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TECHNICAL MEMORANDUM

TO: Victoria Sutton – Department of Ecology

FROM: Matt Dalton

DATE: November 11, 2014

SUBJECT: Data Gap Memorandum
ICS/NWC Remedial Investigation Testing
Seattle, Washington

REF. NO: SUM-008 (ICS)

CC: Phil McCune/Ralph Palumbo – Summit Law Group
Steve Thiele – Stoel Rives

This technical memorandum presents a summary of data collected as part of implementing the Remedial Investigation/Feasibility Study (RI/FS) Work Plan (DOF 2012) and filling a number of Data Gaps (DOF 2013a) for the Industrial Container Services/Former NW Cooperage (ICS/NWC) Site located in Seattle, Washington. The RI/FS is being completed to meet the requirements of Agreed Order DE 6720 (AO) between the Washington State Department of Ecology (Ecology) and the Trotskys and Industrial Container Services – WA, LLC. The facility is located along a small embayment to the Lower Duwamish Waterway (LDW) (Figures 1 and 2).

During a preliminary review of data collected as part of the approved work plan, it became apparent that a number of data gaps remained. The purpose of this technical memorandum is to identify data gaps that need to be filled to complete the RI; that is to provide the basis to complete an FS consistent with WAC 173-340-350(7). Preparation of a data gap technical memorandum is not identified as a required deliverable in the AO. The Ecology and PLP Project Coordinators conferred and agreed that it would be in the project's best interest to fill the data gaps prior to preparation of the draft RI report. To facilitate reaching consensus on the supplemental data gap testing, it was decided that a data gap technical memorandum be prepared and submitted to Ecology for review and final approval. Final approval of the data gap testing program was received by phone on November 11, 2014.

A draft data gap memorandum was submitted to Ecology in February 2013 (DOF 2013a). Based on this memorandum, Ecology approved the collection of data to fill a number of,

but not all, data gaps. The work included completing geophysical (ground penetrating radar or GPR) and video surveys to refine the trend and condition of the existing storm sewer and the location of an “outlet box” that formerly controlled discharge from the facility to a lagoon that was subsequently filled. Previous sampling locations were also surveyed. The results of this work are documented in a report prepared by Dalton, Olmsted & Fuglevand, Inc. (DOF 2013b) which is included as Attachment A. In addition, a number of archived soil and sediment samples collected in 2012 were removed from frozen storage and analyzed; the results of which are included in data tables attached to this report. In 2013 and early 2014, samples from monitoring wells on the Douglas property located on the north side of the embayment were tested by consultants for the property owner.

Using the results of the archive sample analysis and preliminary Douglas property data, a refined characterization of sediment conditions within, beneath and in the vicinity of the embayment was completed to further identify sediment data gaps that need to be filled to inform the ICS/NWC RI. The results of the updated embayment characterization and data gap analysis are documented in a technical memorandum prepared by DOF (2014) that was submitted to Ecology on March 23, 2014. Since the technical memorandum was submitted to Ecology, the results of several additional rounds of groundwater sampling on the Douglas property became available.

Identified data gaps and proposed testing to fill the data gaps are presented and discussed below. Data summaries were prepared and site characterization analyses were completed to the degree necessary to support data gap identification and develop a supplemental work plan to fill the gaps. Data collected by Dalton, Olmsted & Fuglevand, Inc. (DOF) was validated by DMD Inc. DMDs validation reports are included in Attachment B. A more complete site characterization analysis will be presented in the draft RI report.

EMBAYMENT DATA GAPS AND RECOMMENDED WORK PROGRAM

Site Location and Placement of Fills

The project facility is located along the west bank of the LDW within the Lower Duwamish River Valley. Glaciated uplands form the east and west valley walls (Figure 1). By 1936, operations had started on the site and most of the site was above river level. In the late 1930s, a wharf extended northward from the facility and the embayment was not present. After at least 1960, filling occurred on and in the vicinity of the facility (Figure 3). This filling included the following:

- Creation of the Douglas Property on the north side of the embayment,
- Filling of a drainage ditch along the eastern property boundary and installation of a storm water pipe (connected to the 2nd Ave. Outfall), and
- Placement of fill along the north facility shoreline (south shore of embayment).

