby Marsh sediments indicates that groundwater COPCs are not ~~present~~ a concern in either media. Therefore, no complete exposure pathways were identified for shallow or deep groundwater associated with the ~~Creosote~~Creosote/Fuel Oil Area.

1.1.8 ~~CREOSOTE~~CREOSOTE/FUEL OIL AREA PROPOSED CLEANUP LEVELS

Site wide COPCs that exceed selected PCLs within the ~~Creosote~~Creosote/Fuel Oil Area are co-mingled with ~~Creosote~~Creosote/Fuel Oil Area COPCs. Based on the potentially complete exposure pathways listed above the following IHS have been selected for the ~~Creosote~~Creosote/Fuel Oil Area:

- TEQ cPAHs in soil;
- Naphthalene in groundwater; and
- Naphthalene in soil gas.

While TPH-Dx and cPAH groundwater impacts have been identified throughout the ~~Creosote~~Creosote/Fuel Oil Area (including in the deep zone), these impacts are comparatively less mobile, less widespread, and less volatile, and are therefore not appropriate IHS.

Proposed ~~Creosote~~Creosote/Fuel Oil Area PCLs are:

- ~~Soil Method B~~Saturated Soil Protective of Groundwater (soil);
- Groundwater Method B Protection of Vapor Intrusion (groundwater); and,
- Method B Sub Slab Soil Gas Screening Levels (soil gas).

Exceedances of selected PCLs for the IHS are presented in Table 5.2-1 to Table 5.2-3.

September 1, 2020; SLR email to Ecology on Revised Creosote/Fuel Oil Area FS Alternatives and DCA

R. Scott Miller

From: R. Scott Miller
Sent: September 01, 2020 1:39 PM
To: Mahbub Alam (ECY)
Cc: Bonnie Basden
Subject: Ecology Comments on 2020 Revised Draft Remedial Investigation/Feasibility Study [Site Name: JELD-WEN, Inc.; FSID: 2757]
Attachments: ALTERNATIVE 7-updated.docx; CREOSOTE FUEL OIL ALT 7.pdf; Alternative 7 revised cost.xlsx; revised creosote DCA 8-2020.xlsx

Hello Mahbub,

Attached to this email are documents related to the Creosote/Fuel Oil Area FS alternatives and the Creosote/Fuel Oil Area DCA consider all seven alternatives. The attached documents are:

1. Revised text for the FS section on Alternative 7 (MS Word)
2. A draft summary figure showing the proposed excavation extents for Alternative 7 (PDF)
3. Updated cost table for Alternative 7 (MS Excel), and
4. A revised DCA scoring matrix with the changes made to the Ecology provided DCA scoring shown in red text (MS Excel)

Regarding the Alternative 7 updated cost estimate; the costs do not include any site improvements. Cost for building demolition and partial repair necessary to conduct the proposed remediation actions are included. Additional details are provided below for your consideration as you review the cost analysis. These details are provided to you to support the cost analysis review; it seems like too much details for inclusion in the RI/FS report.

> Shoring Costs: The shoring costs include installation of a sheet pile wall and required lateral bracing. These are based on square footage of the installed sheet pile wall. To provide some lateral support and reduce the amount of water that must be pumped during the excavation the sheet piles should extend at least twice as deep as the planned excavation. A sheet pile wall, 20 feet deep, was used to estimate costs for an excavation 9 feet deep. Costs for sheet piling that we typically use range from $65 to $75/sq foot of installed wall. A cost of $75/sq foot of installed wall was used in the estimate to account for lateral bracing which will likely be required.
>
> Building Demolition Area: The footprint of the demolition will extend beyond the limits of the excavation to facilitate equipment access and the installation of the 20-foot long sheet piles. The limits of the demolition must also consider the existing load bearing points of the structure. The demolition must extend to these load bearing structural elements or temporary walls and bracing must be constructed. The exact limits of the demolition will be based on the final outlines of the excavation (which in turn will be determined by remedial design phase Geoprobe/well installation work).
>
> Partial Building Repair Costs: The cost estimate for Alternative 7 includes $1M cost for partial building reconstruction. Partial demolition of the main manufacturing building and some building reconstruction is necessary for completion of the selected remedial action. Partial building reconstruction activities are not considered site development and therefore are considered an eligible cost per MTCA (Chapter 173-322A WAC). We will consider the applicability of the final determination detailed in the Preliminary Draft Rule for Sections 350, 360, and 370 upon its incorporation into MTCA as law.
>
> Soil Disposal Rates: For the cost estimate for Alternative 7, it is assumed that 10% of the excavated soil from the saturated soil zone could contain product resulting in total PAH concentrations above 1% and would be considered a Persistent Waste, increasing handling and disposal costs.

Please give me a call once you have time to review these documents and the prior submittals. We look forward to discussing the various pieces we have provided before assembling the revised draft RI/FS report.

Let me know if you have any questions.

Thank you,
Scott

1.1.1.1 ALTERNATIVE 7: HOTSPOT SOIL REMOVAL & BIO

Alternative 7 includes excavation and off-site disposal of contaminated soil on-property to 9 feet bgs, bioremediation treatment for deeper on-site groundwater and shallow and deeper off-property groundwater, and short-term institutional controls (Figure 8.4.1.1-c). This excavation will address a majority of the high concentration soil impacts at depths where direct exposure is most likely and will reduce potential exposures through vapor intrusion and worker contact.

To support decision making regarding the extent of the proposed soil excavation a series of 10 monitoring wells and 30 temporary Geoprobe points will be installed during the remedial design phase. Monitoring well and Geoprobe borings will also be used for geotechnical testing to assess excavation shoring and dewatering system design. Pilot testing of the Bio system will also be performed during the remedial design phase. To minimize logistical difficulties, pilot testing will be performed on-property for the shallow and deeper zones, even though some of the shallow soils will be subsequently excavated. As described in Alternative 2, pilot testing will require approximately one year to complete. During this time designs for the building partial demolition and repair, shoring, and excavation activities will be completed.

Excavation of contaminated soil will proceed after the completion of the Bio pilot testing. Site conditions could easily lead to flowing sands that could quickly destabilize a shored excavation. Even using sheet piling to reduce water infiltration will have reduced effectiveness because there is no significant fine-grained unit that the sheet piling can key into that will reduce vertical groundwater flow through the sandy soils. Additional data will be collected during the Cleanup Action Plan phase to support a detailed design of the shoring system necessary for soil removal to 9 beet bgs. Based on available site information, the shoring system is likely to include a robust dewatering system to depress the water table outside of the excavation to below the target depth and sheet piling or a reinforced bentonite concrete wall to a depth of at least 20 feet bgs with lateral bracing or tie-backs. This level of effort will be required to protect structures, roadways, and utilities and to allow for the excavation of the impacted soils.

The excavation will likely proceed by sections, with shorter sections along the sheet pile wall being excavated first. The wall would be braced during this phase until clean soil is backfilled and compacted behind the wall. Once the wall has been braced with clean backfill, interior cells can then be excavated.

This work will require that a portion of the existing main manufacturing building be demolished. The footprint of the demolition will extend beyond the limits of the excavation to facilitate the installation of the 20-foot long sheet piles. The limits of the demolition must also consider the existing load bearing points of the structure. The demolition would extend to these load bearing structural elements otherwise temporary walls and bracing would be required. Demolition of the building will require the potential abatement of ACM and/or lead based paint.

It is expected that the shoring method (sheet pile or wall) will reduce the amount of water that must be pumped to capture groundwater in the excavation. Enough data does not exist at this point to design water handling systems, but it is assumed for cost estimating in this report that the system will operate at approximately 100 gpm to control water in the excavation. The extent of the excavation will be based on existing analytical data supplemented with additional investigation described above. The approximate extent of the excavation is shown on Figure 8.4.1.1-f.

For this report analysis, it is assumed that soils to a depth of 3 feet will be clean overburden. Separating clean from impacted soils during the excavation of the saturated zone will be difficult without groundwater depression. For this report cost estimate, it is assumed that 10% of the excavated soil from the saturated soil zone will contain product resulting in total PAH concentrations above 1% and would be considered a Persistent Waste, increasing handling and disposal costs.

The excavation will be backfilled with clean stockpiled overburden and imported granular fill. The soil will be placed and compacted to allow for the reconstruction of the building. Due to the prolonged disruption and required closures that would be necessary, excavation would not include soil beneath West Marine View Drive or BNSF property.

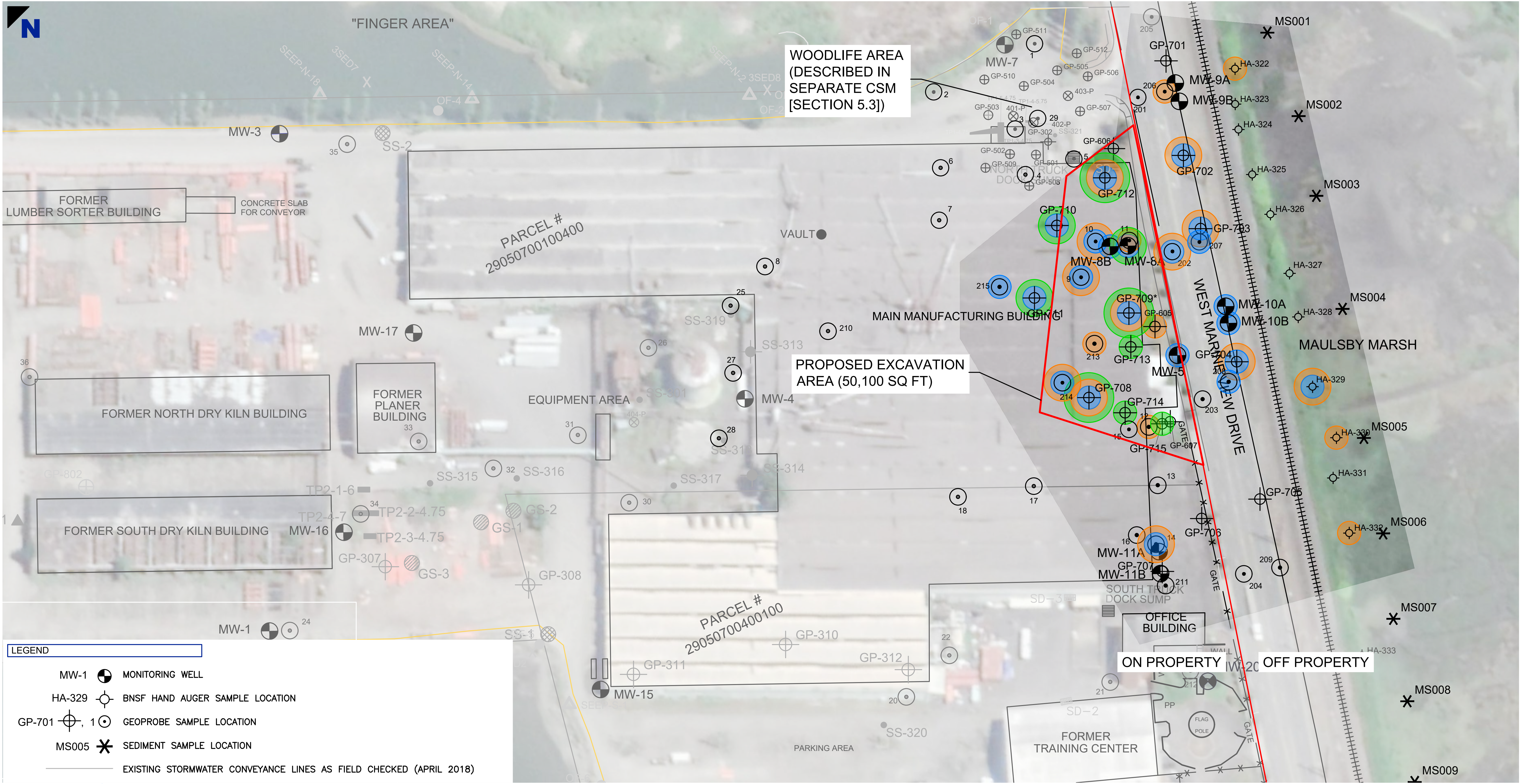
After completion of the backfilling and any removal of the sheet piling, portions of the building would be rebuilt. As portions of the existing building in the area of the excavation have already failed, it is unlikely that the entire footprint of the building will be reconstructed. For cost estimating purposes it is assumed that minor portions of the building will be reconstructed in conjunction with "sealing in" the demolished edges of the building.

Excavation of contaminated soil is estimated to take up to a year, including building demolition, shoring installation, phased excavation, backfilling and testing, and partial building reconstruction following the removal activities.

Performance groundwater monitoring will be performed semiannually for 5 years wells and annually for 5 years at 10 wells to evaluate reductions in concentrations in groundwater.

Deeper on-property impacts, and shallow and deep off-property impacts will be addressed through a Bio system as described in Alternative 2, and as applicable.

Short-term institutional controls will be completed as described in Alternative 2.



LEGEND

MW-1	◐	MONITORING WELL
HA-329	⌖	BNSF HAND AUGER SAMPLE LOCATION
GP-701, 1	⊕ ⊙	GEOPROBE SAMPLE LOCATION
MS005	✱	SEDIMENT SAMPLE LOCATION
	—	EXISTING STORMWATER CONVEYANCE LINES AS FIELD CHECKED (APRIL 2018)
	🔵	GROUNDWATER EXCEEDANCE OF NAPHTHALENE PCL (BASED ON VAPOR INTRUSION)
	🟠	SOIL EXCEEDANCE OF cPAH PCL (BASED ON DIRECT CONTACT)
	🟢	SOIL GAS EXCEEDANCE OF NAPHTHALENE PCL

NOTES

THE BUILDINGS, SURFACE UTILITIES, EDGE OF PAVEMENT, AND APPROXIMATE SHORELINE SHOWN ON THIS MAP ARE BASED ON A 2006 SURVEY PERFORMED BY WH PACIFIC.