Sediment Screening Levels and Updated List of COPCs

Sediment Screening Levels (SLs). In mid-January 2014, Ecology transmitted to DOF a set of “*LDW Site Cleanup Levels*” – Final Draft, that were developed for another MTCA site on the LDW. While the CULs were not final, Ecology indicated they will likely provide the basis for CULs for the ICS/NWC MTCA site and are used herein as updated sediment SLs. Table 1 provides a comparison of SLs used in the DOF 2013a data gap memorandum and the Final Draft Ecology table. For the most part, the SLs are the same and are based on Sediment Quality Standards (SQSs) in the Washington State Sediment Management Standards (SMS). SLs for a number of constituents were revised as follows:

Updated Sediment SLs (as of January 2014)

Constituent	Previous SL (a)	Updated SL	Comment
Arsenic	57 mg/kg-dry wt.	7 mg/kg-dry wt.	Updated SL based on Puget Sound Background (soil – Ecology 1994).
1,4-Dichlorobenzene	9,000 mg/kg-OCN	3,100 mg/kg-OCN	OCN – Organic Carbon Normalized
cPAHs	Based on OCN concentrations in SMS	90 ug/kg – dry wt. – contact during beach-play	Based benzo(a)pyrene equivalent concentration (TEQ) – Consistent with LDW Feasibility Study 2012.
Total PCBs	12,000 ug/kg-OCN	2 ug/kg – dry wt.	Updated SL based on LDW background.
2,3,7,8-TCDD	Not included	0.0002 ug/kg – dry wt.	Dioxin/furans based on TEQ; SL based on LDW background.

Notes: (a) Based on Sediment Quality Standards (SQS) in the Sediment Management Standards (SMS); TEQ – Toxicity Equivalent Quotient; SL – Screening Level.

Updated List of Sediment COPCs. SLs listed in Table 1 were compared to surface and subsurface sediment constituent concentrations detected in samples collected in 2012. Surface sediment analytical results and SL comparisons are summarized in Tables 2, 3 and 4, while subsurface sediment analytical results and SL comparisons are summarized in Tables 5, 6 and 7. Comparisons were made based on dry-weight and carbon normalized concentrations, as appropriate.

COPCs were identified based on the following:

- Whether the constituent exceeded its respective SL – If none of the constituent concentrations exceeded the SL, the constituent was not identified as a COPC.
- Frequency of exceedance – If the constituent exceeded the SL in 10% or less of the samples, the constituent was generally not identified as a COPC.
- Magnitude of the exceedance (as indicated by calculation of an exceedance factor – EFⁱ). EFs were calculated for both dry-weight and carbon normalized SLs. For

ⁱ Exceedance factor is calculated by dividing the constituent concentration by the SL.

purposes of this Work Plan the range of EF exceedances were categorized as follows:

- Low – EF less than 5
- Moderate – EFs between 5 and 10
- High – EFs greater than 10
- Best professional judgment (primarily whether other constituents were also detected above the EFs in the sample and would be addressed by cleanup of other constituents).

The results of the sediment COPC analysis are included in Tables 8 and 9. Identified COPCs are summarized below:

Embayment Sediment COPCs

Constituent	Surface Sediment			Subsurface Sediment		
	COPC in Surface Sediment	Highest EF	% EF>1	COPC in Subsurface Sediment	Highest EF	% EF>1
Arsenic	X	8.7	83	X	4.4	54
Lead	X	13	23	X	9.8	11
Mercury	X	35	33	X	95	20
Zinc	X	9.3	13	X	7.9	8.7
TPH	X	27	13	X	11	17
1,4-Dichlorobenzene	No	14	3.3	X	9.5	12
Benzyl alcohol	X	351	20	X	3.3	32
2,4-Dimethylphenol	X	152	10	X	31	18
1,2,4-Trichlorobenzene	No	2.1	8.8	X	10	10
Fluorene	X	8.1	10	No	6.9	5.9
Pentachlorophenol	X	18	23	No	2.4	5.9
Butylbenzyl-phthalate	X	29	17	No	1.9	2.9
B(a)PEq. (TEQ)	X	1254	63	X	8	32
Total PCBs (dry wt.)	X	97000	100	X	22055	61
Total PCBs (OCN)	X	89	90	X	109	40
2,3,7,8-TCDD	X	396	100 (n=3)	not analyzed	-----	-----

X – Identified COPC in sediment; EF – Exceedance Factor; n – sample number; see Tables 8 and 9 for more detailed summaries.

Review of the EFs and percentages of samples where the EF was exceeded indicate that total PCBs (dry wt. concentrations) will likely drive the embayment sediment cleanup. Cleanup of PCBs will also address other constituents that exceed SLs.

Embayment Surface Sediment Analyses

Thirty-two surface (0 to 10 cm) sediment samples (DDS-1 to DDS-32) were obtained from the locations shown on Figure 4. Samples DDS-2 to DDS-32 were collected on July 2 and 3, 2012. DDS-1 was collected on December 10, 2012. The analytical results are summarized in Table 2. The samples were analyzed for:

- Metals
- Petroleum hydrocarbons
- SVOCs
- Pesticides
- PCBs
- Tributyltin
- Chlorinated dioxin/furans
- Selected engineering properties

Figures 5 to 8 show surface (0 to 10 cm) sediment/bank soil concentrations of PCBs, lead, mercury and petroleum hydrocarbons, respectively. Surface sediment PCB concentrations exceeded the SL most frequently and over most of the embayment. The highest concentrations of PCBs were detected within the upper portion of the embayment along the south shore (Figure 5).