0 115 230 345'

SLR

JELD-WEN/FORMER NORD DOOR FACILITY
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report
2020 REVISED RI/FS REPORT

Drawing
CREOSOTE/FUEL OIL - ALTERNATIVE 7

Date	Scale	Fig. No.
August 2020	AS SHOWN	8.4.1.1-f

File Name	Project No.
SW_NORD_NTL POLE_ALT 7	108.00228.00061

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Creosote and Fuel Oil Area - Alternative 7

Hotspot Soil Removal (on-property) and Bioremediation on- and off-property

Excavation and off-site disposal of contaminated on-property soil to 9 feet bgs and Bioremediation (Bio) on- and off-property

Remedy Components:

1. Construction contractor mobilization
2. Install Monitoring wells and Geoprobes
3. Perform Bio pilot testing on property
4. Demolish portions of the main manufacturing building for access to impacted soil for excavation
5. Install sheet-pile shoring or (other methods) to allow for soil excavation
6. Excavation of shallow soils to a depth of 9 feet below grade, hauling and off-site disposal
7. Building demolition, soil excavation, backfill, compaction, slab replacement, and partial building replacement.
8. Install Bioremediation system for deep on-property impacts and shallow and deep off-property impacts
9. Operate Bioremediation System for 5 years
10. Construction Management
11. Short-term institutional controls to restrict exposure to soil/remediation efforts

Primary Assumptions

1. On-property soil excavation is estimated at 16,700 bcy (9 feet depth, 50,000 square feet)
2. Building removal 20 feet back from excavation for access (57,000 square feet)
3. Additional assessment, bioremediation pilot testing set-up, perform pilot testing for one year
4. ACM in building is only in roofing
5. Building demolition, shoring installation, excavation, backfilling, and partial building replacement will require 1 year to complete followed by Bioremediation
6. 3 feet of clean overburden, 10% of impacted soil requires special disposal
7. 150 cfm AI, 240 cfm SVE, 10,000 lb carbon consumed, 40 gpm NNS (described in Alternative 2)
8. Two injections of NNS at 125,000 lbs each
9. Groundwater sampling of 10 wells for 10 years (5 years semi-annually, 5 years annually)
10. Institutional controls restricting soil exposure and soil management plan (off-property)

Remedial Action Component	Units	No. of Units	Unit Cost	Cost	Total Cost	
REMEDIAL ACTION						
Mobilization						
Mobilization	est	1	$50,000	$50,000		
					$50,000	
Monitoring Well and Geoprobe installation						
Install monitoring wells	each	10	$4,000	$40,000		
Install Geoprobes	est	1	$40,000	$40,000		
Lab and Reporting	est	1	$20,000	$20,000		
					$100,000	
Site Controls / Institutional Controls (off-property)	est	1	$20,000	$20,000		
					$20,000	
Excavation						
Demolish building	sq ft	57,000	$5	$285,000		
Building disposal	sq ft	57,000	$2.50	$142,500		
Well abandonment	ea	3	$2,000	$6,000		
Shoring installation	sq ft	18,000	$75	$1,350,000		Includes sheet pile, bracing, pile removal
Dewatering system	est	1	$100,000	$100,000		
Relocation of utilities in excavation area	est	1	$200,000	$200,000		Sewer, water, and high-pressure natural gas near excavation area
Excavation	bcy	16,700	$6	$100,200		
Disposal 3 to 9 feet regular waste (90%)	ton	14,028	$55	$771,540		Soil from 3 to 9 feet (2/3 total volume bank cubic yards [bcy]), 1.4 tons per bcy, 90% soil excavation
Disposal 3 to 9 feet persistent waste (10%)	ton	1,559	$400	$623,467		Soil from 3 to 9 feet (2/3 total volume bank cubic yards [bcy]), 1.4 tons per bcy, 10% soil excavation
Place and compact clean overburden	bcy	5,566	$5	$27,831		
Provide, place, and compact clean fill	bcy	11,133	$25	$278,333		
Partial Building reconstruction	LS	1	$1,000,000	$1,000,000		
					$4,884,871	
Bio Pilot testing						
Install wells	each	4	$6,000	$24,000		
Install vertical recirculation well	each	1	$8,000	$8,000		
Testing Labor	month	6	$12,000	$72,000		
Equipment Rental and setup	month	6	$10,000	$60,000		
NNS chemicals	lbs	2,000	$33	$66,800		
Temporary power supply	LS	1	$10,000	$10,000		
Carbon vessels	each	2	$4,000	$8,000		
Install post test borings	LS	1	$10,000	$10,000		
Lab and Reporting	LS	1	$40,000	$40,000		
					$298,800	
Bioremediation System						
AI wells	each	19	$3,000	$57,000		
NNS wells	each	9	$4,000	$36,000		
Vertical mixing wells	each	5	$8,000	$40,000		
Submersible pumps and headworks	each	10	$5,000	$50,000		
Trenching and Piping	feet	2,000	$110	$220,000		
Road Bore	LS	1	$40,000	$40,000		
Blowers and Enclosure	LS	1	$130,000	$130,000		
NNS addtion system	LS	1	$60,000	$60,000		
NNS chemicals	lbs	250,000	$3.40	$850,000		
NNS addition labor	LS	2	$35,000	$70,000		
Electrical Service	LS	1	$40,000	$40,000		
					$1,593,000	
Decommissioning						
Monitoring Well Decommissioning[1]	each	42	$2,000	$84,000		
					(See NPV)	
Subtotal					$6,946,671	
Project Management 6%					$416,800	
Design and permitting 10%					$694,667	
Construction management 8%					$555,734	
Taxes 10%					$694,667	
Contingency 25%					$1,736,668	
Remedial Action Subtotal (Rounded to nearest $10,000)					**$11,050,000**	
Monitoring and Maintenance						
Semi-annual groundwater monitoring and sampling (yr 1-5[1])	yr	5	$10,000	$50,000		
Groundwater monitoring and sampling - annual (yrs 6-10[1])	yr	5	$5,000	$25,000		
Annual reporting (year 1-2)[1]	yr	2	$10,000	$20,000		
Annual reporting (yrs 3 - 10)[1]	yr	8	$4,000	$32,000		
Bio systems O&M, electrical, equipment repair	yr	5	$32,000	$160,000		
5 year review report (every 5 yrs)[1]	yr	2	$12,000	$24,000		
Subtotal NPV (see below)					$381,000	
Taxes 10%					$38,100	
Contingency 20%					$76,200	
Monitoring and Maintenance Subtotal (Rounded to nearest $10,000)					**$500,000**	
REMEDIAL ACTION ESTIMATED TOTAL (Rounded to nearest $100,000)					**$11,600,000**	

[1] Year 1 value shown

SUM NPV:	$70,523	$153,168	$19,377	$74,476	$63,534	**$381,000**
Year	**Monitoring**	**O&M**	**Carbon**	**Decom**	**Reporting**	
1	$0	$0	$2,000	$0	$0	
2	$10,000	$32,000	$6,000	$0	$10,000	
3	$10,000	$32,000	$6,000	$0	$10,000	
4	$10,000	$32,000	$4,000	$0	$4,000	
5	$10,000	$32,000	$2,000	$0	$4,000	
6	$10,000	$32,000	$0	$0	$12,000	
7	$5,000	$0	$0	$0	$4,000	
8	$5,000	$0	$0	$0	$4,000	
9	$5,000	$0	$0	$0	$4,000	
10	$5,000	$0	$0	$0	$4,000	
11	$5,000	$0	$0	$84,000	$12,000	

Remedial Action Component	Units	No. of Units	Unit Cost	Cost	Total Cost

Notes:

Discount rate = 1.1%

OMB Circular No. A-94 (Executive office of the President, office of Management and Budget, and 2013 Discount Rates memo dated 1-24-2013)

Total NPV shown is rounded to nearest $1,000

Table 10.1-1
Creosote/Fuel Oil Area
Disproportional Cost Analysis Matrix

Criterion	Weighting	WAC Language	Scoring Criteria	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
				Sub-Slab Depressurization (SSD), Engineering Control (EC), Institutional Controls (IC)	In-Situ Bioremediation (ISB), SSD, MNA, EC, IC	In-Situ Chemical Oxidation (ISCO), SSD, MNA, IC	Soil Removal, ISB, MNA, IC	Thermal Treatment (TT), SSD, EC, IC	In-Situ Soil Stabilization/Solidification (ISS), TT, IC
Protectiveness	30%	Overall protectiveness of human health and the environment, including the degree to which existing risks are reduced, time required to reduce risk at the facility and attain cleanup standards, on-site and offsite risks resulting from implementing the alternative, and improvement of the overall environmental quality.	Alternative 1 meets the MTCA threshold requirements but does not meet the other requirements (permanent solution to maximum extent practicable and reasonable restoration timeframe); accordingly, the benefit score to Cost Ratio is not presented for Alterna health and the environment by reducing the existing risks. Alternative 4 and 7 score highest due to the greater degree of certainty associated with removal and the quicker risk reduction. Alternative 4 scores higher than 7 because of more contaminant mass rem timeframe. Alternative 6 reduces the mobility of contaminants but leaves them in place and removes contamination through thermal treatment from off property areas. Alternatives 2, 3, and 5 treat the majority of contamination at the Site with different degree o with thermal treatment (Alternative 5) scoring relatively higher due to being more effective and with a shorter restoration timeframe. Alternative 2 has a lesser degree of certainty and requires more active treatment time than alternative 5 and therefore scores addresses on property contamination but does not effectively address off property contamination and therefore scores the lowest.						
			Score:	1.0	4.0	3.0	10.0	6.0	7.0
Permanence	20%	The degree to which the alternative permanently reduces the toxicity, mobility or volume of hazardous substances, including the adequacy of the alternative in destroying the hazardous substances, the reduction or elimination of hazardous substance releases and sources of releases, the degree of irreversibility of waste treatment process, and the characteristics and quantity of treatment residuals generated.	Alternatives are scored based on permanent removal of contaminants with higher scoring provided for alternatives that permanently reduce toxicity, mobility or volume. Alternative 1 meets the MTCA threshold requirements but does not meet the other requireme extent practicable and reasonable restoration timeframe); accordingly, Alternative 1 is scored low for permanence and the benefit score to Cost Ratio is not presented for Alternative 1. Alternatives 4, 5 and 7 permanently remove or treat the majority of contamin removes most on-site contamination permanently and score the highest. Alternative 4 scores slightly higher than 7 because of more soil mass removal resulting in a more permanent solution. Alternative 5 provides more complete treatment of the volatile and se scores the next highest. Alternatives 2 and 6 also provide treatment or immobilize contamination but Alternative 2 has less degree of certainty regarding effectiveness on higher ring PAHs. Alternative 6 scores higher due to the thermal treatment of the off propert it leaves contamination in the off property soils.						
			Score:	1.0	4.0	3.0	9.0	7.0	6.0
Long-Term Effectiveness	20%	Long-term effectiveness includes the degree of certainty that the alternative will be successful, the reliability of the alternative during the period of time hazardous substances are expected to remain on-site at concentrations that exceed cleanup levels, the magnitude of residual risk with the alternative in place, and the effectiveness of controls required to manage treatment residues or remaining wastes.	Proven treatment technologies, site-tested treatment technologies, and technologies with a shorter restoration timeframe generally receive a higher ranking. Complex & less reliable treatment technologies and technologies requiring longer durations generally ar preferences for (in order) recycling, destruction/detoxification, immobilization/solidification, off-site disposal, isolation/containment, and institutional and engineering controls. Alternative 1 meets the MTCA threshold requirements but does not meet the reasonab in MTCA; accordingly, Alternative 1 is scored low for Long-Term Effectiveness and the benefit score to Cost Ratio is not presented for Alternative 1. Alternative 4, 5, and 7 have similar higher scores for long term effectiveness than other alternatives. Alternative 5 complete destruction of hazardous substances on Site but some degree of uncertainty exists whether this Alternative will be successful. Alternative 4 and 7 rely on off-site disposal which is a mature and proven technology used at most sites with Alternative 4 sco less magnitude of residual risk remaining on-site. Alternative 6 also scores very high due to immobilization and destruction technology but suffers from complexity. Alternative 2 destroys contamination over a longer period that requires longer monitored natu destroys contaminants quicker than Alternative 2 but it is not practical for off-property contamination and therefore receives the lowest score.						
			Score:	2.0	4.0	3.0	9.0	8.0	7.0
Management of Short-Term Risk	10%	The risk to human health and the environment associated with the alternative during construction and implementation, and the effectiveness of measures that will be taken to manage such risks.	Scoring for management of short term risks uses a relative scale to evaluate construction risks to human health and safety; larger more complex projects are considered to carry greater risk than simpler small projects. Technology-specific risks have been consi temperature related risks; excavation has construction, cave-in, bottom heave, and shoring risks; and ISCO has chemical handling risks). Alternative 1 meets the MTCA threshold requirements but does not meet the other requirements (permanent solution to maxin restoration timeframe); accordingly, the benefit score to Cost Ratio is not presented for Alternative 1. Alternative 2 includes modest installation risks for the enhanced bioremediation system (pumps and piping) and operates for a longer period of time (cumulative Alternative still receives a higher score compared to alternatives with more construction risk. Alternative 3 (ISCO treatment) poses an elevated risk of worker injury handling and injecting high-ionic strength solution, as well as potential risk to near-surface utilitie some short-term risks that include high risks of worker injury that may include excavation failures, potential burns or damage associated with high pressure steam, injuries associated with building demolition, and/or damage to near surf						
			Score:	9.0	8.0	7.0	4.0	4.0	4.0
Technical and Administrative Implementability	10%	Ability to be implemented including consideration of whether the alternative is technically possible, availability of necessary offsite facilities, services and materials, administrative and regulatory requirements, scheduling, size, complexity, monitoring requirements, access for construction operations and monitoring, and integration with existing facility operations and other current or potential remedial actions.	Scoring evaluates the overall difficulty of implementation for each of the proposed alternatives. Alternative 1 meets the MTCA threshold requirements but does not meet the other requirements (permanent solution to maximum extent practicable and reasonable the benefit score to Cost Ratio is not presented for Alternative 1. Alternatives 2, 3, & 5 use technologies that have been demonstrated to be effective for conditions observed at the Site and comprise projects of moderate size and complexity. Alternative 2 requires 3 requires chemical amendments that have become more difficult to procure and handle at the scale required for treatment. Alternative 5 also uses mature technology that has demonstrated efficacy at the Site, but may require a greater degree of complexity to and 7 represent proven technology (frequently occurring) with available off-site facilities suitable for disposal. Alternative 7 is less invasive than Alternative 4 and, therefore, scores slightly higher. Alternative 4 and 6 require extensive, risky construction an						
			Score:	9.0	8.0	7.0	4.0	5.0	4.0
Consideration of Public Concerns	10%	Whether the community has concerns regarding the alternative and, if so, the extent to which the alternative addresses those concerns. This process includes concerns from individuals, community groups, local governments, tribes, federal and state agencies, or any other organization that may have an interest in or knowledge of the site.	Alternatives were scored based on public concerns related to cleanup projects in the Port Gardner Bay area. Alternative 1 is the least change to the Site and least disruptive alternative. Alternative 1 meets the MTCA threshold requirements but does not meet the benefit score to Cost Ratio is not presented for Alternative 1. Alternative 4 and 7 offer removal of contamination with impacts associated with active construction, hauling to off-site facilities, and additional traffic. Alternatives 2 and 5 offer active cleanup of contan public impact, however, the public may be skeptical about biological treatment. Alternative 6 scores lower than previous alternatives due to greater public impacts including keeping contamination in place, extended construction schedules and prolonged disrupt Property. Alternatives 3 scores the lowest based on public concern about injection of chemicals in groundwater and leaves contamination off property.						
			Score:	4.0	5.0	3.0	7.0	6.0	4.0
			Total Composite Benefit Score:	3.1	4.9	3.8	8.1	6.3	5.9
			Unit Cost (Dollars per Composite Benefit Score Increment):	$388,000	$1,123,000	$2,079,000	$1,840,000	$1,874,000	$2,882,000
			Cost (Millions of Dollars):	$1.2	$5.5	$7.9	$14.9	$11.8	$17.0
			Benefit Score to Cost Ratio	~~2.58~~	0.89	0.48	0.54	0.53	0.35