Surface sediment concentrations of lead, mercury and petroleum hydrocarbons showed generally similar concentration patterns, in that the highest concentrations and most frequent exceedances occurred within the upper portion of the embayment along the south shoreline (Figures 6 to 8). Concentrations of lead and mercury also exceeded SLs within the lower portion of the embayment along a portion of the south shoreline while concentrations of mercury exceeded the SL along the north shoreline adjacent to the mouth. Petroleum hydrocarbons did not exceed the SL in the central and lower portions of the embayment.

Embayment Subsurface Sediment Analyses

Twelve sediment cores were obtained from the embayment on November 20 and 21, 2012 from the locations shown on Figure 9. Core “E” was not obtained because of an obstruction. After the cores were extracted from the core tubes, the materials were logged and segmented to approximately 1.0 foot sample intervals. Core logs are presented in Attachment C.

Sixty-nine samples (including duplicates) were collected for possible analysis. Forty-eight subsurface samples (including duplicates and archived samples) were analyzed for the constituents listed below. The analytical results are summarized in Table 5ⁱⁱ.

ⁱⁱ The results of the archive samples are identified by ARI delivery group XD56.

- Conventional parameters (e.g. TOC)
- Metals
- Petroleum hydrocarbons
- SVOCs
- Pesticides
- PCBs
- Selected engineering properties (e.g. grain size)

The primary purpose of the cores was to define the bottom of contaminated sediment that exceed SLs. Figures 10a to 10e present the conditions for C-C' along the approximate centerline of the embaymentⁱⁱⁱ.

- **Sediment Types and Observations.** Data from sediment cores indicate near surface sediments generally consist of sandy silts to gravels that range in thickness from approximately 1.5 to 6.5 feet (Figure 10a). Moderate to heavy sheens were observed on sediment samples mostly within the upper portion of the embayment (Cores B, D, F and H). Underlying the surficial sediments is a more consistent silt layer with interbedded pockets of fine sand. The silt ranges in thickness from 2 to 6.5 feet. Underlying the silt strata is fine sand, which appears to grade coarser towards the LDW.
- **PCB** concentrations above the SL are present in the upper layer and extend into the upper portion of the silt layer at core locations H, I, J and M (Figure 10b). Sediment with PCB concentrations significantly above the SL extend to depths of approximately 2.5 to 6.0 feet.
- **Lead** concentrations along Section C-C' are shown on Figure 10c. Lead exceeds the SL in subsurface sediment beneath the upper portion of the embayment (Cores D, F and H) to depths of approximately 2.5 to 4 feet. Lead exceedances are co-located with elevated PCB concentrations.
- **Mercury** concentrations along Section C-C' are shown on Figure 10d. Mercury exceeds the SL beneath most of the embayment but at generally shallower depths as compared to PCBs. Mercury exceeds its SL to depths of approximately 1 to 3 feet below mudline.
- **Petroleum Hydrocarbon** concentrations along Section C-C' are shown on Figure 10e. Concentrations above the SL show a generally similar pattern as that for lead (Figure 10c). In contrast to lead, concentrations above the SL were also detected in Core J where a concentration of 3,000 mg/kg was detected at a depth of 2 to 3 feet.

ⁱⁱⁱ Other sections are presented in DOF 2014.

Embayment Sediment Data Gap Assessment. The results of the updated embayment sediment analysis indicate that overall the embayment (Figure 4) has been characterized to an adequate degree to prepare the RI with the following exceptions.

- **Issues and Data Gaps.** It is likely that PCBs will drive the extent of surface sediment remediation. Upland disposal of contaminated sediment is an alternative that will need to be assessed in the Feasibility Study. With respect to upland disposal, some of the 2007 PCB concentrations were greater than 50 ppm which would designate such sediment as Toxic Substances Control Act (TSCA) waste with special disposal requirements. In addition, high lead concentrations in the head of the embayment might designate as characteristic dangerous waste (DW) using the TCLP test. Additional sampling and analysis is warranted and recommended to confirm the PCB and lead concentrations in the areas where high concentrations were previously detected and whether sediment with high lead concentrations would designate as characteristic DW.

COPC Migration From Douglas Property to Embayment

Testing of groundwater samples collected in August and December 2013, and March 2014 beneath the Douglas Property along the north embayment shoreline (DMC-MW8, DMC-MW9, DMC-MW10 and DMC-MW11 on Figure 11) detected the constituents listed in Table 10. The analytical results were compared to available surface water SLs including the following:

- LDW draft Final Cleanup Levels developed by Ecology (as of January 2014);
- Surface water SLs listed in the DOF 2012 Work Plan (Table SAP-5).