September 3, 2020; Anchor Memo to Ecology on Revised Marine Alternatives and Benefit Scoring Rationale

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ANCHOR QEA

Memorandum

September 3, 2020

To: Susannah Edwards and Pete Adolphson, Washington State Department of Ecology

From: Nathan Soccorsy, Jason Cornetta, and John Laplante, PE, Anchor QEA, LLC

cc: Bonnie Basden, JELD-WEN Inc.

Re: JELD-WEN / Former Nord Door Facility RI/FS
Revised Marine Alternatives and Benefit Scoring Rationale

Purpose

This memorandum presents the narrative revisions and the updated benefit scoring proposed for the evaluation of marine alternatives and disproportionate cost analysis (DCA) to be included in the *Final Draft Remedial Investigation/Feasibility Study (RI/FS) for the JELD WEN/Former Nord Door Facility* that is in preparation. The memorandum summarizes the Ecology and Anchor QEA revised benefit scores for the marine alternatives, along with Anchor QEA's narrative scoring rationale proposed for integration into the Final Draft RI/FS. The areas where the scores differ are identified to facilitate further technical discussions and resolution necessary to finalize the Final Draft RI/FS.

Background

Anchor QEA and SLR Consulting submitted the 2020 Revised Draft RI/FS (Draft RI/FS) to Ecology on April 30, 2020. Ecology provided comments on the Draft RI/FS including marine components in a letter dated June 19, 2020. Ecology's comments included switching from a quantitative to a qualitative evaluation and eliminating certain weighting elements included in the Draft RI/FS.

As part of the comments, Ecology rescored each alternative in the DCA using the updated qualitative approach and created a new hybrid alternative. The revised scores provided with the Ecology comments were not accompanied by a detailed technical rationale.

Ecology requested that the detailed evaluation and comparison of marine alternatives be rewritten after revising the DCA to present a simplified qualitative evaluation in lieu of the quantitative evaluation initially presented. Subsequent to Anchor QEA receiving the comment letter dated June 19, 2020, Ecology provided further direction on streamlined alternatives to be retained in the Final Draft RI/FS. Table 1 compares the Draft RI/FS alternatives to what will be retained in the Final Draft RI/FS. Note that alternatives have been renumbered as shown in Table 1.

Table 1
Changes to the Evaluated Alternatives for the Draft RI/FS and Final Draft RI/FS Submittals

Draft RI/FS	Retained in Revised RI/FS	Final Draft RI/FS
M8: Full Removal	Yes	M7: Full Removal (All SMAs); no changes
M7: Removal Focus	Yes	M6: Removal Focus (All SMA-3); no changes
M6.5: Expanded Partial Removal (top 2 to 4 feet SMA-3 and a portion of SMA-2) and Engineered Cap; new*	Yes (Added by Ecology)	M5: Expanded Partial Removal (top 2 to 4 feet SMA-3 and a portion of SMA-2) and Engineered Cap; new alternative
M6: Removal Focus	Yes	M4: Partial Removal (top 2 feet throughout SMA-3) and Engineered Cap; no changes
M5: Targeted Removal Focus – Southern Areas	Yes	M3: Targeted Removal (2 feet South Shoreline SMA-3) and Engineered Cap On-Grade (remainder of SMA-3); no changes
M4a: Targeted Removal Focus – North Inlet Area (2-foot removal)	No	N/A
M4b: Targeted Removal Focus – North Inlet Area (4-foot removal)	No	N/A
M3: Capping Focus (soft shoreline)	No	N/A
M2: Capping Focus (armored shoreline)	Yes	M2: Engineered Cap On-Grade (All SMA-3); no changes
M1: Source Control and Natural Recovery	Yes	M1: Source Control and Natural Recovery; no changes

Note:
* Not included in Anchor QEA Draft RI/FS.

During the process of rewriting the detailed evaluation and comparison of marine alternatives, Anchor QEA has identified areas of agreement on the scoring and rationale, as well as some areas of technical disagreement. For areas of disagreement, Anchor QEA has prepared a technical basis for the proposed scoring, in order to focus subsequent technical discussions.

DCA Evaluation Criteria

This section presents the updated Final Draft RI/FS text that is proposed to be included in the detailed evaluation and comparison of marine alternatives (Section 10.2), as well as the revised scoring proposed for each of the alternatives and evaluation criteria. Both the Ecology and Anchor QEA scores are included to inform future collaborative discussions.

The following presents our proposed revised text for Section 10.2 of the Final Draft RI/FS, and includes commentary with tables comparing Anchor QEA's proposed scoring with Ecology's scoring.

Protectiveness

MTCA defines protectiveness as:

> "Overall protectiveness of human health and the environment, including the degree to which existing risks are reduced, time required to reduce risk at the facility and attain cleanup standards, on-site and off-site risks resulting from implementing the alternative, and improvement of the overall environmental quality." (WAC 173-340-360(3)(f)(i))

Anchor QEA evaluated the protectiveness of each alternative based on its effectiveness in reducing risks to human health and the environment by achieving cleanup standards at the point of compliance (i.e., site-specific bioactive zone of 0 to 1 foot below mudline). Cleanup Levels (CUL) address human health and environmental protection end points. In sediments, human health remediation levels (RELs) are set to achieve a surface-weighted average concentration CUL, while benthic protection is required on a point-by-point CUL basis (benthic protection criteria in accordance with the Sediment Management Standards), after construction.

Alternative M1 does not include any active remediation and therefore does not meet the MTCA Threshold Criteria. The net sedimentation rate is too low to predict adequate recovery within the 10-year post-construction restoration time frame. Alternative M1 is retained for completeness but is not scored or further considered for selection.

At the highest level, Alternatives M2 through M7 remedial technologies (i.e., removal, partial removal with engineered capping, and engineered capping) entirely replace the existing bioactive zone and could be considered equally protective at achieving the remediation goal immediately following construction. However, modifying factors (such as Ecology's preference for removal) can be considered qualitatively to adjust scores for the purpose of the DCA. Removing all sediment exceeding CULs and RELs (beyond the point of compliance) provides the greatest reduction of risk to human health and the environment. As a result, Alternative M7 is scored the highest for protectiveness because it targets full removal of sediment throughout the marine areas of the Site (even beyond the point of compliance) exceeding CULs.

Alternatives M6 and M5 were scored the next highest because they both reduce existing risks through removal of contaminant mass. Although Alternatives M6 and M5 do not result in complete removal, they reduce future risks by including complete removal in SMA-3 (Alternative M6) or by presumptively including additional removal in a portion of SMA-2[1] (Alternative M5). Alternatives M4 and M3 were scored progressively lower than Alternatives M6 and M5 based on reduced contaminant mass removal volumes. Alternative M2 was scored lowest. Alternative M2 is equally as

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[1] The extent of SMA-2 removal discussed in Alternative M5 will be determined in remedial design.

protective as alternatives that include removal because it achieves human health and ecological cleanup standards throughout the marine areas of the Site (i.e., CULs within the top 1 foot of sediment on a SWAC basis); however, it is scored lowest based on potential future risk resulting from leaving sediment above CULs.

Commentary on Protectiveness Scoring

Anchor QEA ranks the alternatives in the same order as Ecology; however, the proposed scores for alternatives with less or no removal are scored slightly higher than Ecology based on the rationale provided in Table 2.

Table 2
Comparison of Ecology and Anchor QEA Benefit Scoring for Protectiveness

Alternative	Ecology Score	Anchor QEA Score	Rationale (Agreement/Disagreement)
M7: Full Removal (All SMAs)	10.0	10.0	Agreement, complete removal in all SMAs scores 10: • Achieves Cleanup Standards immediately following construction. • Does not leave sediment above CULs (i.e., risk of not meeting Cleanup Standards in the future) in SMA-1, 2, or 3.
M6: Removal Focus (All SMA-3)	9.0	9.0	Agreement, complete removal in SMA-3 scores 9.0: • Achieves Cleanup Standards immediately following construction. • Does not leave sediment above CULs in SMA-3 • Leaves sediment above CULs in SMA-1 and SMA-2. • Although removal quantity is significantly lower under M6 than M7, the highest concentrations (SMA-3) are still removed under M6.
M5: Expanded Partial Removal (top 2 to 4 feet SMA-3 and a portion of SMA-2) and Engineered Cap; new alternative	9.0	9.0	Agreement, expanded partial removal in SMA-3 and partial removal in SMA-2 scores 9.0: • Achieves Cleanup Standards immediately following construction. • Leaves sediment above CULs in SMA-1, SMA-2, and SMA-3. • Does not remove all sediment above CULs in SMA-3 but achieves complete removal in portions of SMA-3 (south shore and knoll) and removes additional sediment in SMA-2 (knoll). • Removal quantity is not significantly different from M6.
M4: Partial Removal (top 2 feet throughout SMA-3) and Engineered Cap	7.0	8.0	Score reduction between M4 and M5 should be similar to the score reduction between M7 and M6/M5: • Achieves Cleanup Standards immediately following construction. • Leaves sediment above CULs in SMA-1, SMA-2, and SMA-3. • M4 excludes an assumed additional 0.35 acre of removal in SMA-2, and has a 2-foot vs. 4-foot removal in M5 for the SMA-3 southern shoreline area.

Alternative	Ecology Score	Anchor QEA Score	Rationale (Agreement/Disagreement)
M3: Targeted Removal (2 feet South Shoreline SMA-3) and Engineered Cap On-Grade (remainder of SMA-3)	6.5	7.5	Agree with the same relative score difference between M3 and M4: • Achieves Cleanup Standards immediately following construction. • Leaves sediment above CULs in SMA-1, SMA-2, and SMA-3. • The difference between M3 and M4 is that M3 does not include 2 feet of removal in the knoll and inlet areas of SMA-3.
M2: Engineered Cap On-Grade (All SMA-3)	4.0	6.0	Score reduction between M2 and M3 should be proportional to the score reduction between M3 and M4: • Achieves Cleanup Standards immediately following construction. • Leaves sediment above CULs in SMA-1, SMA-2, and SMA-3. • The difference between M2 and M3 is that M2 does not include 2 feet of removal in the south shoreline area of SMA-3.
M1: Source Control and Natural Recovery	n/a	n/a	Agree – M1 does not meet Threshold Criteria

Permanence

MTCA defines permanence as:

> "The degree to which the alternative permanently reduces the toxicity, mobility, or volume of hazardous substances, including the adequacy of the alternative in destroying the hazardous substances, the reduction or elimination of hazardous substance releases and sources of releases, the degree of irreversibility of waste treatment process, and the characteristics and quantity of treatment residuals generated." (WAC-173-340-360(3)(f)(ii))

Anchor QEA evaluated the permanence of each alternative based on its effectiveness at reducing the toxicity, mobility, or volume of contaminants in the marine areas of the Site. When considering the permanence of removal, partial removal with engineered capping, and engineered capping only alternatives, alternatives that incorporate full or partial removal reduce the volume of hazardous substances, and alternatives that incorporate engineered capping reduce the mobility of hazardous substances. Both removal and engineered capping technologies are considered permanent; however, engineered capping requires long-term monitoring and potential maintenance to ensure permanence. As such, removal scores higher for permanence than engineered capping. Alternative M7 is, therefore, scored the highest for permanence because it targets full removal of sediment exceeding CULs throughout the marine areas of the Site, providing the highest reduction in contaminant volume.

Alternatives M6 and M5 were scored the next highest because they provide the next highest reduction in contaminant volume (through removal) and address contaminants remaining in the marine portion of the Site above CULs with physical and chemical isolation via engineered capping (i.e., cap design addresses climate change and seismic forces). Alternatives M4 and M3 were scored progressively lower than M6 and M5 based on reduced removal volumes. Alternative M2 was scored lowest because the contamination is addressed in the other alternatives with removal, while with Alternative M2 the contaminant volume at the Site is unchanged.

Commentary on Permanence Scoring

Anchor QEA ranks the alternatives in the same order as Ecology; however, Ecology has indicated significant score reductions for alternatives that include engineered capping. Anchor QEA's proposed scores for alternatives with less or no removal are slightly higher than Ecology's based on the rationale provided in Table 3. This is an area of technical disagreement. Not only are engineered caps designed to function in perpetuity, JELD-WEN would be required to monitor and maintain the caps, further ensuring the permanence of the remedy. However, Ecology is considering monitoring and maintenance requirements a significant risk when assigning scores to engineered capping.

Table 3
Comparison of Ecology and Anchor QEA Benefit Scoring for Permanence

Alternative	Ecology Score	Anchor QEA Score	Rationale (Agreement/Disagreement)
M7 – Full Removal (All SMAs)	9.75	9.75	Agreement, complete removal in all SMAs scores 9.75: • Lowest potential for future exposure. • Only excavation residuals remain following construction.
M6: Removal Focus (All SMA-3)	9.0	9.0	Agreement, complete removal in SMA-3 scores 9.0: • Low potential for future exposure. • Significant contaminant mass removal (SMA-3). • SMA-1 and SMA-2 do not have reduced contaminant volume following construction.
M5: Expanded Partial Removal (top 2 to 4 feet SMA-3 and a portion of SMA-2) and Engineered Cap; new alternative	9.0	9.0	Agreement, expanded removal in SMA-3 and partial removal in SMA-2 scores 9.0: • Low potential for future exposure. • Does not remove all contaminant mass in SMA-3, but is the only alternative that removes additional contaminant mass in a portion of SMA-2.
M4: Partial Removal (top 2 feet throughout SMA-3) and Engineered Cap	8.0	8.0	Agreement, partial removal scores 8.0: • Materials exceeding CULs remain in SMA-3. • Monitoring and maintenance of caps is necessary to prevent future exposure.
M3: Targeted Removal (2 feet South Shoreline SMA-3) and Engineered Cap On-Grade (SMA-3 in Inlet)	6.5	7.0	Should be scored more proportional relative to the differences from M4: • Same potential for future exposure as M4; capped concentrations would remain throughout SMA-3. • Does not remove all contaminant mass in SMA-3 (slightly less than M4). • The difference between M3 and M4 entails a relatively minor reduction in removal volumes and therefore the scores between M4 and M3 should be closer to one another.

Alternative	Ecology Score	Anchor QEA Score	Rationale (Agreement/Disagreement)
M2: Engineered Cap On-Grade (All SMA-3)	3.0	6.0	Should be scored more proportional relative to the difference from M3 given the physical and chemical isolation: • Same potential for future exposure as M3 and M4; capped concentrations would remain throughout SMA-3. • Does not remove contaminant mass in SMA-3. • Capping has been demonstrated to be effective on sediment cleanup projects in Puget Sound and throughout the United States. The technology has been approved by USEPA and is designed using rigorous engineering methods. The significant reduction in score between M3 and M2 is not justified and implies inherent flaws in engineered capping that are not borne out in experience or in guidance documents including SCUM.
M1: Source Control and Natural Recovery	n/a	n/a	Agree – M1 does not meet Threshold Criteria

Long-Term Effectiveness

MTCA defines effectiveness over the long term as:

> "Long-term effectiveness includes the degree of certainty that the alternative will be successful, the reliability of the alternative during the period of time hazardous substances are expected to remain on-site at concentrations that exceed cleanup levels, the magnitude of residual risk with the alternative in place, and the effectiveness of controls required to manage treatment residues or remaining wastes" (WAC 173-340-360(3)(iv))

The long-term effectiveness was evaluated based on the certainty that each alternative would be successful throughout the time frame that hazardous substances would be expected to remain at the Site in concentrations exceeding CULs, with considerations for climate change and seismic events. Alternative M7 is scored the highest for long-term effectiveness because it targets full removal of sediment above CULs throughout the marine areas of the Site, providing the highest degree of certainty regarding the success of the alternative. Alternatives M6 and M5 were scored the next highest because they provide the next highest reduction in contaminant volume and, therefore, the degree of certainty regarding the success of the alternative. Alternatives M4 and M3 were scored progressively lower than M6 and M5 based on reduced removal volumes. Alternative M2 was scored lowest because sediments exceeding CULs remain on Site (although isolated beyond the point of compliance via engineered capping).

Climate change vulnerabilities relating to increased occurrence of severe storms (winds, waves, increased precipitation, and flooding) render the long-term effectiveness uncertain for alternatives where contamination is left in place (i.e., capping). Remedial designs for engineered caps would need to consider climate change parameters (i.e., increasing sea level and storm intensity), which have some degree of uncertainty over the life of the design.

In addition to climate change, vulnerability relating to earthquakes is also a consideration for the long-term effectiveness of alternatives that leave contamination in place. Marine contaminants at the Site are located on relatively flat intertidal zones and within a larger mudflat area that is not impacted by marine contaminants at the Site. Engineered caps placed on the flat intertidal sediments may experience some cap thinning or lateral cap movement during an earthquake; however, deformed or damaged caps can be easily repaired, and engineered caps can be designed to consider earthquake forces.

A more detailed evaluation of the potential effects of earthquakes and erosion would be conducted during design as warranted. Because the marine tideflat area SMAs are already subject to tidal inundation, they have limited vulnerability related to sea level rise. Deeper water is more protective of engineered caps because erosive forces are reduced.

Commentary on Long-Term Effectiveness Scoring

Anchor QEA ranks the alternatives in the same order as Ecology; however, as with permanence, Ecology has indicated significant score reductions for engineered capping. This is an area of technical disagreement based on the same rationale provided in the permanence section and in Table 4.

Table 4
Comparison of Ecology and Anchor QEA Benefit Scoring for Long-Term Effectiveness

Alternative	Ecology Score	Anchor QEA Score	Rationale (Agreement/Disagreement)
M7: Full Removal (All SMAs)	10.0	10.0	Agreement, complete removal in all SMAs scores 10: • Lowest potential for future exposure or releases. • Climate change factors do not modify risk.
M6: Removal Focus (All SMA-3)	8.0	8.0	Agreement, complete removal in SMA-3 scores 8.0: • Low potential for future exposure or releases in SMA-3. • MNR in SMA-1 and EMNR in SMA-2 have some uncertainty regarding long-term effectiveness.
M5: Expanded Partial Removal (top 2 to 4 feet SMA-3 and a portion of SMA-2) and Engineered Cap; new alternative	8.0	7.0	Expanded removal in SMA-3 and partial removal in SMA-2 should score 7.0: • Low potential for future exposure or releases in SMA-3. • MNR in SMA-1 and EMNR in SMA-2 have some uncertainty regarding long-term effectiveness. • Relies on proper monitoring and maintenance of cap area in the protected inlet (opposed to M6).
M4: Partial Removal (top 2 feet throughout SMA-3) and Engineered Cap	6.0	6.0	Agreement, partial removal scores 6.0: • Potential for future exposure in capped areas throughout SMA-3 is less certain due to climate change factors. • MNR in SMA-1 and EMNR in SMA-2 have some uncertainty regarding long-term effectiveness. • Relies on proper monitoring and maintenance of cap areas.
M3: Targeted Removal (2 feet South Shoreline SMA-3) and Engineered Cap On-Grade (remainder of SMA-3)	5.0	5.0	Agreement, targeted removal in the south shoreline of SMA-3 scores 5.0: • Potential for future exposure in capped areas throughout SMA-3 is less certain due to climate change factors. • MNR in SMA-1 and EMNR in SMA-2 have some uncertainty regarding long-term effectiveness. • Relies on proper monitoring and maintenance of cap areas. • The only difference between M4 and M3 is that M4 includes 2 feet of removal in the knoll and inlet areas of SMA-3.

Alternative	Ecology Score	Anchor QEA Score	Rationale (Agreement/Disagreement)
M2: Engineered Cap On-Grade (All SMA-3)	2.0	4.0	M2 should be more proportional to M3: • Potential for future exposure in capped areas throughout SMA-3 is less certain due to climate change factors. • MNR in SMA-1 and EMNR in SMA-2 have some potential for future exposure or releases. • Relies on proper monitoring and maintenance of cap areas. • The only difference between M2 and M3 is that M2 does not include 2 feet of removal in the south shoreline area of SMA-3. Ecology gives a 2-point score reduction between M5 and M4 (when capping is compared to removal) but applies a 3-point score reduction between M2 and M3 (when the southern shoreline area is capped on-grade rather than capped following 2-foot removal). The comparative score reduction between M3 and M2 should be similar to the reduction between M5 and M4.
M1: Source Control and Natural Recovery	n/a	n/a	Agree – M1 does not meet Threshold Criteria

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Short-Term Risk

MTCA defines management of short-term risk as:

> "The risk to human health and the environment associated with the alternative during construction and implementation, and the effectiveness of measures that will be taken to manage such risks." (WAC 173-340-360(3)(f)(v))

Short-term risks are primarily associated with construction activities. Common to all active remediation alternatives, construction equipment operations result in greenhouse gas and particulate emissions, which present health risks to the adjacent community from degraded air quality. Construction itself is inherently dangerous, presenting a safety risk to workers at the Site and to the public during transportation of materials and equipment to and from the Site. To the extent that these short-term risks apply to all construction activities, the overall risk for shorter duration and less construction-intensive projects is comparatively lower than for longer duration and more intensive construction projects.

In addition to health and safety short-term risks, alternatives that include removal present risks to water quality because of potential releases associated with dredging, and to the benthic community due to short-term disruption of habitat, as well as generated dredging residuals. The magnitude of short-term water quality and sediment quality risks associated with removal alternatives is directly correlated with the volume of sediment removed. Based on these considerations, short-term risks are comparatively lower for shorter duration actions and for EMNR or engineered capping.

Alternative M2 scored highest based on smallest/shortest duration construction (no removal). Alternative M7 scored lowest based on the largest/longest duration construction. Alternatives M3 through M6 were given intermediate scores based on the relative size and duration of the active construction associated with each of these alternatives.

Commentary on Short-Term Risk Scoring

Anchor QEA ranks the alternatives in the same order as Ecology and does not have any substantive technical disagreements with Ecology's proposed scoring, as shown in Table 5.

Table 5
Comparison of Ecology and Anchor QEA Benefit Scoring for Short-Term Risk

Alternative	Ecology Score	Anchor QEA Score	Rationale (Agreement/Disagreement)
M7 – Full Removal (All SMAs)	3.0	3.0	Agreement, complete removal in all SMAs scores 3.0 (largest/longest duration construction).
M6 – Removal Focus (All SMA-3)	5.0	5.0	Agreement, complete removal in SMA-3 scores 5.0 (large/long duration construction).
M5: Expanded Partial Removal (top 2 to 4 feet SMA-3 and a portion of SMA-2) and Engineered Cap; new alternative	6.0	6.0	Agreement, expanded removal in SMA-3 and partial removal in SMA-2 scores 6.0 (moderate to large size/duration construction).
M4: Partial Removal (top 2 feet throughout SMA-3) and Engineered Cap	7.0	7.0	Agreement, partial removal scores 7.0 (moderate size/duration construction).
M3: Targeted Removal (2 feet South Shoreline SMA-3) and Engineered Cap On-Grade (remainder of SMA-3)	7.0	7.0	Agreement, targeted removal in the south shoreline of SMA-3 scores 7.0 (moderate size/duration construction).
M2: Engineered Cap On-Grade (All SMA-3)	8.0	8.0	Agreement, engineered cap on-grade in SMA-3 scores 8.0 (smallest/shortest duration construction).
M1: Source Control and Natural Recovery	n/a	n/a	Agree – M1 does not meet Threshold Criteria

Technical and Administrative Implementability

MTCA defines technical and administrative implementability as:

> "Ability to be implemented including consideration of whether the alternative is technically possible, availability of necessary off-site facilities, services and materials, administrative and regulatory requirements, scheduling, size, complexity, monitoring requirements, access for construction operations and monitoring, and integration with existing facility operations and other current or potential remedial actions."
> (WAC 173-340-360(3)(f)(vi))

Implementability expresses the relative difficulty and uncertainty of implementing the cleanup action (Section 9.3.5). This section describes both the technical and administrative implementability considerations and scoring for the marine area alternatives.