Based on this comparison of SLs with the groundwater analytical data, groundwater concentrations of PCBs appear to have primarily exceeded SLs as further summarized in Table 10. While it has not been conclusively demonstrated, deeper soil detections suggest the constituents were introduced prior to the major filling that created the upland portion of the Douglas Property in the mid- to late-1960s.

As part of the FS, the potential for migration with groundwater of PCBs (and perhaps other constituents) into the embayment with groundwater will need to be addressed (such as augmenting a sediment cap with organic carbon to prevent the migration of PCBs into the water column above cleanup levels).

Embayment Recommended Additional Work To Fill Data Gaps

Collect and Analyze Additional Surface Sediment Samples. Additional sediment sampling and analysis are recommended as follows [Note: With Ecology approval this sampling work was completed on September 19, 2014].

- Three additional surface sediment samples would be collected and analyzed for PCBs. Samples would be collected from locations SED-1, SED-2, and LDW-SS84 (see Figure 4). Previously detected total PCB concentrations at these locations are listed below:

Location	Total PCBs (mg/kg)
SED-1	2930
SED-2	231
LDW-SS84	23

- Six additional surface sediment samples would be collected and analyzed for total/TCLP (RCRA metals – Ag, As, Ba, Cd, Cr, Hg, Pb and Se). Samples would be collected from locations SED-1, SED-2, LDW-SS84, SED-4, DDS-26 and B5a-2 (see Figure 4). Sample locations were recommended so samples with a range of metal concentrations would be tested to provide a basis to predict DW threshold concentrations. It is anticipated the analytical results would be evaluated using linear regression. Previously detected total lead concentrations at the recommended locations are listed below:

Location	Lead (mg/kg)
SED-1	10,400
SED-2	4,280
LDW-SS84	615
SED-4	137
DDS-26	1,690
B5a-2	75

- Collection and analysis of surface sediment would follow the procedures and methods described in the Ecology approved RI/FS Work Plan (DOF 2012).

Collect and Analyze Deeper Douglas Property Groundwater Samples. As noted above, PCBs and other constituents (Table 10) were detected above screening levels in a number of groundwater samples collected from Douglas Property wells located along the embayment shoreline (DMC-MW9, DMC-MW10 and DMC-MW13 – see Figure 11). These wells are screened at elevations of approximately (+)5 to (-)5 feet MLLW as illustrated on Figure 12 for well DMC-MW10. PCBs are present in soils below the bottom of the screened intervals and possible migration of PCBs in groundwater to the embayment may occur along deeper flow paths not captured by the existing wells. To fill this data gap:

- Three deeper wells will be installed on the Douglas property at the approximate locations shown on Figure 11 and as described in the following table.

Screening Elevations of Proposed Douglas Property Wells

Location	Target Screen Elevation (ft-MLLW)	Associated Well(s)
D-MWA	(-)6 to (-)16	DMC-MW9 and DMC-MW10
D-MWB	(-)6 to (-)16	DMC-MW8
D-MWC	(-)6 to (-)16	DMC-MW13

Installation of the wells will require access permission by the property owner. The wells would be installed using a hollow-stem auger or push-probe type drilling rig as described in the 2012 RI/FS Work Plan (DOF 2012). Three soil samples from the interval to be screened will be collected and analyzed for PCBs. The estimated number of soil samples that will be collected, analyzed and archived, and analyses to be completed are summarized in Tables D2 and D3 of Attachment D. The wells would be surveyed (to NGVD88) and developed prior to sampling. Groundwater samples would be obtained from the three deeper wells and analyzed for the constituents listed in Table 9 “*Groundwater Analyses*” of the 2012 RI/FS Work Plan that is included as Table D1 in Attachment D. The estimated number of water analyses are summarized in Table D4 in Attachment D. Sampling would occur on a quarterly basis for one year after the wells are installed and developed.

- Sample collection and analysis of soil and groundwater samples would follow the procedures and methods described in the Ecology approved RI/FS Work Plan (DOF 2012).
- As data are obtained and validated, it will be uploaded to Ecology’s EIM system and submitted with the monthly progress reports, as appropriate.

UPLAND PROJECT FACILITY DATA GAPS AND RECOMMENDED WORK PROGRAM***Site Hydrogeology***

Geology. The facility subsurface conditions are interpreted from available boring, soil probe and well logs (included in Attachment C). Exploration locations are shown on Figure 13 and interpretative geologic sections are presented as Figures 14 and 15. Section trends are shown on Figure 13. The general geologic sequence beneath the upland portion of the site is interpreted as follows:

- Seven to ten feet of silty, fine sand underlies most of the facility. Along the northern shoreline area, the soils may be coarser consisting of fine to medium sand to silty, fine to coarse sand. Some to most of this material may be fill and variable interbedded conditions are likely present.

- Underlying the fine sand beneath the western portion of the facility is five to seven feet of very fine sandy silt with decomposed grass like plants, roots and pieces of wood indicated on the logs. The bottom of this unit was encountered approximately 9 to 17 feet below existing grade. This unit was not encountered at locations MW-7, MW-8, HC-B1, HC-B2 and SA-MW1 to SAMW3 or in soil probes LP-1 to LP-4.
- Below the fine sandy silt and elsewhere where the silt appears not to be present, soils consist of fine sand to fine to medium sand.

Soil probes LP-1 to LP-4 were drilled and sampled to assess conditions near the historic ditch bottom and in a former “lagoon” and “slough” area identified on an historic survey map. The probes were drilled to a depth of approximately 20 feet to penetrate below the ditch bottom. Sections A-A’ and B-B’ (Figures 14 and 15) show the interpreted conditions in the former ditch area that are as follows:

- The ditch appears to have been backfilled with 5 to 11 feet of silty sand and fine to medium to gravelly sand.
- Between the southeast facility corner and location HC-B2 (Figure 15) black sandy silt was encountered that is interpreted as residue materials that were covered by backfill soil. The layer ranged in thickness between approximately 2 and 5 feet. Debris and/or rubber pieces were present at LP-2 and LP-3 and some of the samples were described as tar-like or carbon black-like smear. The northern edge of this layer appears to be present near location HC-B2. The extent of the layer appears to roughly correspond to the outlines of the lagoon/slough area on the historic survey map. North of HC-B2, sandy soils appear to overlie a sandy silt layer based on the logs of P6 and P7 (logs for these soil probes are included in Appendix A of DOF 2012).

Hydrology. As part of the approved 2012 work plan testing, eight new monitoring wells (DOF-MW-1 to DOF-MW-8) were installed and surveyed. On December 10, 2012, two sets of water levels were made in the new and existing wells^{iv}. One set of measurements was made during a high tide (predicted +11.8 feet MLLW – 8th Ave. South) and a second set of measurements was made during a predicted low tide of -1.5 feet MLLW. During the low tide measurements, the LDW tide levels were lower than the bottom of most of the intertidal embayment. Water level elevation data are summarized in Table 11.

Water table contour maps (Figures 16 and 17) were prepared to illustrate estimated groundwater flow gradient directions for high and low tidal conditions. During high tides, a reversal of the groundwater flow gradient occurs beneath the facility. Inward flow gradients are present along the embayment shoreline and eastern property boundary.

^{iv} Previously installed wells HC-B4 and HC-B5 were abandoned consistent with the work plan.

As tidal levels decline, groundwater levels adjust and a relatively complicated flow pattern emerges (Figure 17). Flow gradients beneath the western portion of the facility are generally towards the head of the embayment while those beneath the eastern portion are in an easterly direction towards the LDW. A groundwater divide separates the two flow patterns.

Along a portion of the northern facility shoreline, the data indicate the presence of a partial hydraulic barrier that is preventing unrestricted flow into the embayment. In the general area between DOF-MW6 and SA-MW3 at low tide, flow gradients are either towards the west or east depending on location and appear to swing towards the ends of the hydraulic barrier with discharge to the embayment.

Figure 18 shows a plot of the water level change between high and low tides at each measured well location. As expected, water level changes generally decreased with increasing distance from the shoreline. A change in water level of approximately 7 feet occurred at location SA-MW3. However, elsewhere along the facility shoreline, much lower water level changes occurred (-3.79 to -1.5 feet) and at SA-MW-1 the well water appeared to rise 0.14 foot, indicating the effect of the hydraulic barrier.

A water level change of -2.23 feet occurred in inland well DOF-MW1. This compares with lower water level changes at DOF-MW8 (-1.33 feet) and DOF-MW7 (-1.89 feet). The greater amount of relative change at DOF-MW1 suggests a possible connection between the stormwater pipeline and the surrounding hydrogeologic system. To further assess this possibility, chloride concentrations (Tables 12 and 16) were plotted on Figure 19. Testing of water collected during a low tide, low stormwater flow condition from manhole MH1 (Table 16) indicated a chloride concentration of 6,970 mg/l indicating that leakage from the pipeline could locally raise groundwater chloride concentrations.

Upland well sample chloride concentrations ranged between 46 and 217 mg/l. These concentrations compare with a DOF-MW1 sample concentration of 2,210 mg/l. Comparison of the chloride concentrations supports a possible hydraulic connection between the stormwater pipe and surrounding groundwater in the vicinity of DOF-MW1.

Upland Laboratory Analytical Data

Implementation of the approved 2012 work plan consisted of sampling upland groundwater, seep, subsurface soil, storm water system, and facility baghouse dust and furnace ash. Upland sample locations are shown on Figure 13. The collected samples were analyzed for a variety of constituents by Analytical Resources Inc. (ARI).