All of the technologies included in the evaluation of alternatives incorporate well established and proven methods of remediation. As a result, materials are readily available locally, and there is a pool of qualified, experienced contractors. The technical challenges and complexities associated with the proposed technologies generally include excavation in the inlet area, slope stability and shoring, and excavation in areas with deeper cuts or cuts that are farther from the shoreline where subgrade stability and access present additional challenges.

The technical challenges for Alternatives M4 and M3 are similar because they both include similar excavation and capping depths, while Alternative M6 has additional technical challenges associated with deeper removal depths in the inlet area. Alternative M7 is the most technically challenging because of large excavation footprints on tidally influenced mudflat, deepest cuts, and potential slope stability shoring requirements in the inlet.

There are also potential administrative challenges associated with the proposed technologies that could affect implementability. Administrative challenges include regulatory approvals, permitting requirements, and potential land use or navigational restrictions associated with remedial technologies (i.e., deed restriction or institutional controls). There are no difficult permitting requirements anticipated for Alternatives M2, M3, M4, M5, or M6; however, institutional controls are assumed to be required for alternatives that include engineered caps (Alternatives M2 through M5). There may be some permitting challenges associated with Alternative M7 due to the larger disturbance area. Mitigation may be required under each of the proposed alternatives.

Based of these technical and administrative challenges, Alternatives M2 and M3 were scored equally as were alternatives M4, M5, and M6. Alternatives M2 and M3 have similar technical and administrative challenges (permitting, institutional controls, and mitigation) as Alternatives M4 and M5. Alternative M6 has some additional challenges associated with deeper excavation in the inlet area; however, these technical challenges are offset by fewer administrative challenges from reduced long-term monitoring and institutional control requirements associated with capping. Alternative M7 was scored lowest based on significant technical challenges (large excavation footprints on tidally influenced mudflat, deepest cuts, slope stability shoring requirements) and permitting challenges due to a large disturbance area.

Commentary on Technical and Administrative Implementability Scoring

Anchor QEA ranks the alternatives in the same order as Ecology; however, the proposed score for the capping on-grade only (no removal) alternative is scored slightly higher than Ecology based on the rationale provided in Table 6.

Table 6
Comparison of Ecology and Anchor QEA Benefit Scoring for Implementability

Alternative	Ecology Score	Anchor QEA Score	Rationale (Agreement/Disagreement)
M7 – Full Removal (All SMAs)	5.5	5.5	Agreement, complete removal in all SMAs scores 5.5: • Technical challenges include large excavation footprints on tidally influenced mudflat, deepest cuts, slope stability shoring requirements. • May pose permitting challenges due to large disturbance area.
M6 – Removal Focus (All SMA-3)	8.0	8.0	Agreement, complete removal in SMA-3 scores 8.0: • Technical challenges associated with deepest removal in the inlet. • Reduced long-term monitoring and maintenance requirements compared to capping alternatives (offsets technical challenges from deeper excavations). • Significant permitting difficulties not anticipated.
M5: Expanded Partial Removal (top 2 to 4 feet SMA-3 and a portion of SMA-2) and Engineered Cap; new alternative	8.0	8.0	Agreement, expanded removal in SMA-3 and partial removal in SMA-2 scores 8.0: • Some technical challenges associated with shallow removal in the inlet. • Engineered cap design must function in perpetuity; will require long-term monitoring and maintenance efforts, which could require coordination with future site operations. • Significant permitting difficulties not anticipated. Caps may require institutional controls (restrictive covenants).
M4: Partial Removal (top 2 feet throughout SMA-3) and Engineered Cap	8.0	8.0	Agreement, partial removal scores 8.0: • Some technical challenges associated with removal in the inlet. • Engineered cap design must function in perpetuity; will require long-term monitoring and maintenance efforts, which could require coordination with future site operations. • Significant permitting difficulties not anticipated. Caps may require institutional controls (restrictive covenants).

Alternative	Ecology Score	Anchor QEA Score	Rationale (Agreement/Disagreement)
M3: Targeted Removal (2 feet South Shoreline SMA-3) and Engineered Cap On-Grade (remainder of SMA-3)	6.0	6.0	Agreement, targeted removal in the south shoreline of SMA-3 scores 6.0: • Some technical challenges associated with removal on unstable intertidal subgrades. • Engineered cap design must function in perpetuity; will require long-term monitoring and maintenance efforts, which could require coordination with future site operations. • Some additional administrative challenges from monitoring or permitting caps on-grade may exist; however, if encountered would be offset by reduced technical challenges from less excavation on unstable intertidal subgrades.
M2: Engineered Cap On-Grade (All SMA-3)	4.0	6.0	Should be scored the same as M3: • Engineered cap design must function in perpetuity; will require long-term monitoring and maintenance efforts, which could require coordination with future site operations. • Some additional administrative challenges from monitoring or permitting caps on-grade may exist; however, if encountered would be offset by reduced technical challenges from less excavation on unstable intertidal subgrades. • Any permitting or monitoring challenges associated with capping on-grade, if encountered, would be similar to M3 and further offset by reduced technical challenges from eliminating excavation (no excavation on unstable subgrades, no upland stockpiling and dewatering, no off-site trucking and disposal).
M1: Source Control and Natural Recovery	n/a	n/a	Agree – M1 does not meet Threshold Criteria

Consideration of Public Concerns

MTCA defines consideration of public concerns as:

> “Whether the community has concerns regarding the alternative and, if so, the extent to which the alternative addresses those concerns. This process includes concerns from individuals, community groups, local governments, tribes, federal and state agencies, or any other organization that may have an interest in or knowledge of the site.” (WAC 173-340-360(3)(f)(vii))

The public involvement process under MTCA is used to identify potential public concerns regarding cleanup action alternatives. The extent to which an alternative would address those concerns is considered as part of the evaluation process. This includes concerns raised by individuals, community groups, local governments, tribes, federal and state agencies, local businesses, and other organizations with an interest in the cleanup action. Potential impacts to cultural resources from a given remedy and potential impacts during remedy implementation are considered under this evaluation criterion. Ecology will continue to evaluate public concerns through the public involvement process as the CAP is developed.

Input from members of the community is used to shape the remedial actions with respect to timing, local or cultural considerations, and effects from disturbances including noise, light, and traffic that result from implementation methods or transportation routes. Different members of the community may have different priorities, and these priorities may or may not be aligned with the goals of the cleanup and/or the specific requirements of MTCA. Consistent with cleanup evaluations conducted by Ecology at other similar cleanup sites, preliminary consideration of public concerns for this DCA balanced two potentially conflicting public interests:

1. One interest is environmental and generally supports remedial actions that remove the maximum amount of contamination without respect to costs.
2. Another interest is economic and generally supports remedial actions that achieve regulatory requirements by consideration cost effectiveness and targeting remediation to mitigate impacts on local businesses.

The consideration of public concern scores for each alternative are presented in Table 10.2-1. The scores are based on the degree that an alternative may balance these potentially conflicting priorities. In contrast to the other DCA criteria, which tend to favor alternatives at one end of the range or the other, consideration of public concerns tends to score alternatives in the middle the highest because of these countervailing priorities. As a result, Alternative M5 was scored highest, while Alternatives M6 and M4 were each scored slightly lower. Alternative M7 would satisfy the public desire for complete removal, but high cost, economic impacts, and disruption to the community from construction would potentially also be a concern for the public. Alternative M2 may not meet the public's desire for removal but quantitatively achieves the project remedial goals. Therefore, Alternatives M7 and M2 both scored lowest.

Commentary on Consideration of Public Concerns Scoring

Anchor QEA ranks the alternatives in the same order as Ecology and does not have any substantive technical disagreements with Ecology's proposed scoring at this time, as shown in Table 7. However, without any specific public input to date, the scores are speculative and may not represent the actual public concern.

Table 7
Comparison of Ecology and Anchor QEA Benefit Scoring for Consideration of Public Concerns

Alternative	Ecology Score	Anchor QEA Score	Rationale (Agreement/Disagreement)
M7 – Full Removal (All SMAs)	3.0	3.0	Agreement, complete removal in all SMAs scores 3.0 based on high cost, economic impacts, and disruption to the community from construction (economic interest).
M6 – Removal Focus (All SMA-3)	8.0	8.0	Agreement, complete removal in SMA-3 scores 8.0, balances environmental and economic interests.
M5: Expanded Partial Removal (top 2 to 4 feet SMA-3 and a portion of SMA-2) and Engineered Cap; new alternative	9.0	9.0	Agreement, expanded removal in SMA-3 and partial removal in SMA-2 scores 9.0, provides the best balance of environmental and economic interests.
M4: Partial Removal (top 2 feet throughout SMA-3) and Engineered Cap	8.0	8.0	Agreement, partial removal scores 8.0, balances environmental and economic interests.
M3: Targeted Removal (2 feet South Shoreline SMA-3) and Engineered Cap On-Grade (remainder of SMA-3)	5.0	5.0	Agreement, targeted removal in the south shoreline of SMA-3 scores 5.0, partially balances environmental and economic interests.
M2: Engineered Cap On-Grade (All SMA-3)	3.0	3.0	Agreement, engineered cap on-grade in SMA-3 scores 3.0, may not meet the public's desire for removal (environmental interests).
M1: Source Control and Natural Recovery	n/a	n/a	Agree – M1 does not meet Threshold Criteria

Summary of DCA Outcomes for Ecology and Anchor QEA Scoring Scenarios

The scoring differences between Anchor QEA and Ecology are relatively minor. There is agreement on how the alternatives should be ranked relative to each other for each of the evaluation criteria. However, the differences in scoring of alternatives that include engineered capping (specifically for protectiveness, permanence, long-term effectiveness, and implementability) have a substantive impact on the outcome of the DCA.

Based on the scores Ecology assigned for engineered capping on-grade, we interpret that Ecology does not consider engineered capping to be a viable technology. Anchor QEA believes engineered capping is protective, permanent, effective, and implementable based on the rationale presented in this memorandum. Using a qualitative approach, Anchor QEA agrees that alternatives focused on engineered capping on-grade should score slightly lower than alternatives focused on removal and removal/engineered capping; however, we do not believe the low scores used by Ecology are justified. Tables 8 and 9 present the DCA outcome for Ecology's evaluation and Anchor QEA's evaluation.

Table 8
Ecology DCA Outcome

Criterion	Weighting	M-1	M-2	M-3	M-4	M-5	M-6	M-7
Protectiveness	30%	n/a	4	6.5	7	9	9	10
Permanence	20%	n/a	3	6.5	8	9	9	9.75
Long-term effectiveness	20%	n/a	2	5	6	8	8	10
Short-term risk	10%	n/a	8	7	7	6	5	3
Implementability	10%	n/a	4	6	8	8	8	5.5
Public comments/concerns	10%	n/a	3	5	8	9	8	3
Composite Benefit Score			3.7	6.1	7.2	8.4	8.2	8.1

Table 9
Anchor QEA DCA Outcome

Criterion	Weighting	M-1	M-2	M-3	M-4	M-5	M-6	M-7
Protectiveness	30%	n/a	6	7.5	8	9	9	10
Permanence	20%	n/a	6	7	8	9	9	9.75
Long-term effectiveness	20%	n/a	4.0	5	6	7	8	10
Short-term risk	10%	n/a	8	7	7	6	5	3
Implementability	10%	n/a	6	6	8	8	8	5.5
Public comments/concerns	10%	n/a	3	5	8	9	8	3
Composite Benefit Score			5.5	6.5	7.5	8.2	8.2	8.1

September 27, 2020; SLR email to Ecology on Creosote/Fuel Oil Area Hotspot Footprint

R. Scott Miller

From: R. Scott Miller
Sent: September 21, 2020 10:15 AM
To: Alam, Mahbub (ECY)
Subject: RE: hotspot footprint
Attachments: 9-1-2020 CREOSOTE FUEL OIL ALT 7.pdf; Discussion Figure from 06-07-2017-email with draft markings.pdf; 9-21-2020 CREOSOTE FUEL OIL ALT 7 - DRAFT FIGURE.pdf

Hello Mahbub,
I'll give you a call this afternoon. It appears we had a misalignment on the hotspot footprint for the Creosote/Fuel Oil Area, the sampling locations encompassed. Three draft, discussion level figures are attached.
Thank you,
Scott

SLR

R. Scott Miller, P.E.
Managing Principal

D 503-905-3422
O 503-723-4423
C 503-572-1124
E smiller@slrconsulting.com

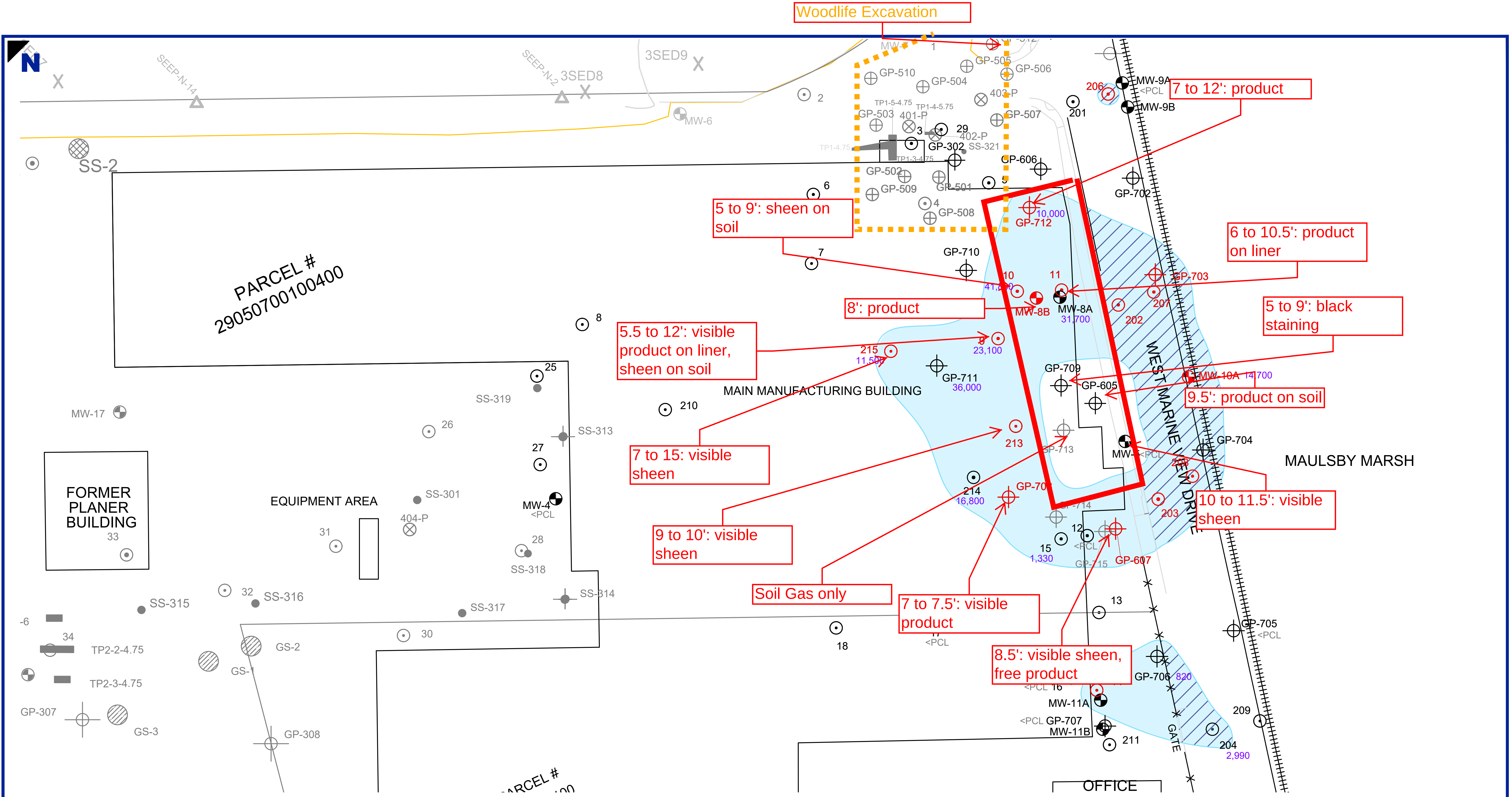
SLR International Corporation
1800 Blankenship Road, Suite 440, West Linn, OR 97068

Follow us on LinkedIn
Winners: RoSPA President's Award 2020

From: Alam, Mahbub (ECY) <MALA461@ECY.WA.GOV>
Sent: September 17, 2020 11:00 AM
To: R. Scott Miller <smiller@slrconsulting.com>
Subject: hotspot footprint

Scott:
This is what Ecology proposed for hotspot removal in the meeting.
Let me know if you have any questions.
Thanks,

Mahbub Alam, PhD, PE
Environmental Engineer, Toxics Cleanup Program
Department of Ecology
PO Box 47600, Olympia, WA 98504-7600
(360) 407-6913; mala461@ecy.wa.gov



LEGEND

SOIL DATA

⊕ NO DATA FOR THIS DEPTH RANGE

⊕ NO PRODUCT/SHEEN VISIBLE ON BORING LOGS

⊕ PRODUCT/SHEEN VISIBLE ON BORING LOGS

▭ PROPOSED TREATMENT AREA

GROUNDWATER DATA

1,000	CONCENTRATION OF TPH (DIESEL RANGE; µg/L)
<PCL	BELOW THE PRELIMINARY CLEANUP LEVEL (<500 µg/L)

PROPOSED TREATMENT AREA

▭	TOTAL AREA = 76,500 SQFT
▭	ON-SITE AREA = 50,200 SQFT
▨	OFF-SITE AREA = 26,300 SQFT

NOTES

THE BUILDINGS, SURFACE UTILITIES, EDGE OF PAVEMENT, AND APPROXIMATE SHORELINE SHOWN ON THIS MAP ARE BASED ON A 2006 SURVEY PERFORMED BY WH PACIFIC.

0 90 180 270’

SLR

ANCHOR QEA

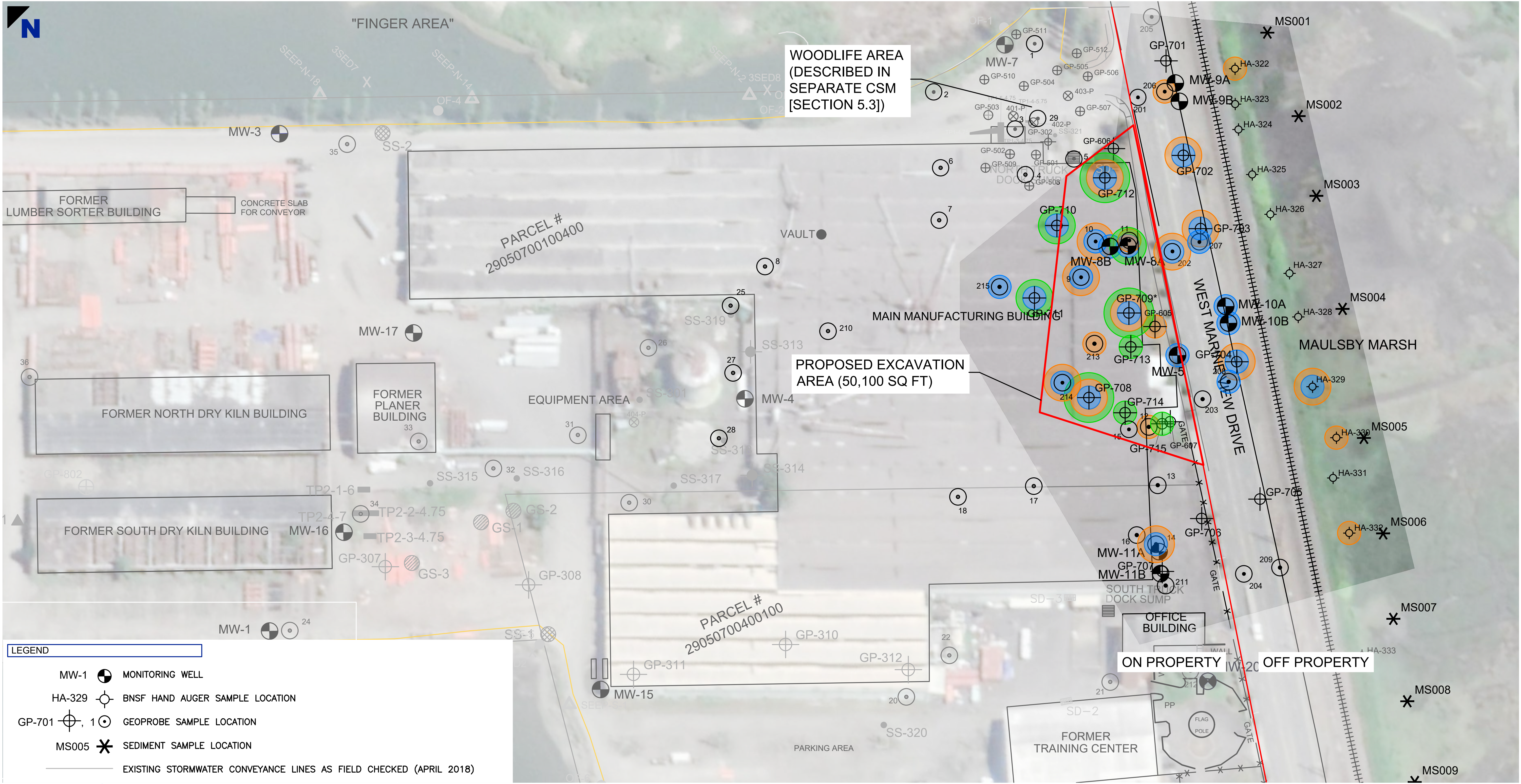
FORMER E.A. NORD
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report
REMEDIAL INVESTIGATION FEASIBILITY STUDY

Drawing
IMPACTED AREA - 5 TO 10 FEET

Date	April 2020	Scale	AS SHOWN	Fig. No. TBD3
File Name	SW_NORD_VOLUMES_2	Project No.	108.00228.00061	

N:\Portland\Projects\JELD-WEN\JELD-WEN NORD DOOR\RI-FS Report\2020\Figures\CAD\FS\SW_NORD_VOLUMES_2.dwg



LEGEND

MW-1	◐	MONITORING WELL
HA-329	⌖	BNSF HAND AUGER SAMPLE LOCATION
GP-701, 1	⊕, ⊙	GEOPROBE SAMPLE LOCATION
MS005	✳	SEDIMENT SAMPLE LOCATION
	―	EXISTING STORMWATER CONVEYANCE LINES AS FIELD CHECKED (APRIL 2018)
	●	GROUNDWATER EXCEEDANCE OF NAPHTHALENE PCL (BASED ON VAPOR INTRUSION)
	●	SOIL EXCEEDANCE OF cPAH PCL (BASED ON DIRECT CONTACT)
	●	SOIL GAS EXCEEDANCE OF NAPHTHALENE PCL

NOTES

THE BUILDINGS, SURFACE UTILITIES, EDGE OF PAVEMENT, AND APPROXIMATE SHORELINE SHOWN ON THIS MAP ARE BASED ON A 2006 SURVEY PERFORMED BY WH PACIFIC.

0 115 230 345'

SLR

JELD-WEN/FORMER NORD DOOR FACILITY
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report
2020 REVISED RI/FS REPORT

Drawing
CREOSOTE/FUEL OIL - ALTERNATIVE 7

Date	August 2020	Scale	AS SHOWN	Fig. No.
File Name	SW_NORD_NTL POLE_ALT 7	Project No.	108.00228.00061	8.4.1.1-f

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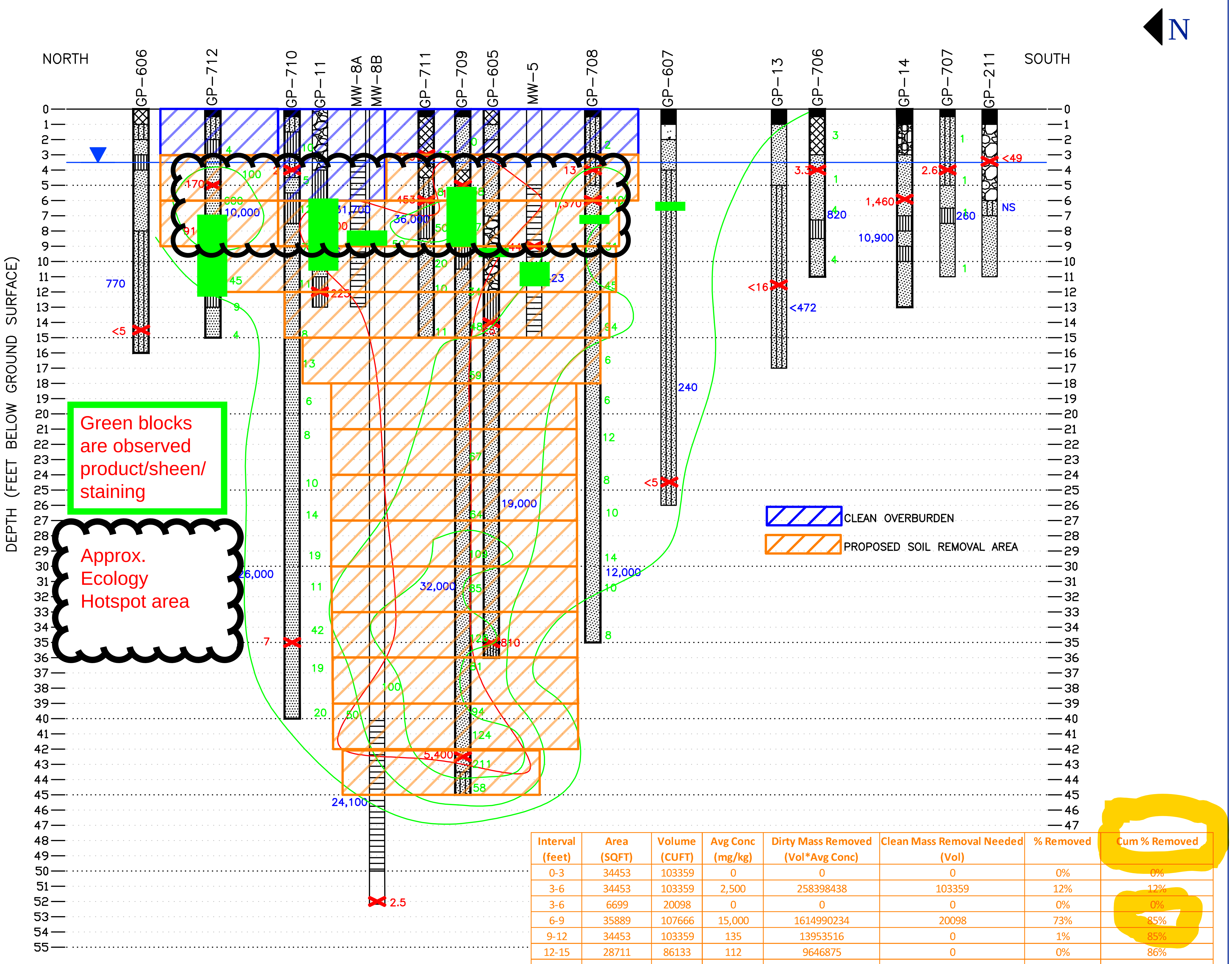
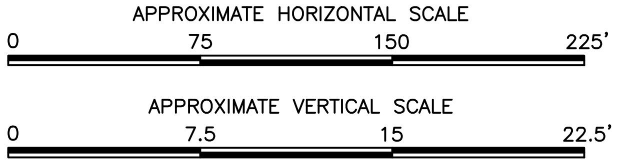
Last Saved: June 01, 2017 8:43:22 AM by ckramer Drawing path: N:\Portland\Projects\JELD-WEN\JELD-WEN NORD DOOR\2015 Assessment\FIGURES\X SECTION_090815.dwg