Analytical constituents included:

- Metals,
- Petroleum hydrocarbons,
- Volatile organic compounds – VOCs (upland samples),
- Semivolatile organic compounds - SVOCs,

- Pesticides,
- Polychlorinated biphenyls (PCBs),
- Chlorinated dioxin/furans (selected surface sediment samples),
- Total organic carbon (sediment samples), and
- Conventional and field parameters such as, pH, chloride and sulfate (groundwater samples).

Results of Groundwater and Groundwater Seep Analyses. Two low tide seep samples were collected on July 5, 2012 and eleven monitoring well samples were collected on November 8 and 9, 2012. Samples were obtained from new and those existing wells deemed suitable for sampling. The analytical data are summarized in Table 12 and included analyses for:

- Metals,
- Petroleum hydrocarbons,
- Volatile organic compounds – VOCs,
- Semivolatile organic compounds - SVOCs,
- Pesticides,
- Polychlorinated biphenyls (PCBs), and
- Conventional and field parameters such as, pH, chloride and sulfate.

A groundwater sample was not obtained from well SA-MW1 because a non-aqueous phase liquid (NAPL) was discovered floating on the water surface in the well and the field crew was not set-up to collect a groundwater sample representative of dissolved constituent concentrations. The NAPL looked similar to a motor-oil type lubricant. A sample of the NAPL was collected and analyzed to assess the type of product present using NWTPH-HCID (GC-FID) and possible presence of PCBs. The results are summarized below:

Analytical Results – NAPL from Well SA-MW-1

Constituents	Analytical Results	ARI Delivery Group
Gasoline-Range Organics (GRO)	>10,000 mg/l	VU21
Diesel-Range Organics (DRO)	>25,000 mg/l	VU21
Heavy-Oil Range Organics (RRO)	>25,000 mg/l	VU21
GC-FID Chromatographic Pattern	Suggests presence of dielectric fluid (a)	VU21
Aroclor 1248	1,000 mg/kg	VU99
Aroclor 1254	470 mg/kg	VU99
Aroclor 1260	200 mg/kg	VU99

(a) Based on DMD, Inc. interpretation of chromatographic trace (personal communication – Jan. 2013)

Pesticides were not detected in any of the groundwater and seep samples. Metals, petroleum hydrocarbons, VOCs, SVOCs and PCBs were detected in one or more of the

samples. The sample from well DOF-MW7 had the most detections. No petroleum hydrocarbon, VOC or SVOC constituents were detected in the two seep samples.

To provide perspective on the groundwater analytical data and to develop a preliminary list of groundwater constituents of potential concern (GW-COPCs), the data was compared to screening levels (SLs) obtained from a variety of sources for a number of possible receptors and pathways. Sources of SLs included the following:

Upland Receptors and Pathways

- Protection of Drinking Water (from CLARC^v)
 - Method A^{vi} and Method B Cleanup Levels (WAC 173-340-720)
 - Drinking water maximum contaminant levels (MCLs)
- Protection of In-Door Air (volatile organic compounds) – Method C from Ecology (2009).

Embayment Receptors and Pathways

- LDW Draft Final Surface Water CULs (Ecology 2014)
- Marine Aquatic (chronic criteria - CLARC)
 - Washington State Surface Water Standards (WAC 173-201A)
 - Clean Water Act Ambient Criteria
 - National Toxics Rule (NTR) Ambient Criteria
- Human Health (Ingestion of Marine Organisms – primarily from CLARC)
 - Clean Water Act (CWA)
 - National Toxics Rule (NTR)
 - MTCA Method B (WAC 173-340-730)

The approach used to compile the preliminary list of GW-COPCs was as follows:

- Maximum detected concentrations were compared to applicable criteria.
- If the maximum concentration exceeded one or more of the criteria, the constituent was carried forward for additional evaluation. Such evaluation included consideration of the frequency, locations and concentration of constituent detections above the SL.
- Preliminary lists were developed for upland and embayment receptors.

GW-COPCs – Upland Receptors and Pathways. Table 13 lists the detected concentrations for all well and seep samples, the frequency of detection and SLs based on protection of drinking water and indoor air (for an industrial landuse). The maximum concentration of vinyl chloride, benzene, pentachlorophenol, and total PCBs exceeded one or more of the SLs.

- **Vinyl chloride (VC)** concentrations are plotted on Figure 20, along with other detected chlorinated solvent constituent concentrations. All concentrations are

^v CLARC – Cleanup Levels and Risk Calculation tables available on Ecology’s web page.