Interval (feet)	Area (SQFT)	Volume (CUFT)	Avg Conc (mg/kg)	Dirty Mass Removed (Vol*Avg Conc)	Clean Mass Removal Needed (Vol)	% Removed	Cum % Removed
0-3	34453	103359	0	0	0	0%	0%
3-6	34453	103359	2,500	258398438	103359	12%	12%
3-6	6699	20098	0	0	0	0%	0%
6-9	35889	107666	15,000	1614990234	20098	73%	85%
9-12	34453	103359	135	13953516	0	1%	85%
12-15	28711	86133	112	9646875	0	0%	86%
15-18	25002	75007	500	37503662	0	2%	88%
18-21	21055	63164	500	31582031	0	1%	89%
21-24	21055	63164	500	31582031	0	1%	90%
24-27	21055	63164	500	31582031	0	1%	92%
27-30	21055	63164	500	31582031	0	1%	93%
30-33	21055	63164	500	31582031	0	1%	95%
33-36	21055	63164	500	31582031	0	1%	96%
36-39	21055	63164	500	31582031	0	1%	98%
39-42	21055	63164	500	31582031	0	1%	99%
42-45	15791	47373	500	23686523	0	1%	100%

NOTES

NOT ALL SAMPLE LOCATIONS PRESENTED ON THIS CROSS SECTION

NOT ALL SAMPLE ANALYTICAL RESULTS PRESENTED (LIMITED TO SOIL AND GROUNDWATER SAMPLES FOR TPH-Dx (DIESEL RANGE))

PCLs
2,000 MG/KG FOR SATURATED SOIL
500 UG/L FOR GROUNDWATER

LEGEND

▼		APPROXIMATE GROUNDWATER LEVEL
■	AS	ASPHALT
▨	CL	CLAY
		CONCRETE
	GM	GRAVEL WITH SILT
	GP	GRAVEL AND SAND
	PT	PEAT
	ML	SILT
	SM	SILTY SAND
	SP	SAND
☒		TOPSOIL
✕		SOIL SAMPLE LOCATION
200		SOIL ANALYTICAL RESULTS (TPH-Dx DIESEL RANGE IN MG/KG)
700		GROUNDWATER ANALYTICAL RESULTS (TPH-Dx DIESEL RANGE IN ug/L)
NS		NOT SAMPLED FOR SELECTED PARAMETER
25.2		PID READING IN PPM (700 SERIES GEOPROBE LOCATIONS ONLY)
—		PID CONTOURS IN PPM

FORMER E.A. NORD
300 WEST MARINE VIEW DRIVE
EVERETT, WASHINGTON

Report
--

Drawing
CROSS-SECTION FOR ONSITE SAMPLE LOCATIONS WITH TPH-DX ANALYTICAL RESULTS

Date: June 1, 2017
Scale: AS SHOWN
Fig. No.
File Name: X SECTION_090815
Project No.: 108.00228.00048

SLR

November 12, 2020; Ecology Response to September 3, 2020 Memo on Revised Marine Alternatives and Benefit Scoring Rationale

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

November 12, 2020

Bonnie J. Basden, C.E.C.M
Director Environmental Permitting
JELD-WEN, Inc.
3250 Lakeport Boulevard
Klamath Falls, OR 97601

Re: Response to JELD-WEN's September 3, 2020, Memorandum titled "JELD-WEN/Former Nord Door Facility RI/FS Revised Marine Alternatives and Benefit Scoring Rationale" regarding the following site:

- **Site Name:** JELD-WEN, Inc.
- **Site Address:** 300 W Marine View Drive, Everett, 98201-1030
- **Facility Site ID:** 2757
- **Cleanup Site ID:** 4402

Dear Bonnie Basden:

This letter is a response to JELD-WEN's September 3, 2020, memo regarding the Department of Ecology's (Ecology) comments and revisions to the April 2020, Draft Remedial Investigation/Feasibility Study (RI/FS) marine alternatives and benefits scoring rationale. JELD-WEN's memo documents changes to the range of alternatives that will be presented in the final RI/FS, as well as JELD-WEN's agreements and disagreements with Ecology's revised scoring and rationale. Ecology understands that JELD-WEN disagrees with some of the relative scores and rationale assigned to the alternatives in the following MTCA Disproportionate Cost Analysis categories: Permanence, Protectiveness, Long-Term Effectiveness, and Implementability (JELD-WEN agrees with the relative scores and rationale assigned to the alternatives in the "Short-Term Risk" and "Consideration of Public Concerns" categories.)

Ecology provided written comments on the April 2020, RI/FS on June 19, 2020, in a memo, a revised alternatives scoring spreadsheet, and comments within the document body. Ecology's position on the scoring and rationale remains unchanged. The rationale is further explained in this letter in response to the memorandum received in September. As communicated previously, Ecology expects its justification and scoring will be incorporated into the final RI/FS.

The requested changes should be provided to Ecology in redline form in a Word document for final review. In particular, Section 10.2.1 “Detailed Evaluation and Comparison of Marine Alternatives” should reflect Ecology’s scoring and rationale provided in June and in subsequent verbal and written communication.

Response to September 3, 2020, “Background” Section

Ecology noted that the “Background” section of the September 3, 2020, memo greatly abbreviated Ecology’s rationale for requesting revisions to the April 2020, Draft RI/FS. In comments Ecology provided to JELD-WEN on June 19, 2020, Ecology explained significant concerns with JELD-WEN’s quantitative scoring system for evaluating the benefits of each cleanup alternative. In particular, the proposed scoring approach minimized the benefits of remediation of the most highly contaminated marine areas. The scoring system decoupled cleanup actions in the different Sediment Management Areas (SMAs) rather than evaluating the combined effectiveness of remedial actions in SMA-1, SMA-2, and SMA-3 in meeting threshold requirements, and the six MTCA criterion (permanence, protectiveness, long-term effectiveness, management of short-term risk, technical and administrative implementability, and consideration of public concerns). Greater weight was assigned by JELD-WEN to the cleanup technologies used within SMA-1 compared to SMA-3 because the weighting system was based on area, and SMA-1 is more than twice the size of SMA-3. However, SMA-3 contains greater levels of cleanup level exceedances than SMA-1. The scoring approach essentially devalued hotspot removal and decoupled remedial activities in different SMAs. However, actions in each of the SMAs must to be evaluated together for this Site to determine compliance with cleanup standards and the degree to which other MTCA criteria are met. Ecology’s rationale for requesting the elimination of JELD-WEN’s proposed weighting system and quantitative evaluation is more fully described in the June 19, 2020, memo to JELD-WEN. Ecology rescored the alternatives without the area-weight factors and provided written justification for its scores within a revised alternatives analysis table (“Table 10.2-1_May_2020_EcyEdited”) and within the body of the June 19, 2020 memo.

Response to September 3, 2020, Memo “DCA Evaluation Criteria” Section
(Note: Alternatives Are Referenced Using the Revised Naming Scheme)

After Ecology provided comments on the April 2020, Draft RI/FS, Ecology and JELD-WEN subsequently agreed to remove three of the lower scoring alternatives (the April 2020, Draft RI/FS’s Alternatives M3, M4a and M4b) in order to present a more streamlined alternatives analysis to the public. The following alternatives will be presented in the final FS and are primarily different in their treatment of Sediment Management Area 3 (SMA-3):

- M-1: Source control and natural recovery (not scored)
- M-2: Engineered Cap On-Grade throughout SMA-3

- M-3: Targeted Removal and Engineered Cap (2 ft. depth) in SMA-3 southern shoreline and Engineered Cap On-Grade in SMA-3 inlet
- M-4: Partial Removal and Engineered Cap (2 ft. depth) throughout SMA-3
- M-5: Expanded Partial Removal (2 to 4 ft. depth SMA-3 southern shoreline and portion of SMA-2; 2 ft. depth in SMA-3 inlet) and Engineered Cap
- M-6: Removal Focus: Full removal throughout SMA-3
- M-7: Full Removal: Full removal in all SMAs

The technical disagreements presented in the September 3, 2020, memo are with the relative scoring of Alternatives M-2, M-3 and M-4 in the Protectiveness category; M-2 and M-3 in the Permanence category; M-2 in the Long-Term Effectiveness category; and M-2 in the Implementability category. In general, JELD-WEN thought these alternatives should have a smaller relative difference in score than Ecology assigned to them compared to more permanent remedies.

The greatest area of disagreement was with Ecology's assessment of the protectiveness, permanence, long-term effectiveness and implementability of Alternative M-2, which is different from all other alternatives in that is utilizes cap-on-grade throughout SMA-3 and incorporates no removal of contaminated media.

As an example, in the permanence category, JELD-WEN wrote, "Capping has been demonstrated to be effective on sediment cleanup projects in Puget Sound and throughout the United States. The technology has been approved by the US EPA and is designed using rigorous engineering methods. The significant reduction in score between M-3 [score of 6.5] and M-2 [score of 3.0] is not justified and implies inherent flaws in engineered capping that are not borne out in experience or in guidance documents including SCUM."

Ecology's scores reflect its site-specific evaluation of the performance, overall benefits, overall impacts, and risks associated with each of the alternatives compared to most permanent remedy (M-7). The Sediment Management Areas encompass intertidal estuarine habitat that abuts an upland property built from fill material into the Snohomish River estuary. SMA-3 inlet is part of an area designated as an "Aquatic Conservancy Area" by the City of Everett and SMA-3 southern side/knoll consists of an expansive tidal mudflat along a shoreline that receives heavy wave action, apparent from significant undermining of the bank in recent years. All SMAs are within Tribal Usual and Accustomed Hunting and Fishing Grounds. Remedial actions at the site are vulnerable to climate change impacts such as sea level rise, increased river flooding and increased frequency of severe storms.

Based on the climate change assessment in Appendix C of the RI/FS, sea level is expected to rise between 0.5 – 2.0 feet by mid-century (depending on emissions projection scenario used) and current 100-year storms are expected to occur more frequently, becoming a 25-year storm. Ecology incorporated these site-specific characteristics and risks in its relative scoring.

To explain further, Alternatives M3 through M7 incorporate partial or full removal and the majority of the dredged/excavated sediment is anticipated to be disposed of at an upland disposal facility. Full or partial removal paired with engineered cap at-grade scored significantly higher than engineered cap on-grade within SMA 3 for the protectiveness, permanence, long-term effectiveness, and implementability categories for the following reasons:

- SMA 3 contains the highest contaminant concentrations.
- SMA 3 (southern shoreline, in particular) contains contamination that is relatively shallow (0-4 feet below the surface) and where removal could occur while the tide is out, posing a lower risk of recontamination. Excavated areas could be capped before being exposed to the incoming tide, reducing the potential release of dredge residuals.
- For alternatives that include sediment removal, disposal is anticipated to occur at an off-site Subtitle D landfill (FS sections 8.5.6 through 8.5.9 and FS cost estimate table). The Sediment Management Standards (173-204-570(4)) provide a guide for assessing the long-term effectiveness and permanence of sediment cleanup remedial actions. Removal and disposal of contaminated media in an upland engineered facility is generally assigned more permanence and long-term effectiveness than a containment remedy due to the low likelihood of subsequent releases or exposure to the contaminants.
- The banks of the southern shoreline of the property have been heavily eroded by wave action, particularly during winter storms, indicating that an engineered cap built above grade along the shoreline will be subject to strong erosive forces that will become more severe over time due to climate change. 100-year storm events are anticipated to occur more frequently, becoming a 25-year storm. Extreme precipitation events are anticipated to occur more frequently, with more frequent erosion likely in vulnerable areas. Full or partial removal and capping at-grade provide greater resilience to climate change risks than engineered cap on-grade alternatives.
- The contaminants of concern are persistent and bioaccumulative necessitating indefinite performance of an engineered cap. Removal actions and capping at-grade rather than on-grade are expected to significantly reduce long-term maintenance and monitoring efforts and costs.
- Full or partial removal and capping at-grade allows restoration of the existing habitat. If a cap on-grade alternative is selected the habitat in SMA-3 would be altered due to changes in elevation and grain size. The southern shoreline, and possibly the inlet, would need to be hard armored to protect against wind and waves. Hard-armored shorelines are associated with negative changes in species assemblages and interference with natural sediment processes.