^{vi} The Method A cleanup level for arsenic in groundwater is based on a Washington State Background concentration of 5 ug/l.

below the in-door air SL and most of the VC concentrations are below the lowest SL screening level of 0.2 ug/l based on drinking water protection. Concentrations exceeded the SL in samples from DOF-MW6, DOF-MW7 and DOF-MW8. The highest VC concentration (2.1 ug/l) was detected in the sample from DOF-MW7. The presence of other chlorinated solvents (tetrachloroethene – PCE, trichloroethene – TCE, and cis-1,2-dichloroethene – 1,2-DCE) indicate that VC is likely being generated *in-situ* by the degradation of PCE/TCE via reductive dechlorination. VC is identified as a preliminary upland GW-COPC.

- **Benzene** concentrations are plotted on Figure 21. Benzene concentrations ranged between not detected (RL=0.2 ug/l) and 61 ug/l. Benzene was detected in samples from DOF-MW6 (3.6 ug/l), DOF-MW7 (1.7 ug/l), and DOF-MW8 (61 ug/l). Benzene concentrations are below SLs except for the sample from DOF-MW8 where benzene exceeded SLs based on protection of drinking water and indoor air receptors. Benzene is identified as a preliminary upland GW-COPC.
- **Pentachlorophenol (PCP)** concentrations are plotted on Figure 22. PCP concentrations ranged between not detected (RL=0.25 ug/l) and 240 ug/l. PCP was detected in samples from DOF-MW7 (240 ug/l), and DOF-MW8 (0.76 ug/l). PCP concentrations are below SLs except for the samples from DOF-MW7 and DOF-MW8 where PCP exceeded Method B SLs based on protection of drinking water. PCP is identified as a preliminary upland GW-COPC.
- **Polychlorinated Biphenyls (PCBs)** concentrations are plotted on Figure 23. Total PCB concentrations ranged between not detected (RL=0.01 ug/l) and 0.42 ug/l. Total detected PCBs were detected in samples from DOF-MW1 (0.42 ug/l), DOF-MW6 (0.068 ug/l), DOF-MW7 (0.14 ug/l), DOF-MW8 (0.079 ug/l), HC-B1 (0.052 ug/l), SA-MW2 (0.12 ug/l) and SEEP-2 (0.3 ug/l). Where detected, PCBs exceed the SL based on the Method B level set to protect drinking water. PCBs are identified as preliminary upland GW-COPCs.

GW-COPCs – Embayment Receptors and Pathways (based on protection of surface water receptors). Table 14 lists the detected concentrations for well and seep samples located along the embayment shoreline, and SLs based on protection of surface water receptors via the groundwater to surface water pathway. The maximum concentration of chromium, copper, nickel, benzene, ethylbenzene, 1,2,4-trichlorobenzene, PCP, and PCBs exceeded one or more of the SLs.

- **Chromium** – The maximum concentration of total chromium (Cr[III] + Cr[VI]) of 10 ug/l exceeded the SL value of 0.58 ug/l based on hexavalent chromium (Cr[VI]). Based on this comparison, chromium is tentatively identified as a SW-COPC pending analysis of Cr[VI] in groundwater beneath the site (previous analyses were for total chromium).

- **Copper** - Dissolved copper concentrations are plotted on Figure 24. Copper only marginally exceeded the lowest SL (2.4 ug/l) in one well (4 ug/l in SA-MW3). This exceedance appears anomalous based on the results of other constituent analyses (i.e. petroleum hydrocarbons, VOCs, SVOCs and PCBs were not detected in the sample from this well) and samples from other locations where the SL was not exceeded. Based on these considerations, copper is not identified as a preliminary SW-COPC, but it is recommended that copper be included in future groundwater sample analyses.
- **Nickel** – Dissolved nickel concentrations are plotted on Figure 25. Nickel only marginally exceeded the lowest SL (8.2 ug/l) in one well (11 ug/l in SA-MW3). This exceedance appears anomalous based on the results of other constituent analyses (i.e. petroleum hydrocarbons, VOCs, SVOCs and PCBs were not detected in the sample from this well) and samples from other locations where the SL was not exceeded. Based on these considerations, nickel is not identified as a preliminary SW-COPC, but it is recommended that nickel be included in future groundwater sample analyses.
- **Benzene** marginally exceeded the lowest surface water SL (2 ug/l) at only one shore line location (DOF-MW6 – 3.6 ug/l). Benzene was not detected (RL=0.2 ug/l) in other shoreline samples (Figure 21). Based on these considerations, benzene is not identified as a preliminary SW-COPC, but it is recommended that it be included in future groundwater sample analyses
- **Ethylbenzene** marginally exceeded the lowest surface water SL (1.7 ug/l) at only one shore line location (DOF-MW6 – 2.7 ug/l). Ethylbenzene was not detected (RL=0.2 ug/l) in other shoreline samples (Figure 26). Based on these considerations ethylbenzene is not identified as a preliminary SW-COPC, but it is recommended that it be included in future groundwater sample analyses
- **1,4-Dichlorobenzene** exceeded the lowest surface water SL (1.7 ug/l) at only one shore line location (DOF-MW6 – 22 ug/l). This compound was not detected (RL=0.2 ug/l) in other shoreline samples (Figure 27). Based on the sample concentration at DOF-MW6 being well above the SL, 1,4-dichlorobenzene is identified as a preliminary SW-COPC.
- **1,2,4-Trichlorobenzene** exceeded the lowest surface water SL (0.13 ug/l) at only one shore line location (DOF-MW6 – 0.29 ug/l). This compound was not detected (RL=0.5 ug/l) in other shoreline samples (Figure 28). Based on these considerations 1,2,4-trichlorobenzene is not identified as a preliminary SW-COPC, but it is recommended that it be included in future groundwater sample analyses.