Ecology’s scoring reflects a site-specific comparison of cleanup technologies at achieving each of the seven MTCA criteria. Ecology acknowledges that engineered capping has been effectively used at other sites in the Puget Sound and elsewhere in the U.S. Ecology scored alternatives that include both removal and engineered capping relatively high compared to the full removal alternative. Ecology agrees that M-2 meets the threshold requirements. However, we have significant concerns with the performance of a cap on-grade remedy compared to a partial or full removal action in SMA-3 *at this site and along the southern shoreline in particular.*

Alternatives that incorporate cap on-grade also change the existing habitat by raising the elevation of intertidal areas, altering substrate, and necessitating the creation of a hard armor shoreline in some areas. For the reasons outlined here and in previous comments, Ecology scored M-2 and M-3 significantly lower in some categories compared to other alternatives.

Ecology understands that JELD-WEN has a different professional opinion about the scores assigned in some categories. We respectfully disagree with the scoring presented and request that Ecology’s scores and rationale be used in the Final FS.

Ecology expects that JELD-WEN will revise the scoring and discussion text per Ecology rationale/narrative and provide a complete alternatives analysis with alternative M5 as the recommended alternative for the FS (Ch. 10 & 11).

For upland Cleanup Areas, Ecology is waiting to see a revised alternatives analysis (complete DCA with cost analysis) that incorporates Ecology alternative 7 (hotspot soil removal, ISB, MNA) as the recommended alternative for cleanup.

Should JELD-WEN have additional questions regarding Ecology’s position/input on the DCA narrative as it revises the RI/FS, please contact me at 360 407 6913 or by email at mahbub.alam@ecy.wa.gov.

Sincerely,

Mahbub Alam

Mahbub Alam, PhD, PE
Environmental Engineer
Toxics Cleanup Program

cc: Jason Cornetta, Anchor QEA LLC
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January 11, 2021

Bonnie J. Basden, C.E.C.M
Director Environmental Permitting
JELD-WEN, Inc.
3250 Lakeport Boulevard
Klamath Falls, OR 97601

Re: Decision Regarding Request for Dispute Resolution, Agreed Order No. DE 5095

- **Site Name: JELD-WEN, Inc.**
- **Facility Site ID: 2757**
- **Cleanup Site ID: 4402**

Dear Bonnie J. Basden:

This letter responds to JELD-WEN's letter dated December 18, 2020, requesting dispute resolution at the JELD-WEN, Inc. (JELD-WEN) Site. Even though JELD-WEN's request for dispute resolution was untimely (Agreed Order No. DE 5095, section VIII.J.1.a, page 17), the Department of Ecology (Ecology) project coordinator conferred with the JELD-WEN project coordinator in an effort to resolve the matters in order to move forward with the cleanup. On December 29, 2020, the Ecology project coordinator had a phone conversation with the JELD-WEN project coordinator regarding the disputes. Ecology and the JELD-WEN project team had a thorough discussion on the disputed items on January 5, 2021. At JELD-WEN's request, the Ecology project coordinator is providing the following decisions regarding the disputes.

The overall intent of the Model Toxics Control Act (MTCA) is to "use permanent solutions to the maximum extent practicable" (WAC 173-340-360(2)(b)) and select clean up actions using a disproportionate cost analysis (WAC 173-340-360(3)(e)) which favors more permanent, more protective, and more effective cleanups within a reasonable restoration time frame, in order to protect human health and environment. Project costs are only relevant when two or more alternatives provide equal benefit.

Objection 1: JELD-WEN objects to Ecology's cost estimate for Alternative 7.

Ecology's Decision: Ecology agrees that revised costs for building demolition, excavation shoring, soil disposal rates, and the support/relocation of utilities in the excavation area can be included in the disproportionate cost analysis (DCA), but costs for repair of the building should not be included in the DCA because this cost is not directly related to perform remedial action. JELD-WEN may include this cost, which may be incurred to meet requirements outside of MTCA DCA consideration, in the RI/FS document as additional information.

Ecology's Rationale for the Decision: Ecology developed costs for Alternative 7 from the Alternative 4 provided by JELD-WEN in the April 30, 2020 RI/FS submittal. At that time, costs for building demolition of buffer area and relocation/support of utilities were not included. Ecology agrees with JELD-WEN's shoring rationale cost. However, Ecology does not agree that building repair cost can be part of the DCA because this additional work is not for remedy implementation. MTCA defines remedial action as:

> Any action or expenditure consistent with the purposes of this chapter to identify, eliminate, or minimize any threat posed by hazardous substances to human health or the environment including any investigative and monitoring activities with respect to any release or threatened release of a hazardous substance and any health assessments or health effects studies conducted in order to determine the risk or potential risk to human health.

RCW 70A.305.020(33).

Per this definition, reconstruction/repair of a building does not identify, eliminate, or minimize any threat posed by hazardous substances. Ecology does not include redevelopment cost as part of DCA since site development does not contribute to remedial action. This is explicitly mentioned in Ecology's remedial action grant rule (Chapter 173-322A WAC) which designates site development cost as ineligible for remedial action grant. See 173-322A-320 (5)(b)(vii) ("(b) **Ineligible costs.** Ineligible costs for an oversight remedial action grant include, but are not limited to, the following: . . . (vii) Site development and mitigation costs not required as part of a remedial action;").

Ecology understands JELD-WEN's position that it does not currently own the property and may not directly benefit from the building repair/reconstruction. JELD-WEN may incur this cost due to other obligations but this cost cannot be included in the DCA. Another important point is that even though Ecology does not approve including the building repair cost into the DCA, hypothetically, if this cost were included in the DCA, the outcome will not change the selection of Alternative 7 as the preferred remedy. JELD-WEN's argument for selection of lower cost alternative per DCA is discussed below as part of objections 2, 3, and 4.

Objection 2: JELD-WEN objects to Ecology's DCA Cost Benefit Analysis Chart.

Objection 3: JELD-WEN objects to Ecology's Evaluation of Cleanup Action Alternatives (Section 10.1-1) and DCA Summary and Closing (Section 11.1.1).

Objection 4: JELD-WEN objects to Alternative M5 as the preferred alternative for the marine remedy.

Ecology summarized these three objections into one response since they relate to the same argument that JELD-WEN made concerning Ecology's DCA and selection of preferred alternative.

Ecology's Decision: Upland Alternative 7 is Ecology's preferred remedy as it is permanent to the maximum extent practicable and is not disproportionately costly to the lower cost of Alternative 2. Marine Alternative M5 is preferred remedy as it is similarly permanent to the maximum extent practicable and is not disproportionately costly to Alternative M4.

Ecology's Rationale for the Decision: In its December 18, 2020 dispute letter, JELD-WEN correctly referenced MTCA that "Where two or more alternatives are equal in benefits, the department shall select the less costly alternative . . ." WAC 173-340-360(3)(e)(C). The rule uses the language "**equal in benefits**." Note that upland Alternative 2 and Alternative 7 do not have equal benefits. Similarly, marine Alternative M4 and Alternative M5 do not have equal benefits. Therefore, Ecology is not required to select the less costly alternative for the upland and marine cleanups. JELD-WEN's argument for selection of lower cost alternative per the rule is, therefore, without merit.

In its December 18, 2020 letter, JELD-WEN also quoted the rule language that "Costs are disproportionate to benefits if the incremental costs of the alternative over that of a lower cost alternative exceed the incremental degree of benefits achieved by the alternative over that of the other lower cost alternative." WAC 173-340-360(3)(e). Ecology does not agree with JELD-WEN's narrow interpretation of the DCA process. The DCA is one component of the overall remedy selection process. Ecology followed the overall process for remedy selection as specified in the rule (WAC 173-340-360) and the following are the main points and step-by-step procedure for its selection of both upland and marine remedies.

1. Cleanups under MTCA require the selected cleanup to "Use permanent solutions to the maximum extent practicable (see subsection (3) of this section)." WAC 173-340-360(2)(b)(i).

2. Subsection (3) of WAC 173-340-360 provides a process on how to determine if a cleanup action uses permanent solutions to the maximum extent practicable. The general requirement in subsection (3) states, “When selecting a cleanup action, preference shall be given to permanent solutions to the maximum extent practicable.” WAC 173-340-360(3)(b). That regulation later introduces disproportionate cost analysis (DCA) as a tool. WAC 173-340-360(3)(e). However, the use of DCA does not negate the requirement that permanent solutions must be used to the maximum extent practicable. Both Alternative 7 (upland) and Alternative M5 (marine) are more permanent.

3. In the DCA procedure, alternatives are ranked from most to least permanent as specified in the rule. “The alternatives evaluated in the feasibility study shall be ranked from most to least permanent”. WAC 173-340-360(3)(e)(ii)(A). The alternative with greatest degree of permanence becomes “the baseline cleanup alternative against which cleanup alternatives are compared.” WAC 173-340-360 (3)(e)(ii)(B). That subsection goes on to state that “If no permanent solution has been evaluated in the feasibility study, the cleanup action alternative evaluated in the feasibility study that provides the greatest degree of permanence shall be the baseline cleanup action alternative.” WAC 173-340-360(3)(e)(ii)(B). Accordingly, Alternative 4 in the upland and Alternative M7 in the marine area are the baseline cleanup alternatives against which cleanup alternatives are considered. Ecology compared baseline cleanup alternative to the next most permanent alternative.

4. When comparing cleanup alternatives, Ecology can use a quantitative DCA test (WAC 173-340-360(3)(e)(ii)(C)). Ecology uses this as a guide to determine if the baseline alternative is disproportionately costly to the next permanent alternative. Sometimes this comparison may be qualitative based on best professional judgment. WAC 173-340-360(3)(e)(ii)(C).

5. Using the above procedure from WAC 173-340-360(3), Ecology determined that Alternative 7 is the most permanent cleanup to the maximum extent practicable when compared with baseline cleanup Alternative 4. If Alternative 7 is compared with the lowest cost Alternative 2, the incremental benefit outweighs the incremental cost. Even when hypothetically including the building repair cost in Alternative 7, the incremental cost increase is not significant enough to justify selection of Alternative 2. The benefits provided by Alternative 7 would still be proportionate and defensible compared to the increased costs. Alternative 7 provides greater degree of certainty and permanence associated with hotspot soil removal compared to biological treatment in Alternative 2, which suffers from a lesser degree of certainty, permanence, and effectiveness over long term. Alternative 7 results in quicker risk reduction due to mass removal of contaminants within a shorter time frame compared to

longer restoration timeframe necessary for biological treatment in Alternative 2. As such, Ecology prefers more permanent cleanup Alternative 7.

6. When comparing marine Alternative M4 and Alternative M5, Alternative M5 provides the greater overall benefit and is more permanent than Alternative M4. Alternative M5 includes more mass removal of hotspot areas. The additional removal provides greater protection from health impacts to humans and animals utilizing the tide flats, including future recreational and tribal subsistence shellfishers. Additional removal substantially decreases vulnerability of the remedy to climate change impacts, including more frequent severe storms expected over time. Ecology anticipates that contaminated sediment will be disposed of at an off-site Subtitle D landfill, as described in the Feasibility Study sections 8.5.6 through 8.5.9 and cost estimates. Due to the increased removal and disposal of the most highly contaminated marine sediments in an upland engineered facility, the likelihood of subsequent releases and exposure to contaminants is reduced compared to Alternative M4. The incremental decrease in cost between M4 and M5 is not significant enough to justify selection of Alternative M4. For these reasons, and reasons previously communicated to JELD-WEN, Ecology has determined that the incremental benefit of Alternative M5 is not disproportionate to the incremental cost. As such, Ecology prefers Alternative M5.

7. Other issues that played a role in Ecology’s DCA comparison, using its best professional judgement, are:

    - Location of the site next to an environmentally sensitive area.
    - Impact of bigger and more frequent storms due to climate change impacts.
    - Earthquake vulnerability due to soil liquefaction.
    - Tribal subsistence fishery.

This letter provides Ecology project coordinator’s decisions with respect to disputes raised by JELD-WEN per the Agreed Order No. DE 5095. The disputes were not raised in a timely manner as identified in the Agreed Order. In addition, using MTCA Selection of cleanup actions criteria, Ecology’s selection of the preferred alternatives (Alternative 7 and Alternative M5) most clearly fit the remedial action that is most permanent, most protective, most effective, and remediates contamination with a short, practicable timeframe.

Ecology hopes these responses and additional rationale satisfy the issues raised in JELD-WEN's December 18, 2020 dispute letter. Ecology looks forward to working with JELD-WEN to finalize the RI/FS and to make progress towards the development Draft Cleanup Action Plan on this important cleanup to protect the human health and environment.

If you have any questions and concerns about this letter, you can call me at (360) 407-6913 or email me at mahbub.alam@ecy.wa.gov.

Sincerely,

Mahbub Alam

Mahbub Alam
Site Manager
Toxics Cleanup Program

cc: Connie Sue Martin, Schwabe Williamson & Wyatt