- **PCBs** were detected above surface water screening levels (based on the PQL^{vii}) as illustrated on Figure 23. Shoreline concentrations ranged between not detected (RL=0.01 ug/l) and 0.12 ug/l (SA-MW2). PCBs were detected in samples from shoreline locations SA-MW2, HC-B1, DOF-MW6 and Seep 2. PCBs are identified as preliminary GW-COPCs via the groundwater to surface water pathway.

Summary of GW-COPCs – The following table summarizes the preliminary GW-COPCs based on receptors and pathways.

Summary of Preliminary Groundwater COPCs

Preliminary GW-COPC	Protect Drinking Water	Indoor Air	Protect Surface Water
NAPL (SA-MW1)			X
Chromium (a)			X
Vinyl Chloride	X		
Benzene	X	X	
Ethylbenzene			
1,4-Dichlorobenzene			X
Pentachlorophenol	X		
PCBs	X		X

Note:(a) – Pending analysis of Cr[VI] concentrations in groundwater.

Results of Subsurface Soil Analyses. Fifty-one subsurface soil samples were collected, thirty-seven of which were analyzed for a variety of constituents as listed below. The total includes one archived sample (ICS-LP3-SO-D).

- Metals
- Petroleum hydrocarbons
- VOCs
- SVOCs (inc. PAHs)
- Pesticides
- PCBs

Samples were obtained from four soil probes (LP-1 to LP-4) and eight borings used to install monitoring wells (DOF-MW-1 to DOF-MW-8). Sample locations are shown on Figure 13. The soil analytical results are summarized in Table 15 and the logs of the soil borings and soil probes are included in Attachment C.

The soil probes were located to explore for and sample bottom residues of the filled in ditch (or lagoon/slough). The probes appear to have encountered the bottom residues (see Section B-B' – Figure 15). Laboratory analyses of the bottom residues detected relatively high concentrations of a number of constituents as summarized below:

^{vii} Practical Quantitation Limit

Selected Constituents Detected in Ditch Bottom Sediments

Constituent	Highest Concentration (mg/kg)	Location
Cadmium	5.8	LP-3B (6'-8')
Chromium	910	LP-3B (6'-8')
Copper	450	LP-3B (6'-8')
Lead	3600	LP-3B (6'-8')
Mercury	8.7	LP-3B (6'-8')
Zinc	2120	LP-3B (6'-8')
Petroleum Hydrocarbons	17200 (Diesel + Lube Oil Range Organics)	LP-3B (6'-8')
TCE	2.0	LP-3B (6'-8')
Toluene	120	LP-3B (6'-8')
Ethylbenzene	130	LP-3B (6'-8')
Xylenes	154	LP-3B (6'-8')
Naphthalene	51	LP-3B (6'-8')
2-Methylnaphthalene	34	LP-3B (6'-8')
Pentachlorophenol	5.3	LP-3B (6'-8')
4,4'-DDE	2.9	LP-3B (6'-8')
Total PCBs	113	LP-3B (6'-8')

The highest constituent concentrations were detected at soil probe LP-3 at a depth of 6 to 8 feet below existing grade. PCBs were also detected in samples from LP1 (10.6 mg/kg), LP2 (0.049 mg/kg) and LP4 (15.3 mg/kg). The bottom of the contaminated ditch bottom sediments appears to have been generally defined based on field observations (probe logs) and analytical data.

During drilling at LP-4, the initial attempt encountered a void above an obstruction at a depth of approximately four to five feet. Observation of the sampler indicated approximately one foot of a black oily fluid appeared to lie above a hard surface. The LP-4 location was moved five feet to the west and the probe was successfully drilled to a depth of twenty feet. The vertical position of this feature in relation to the materials encountered by the completed LP-4 soil probe is illustrated on Sections A-A' and B-B' (Figures 14 and 15).

A sample of the oily fluid was obtained and submitted for analysis of halogenated hydrocarbons (TOX) and petroleum hydrocarbons (NWTPH-HCID). A TOX concentration of 270 mg/kg was detected and the HCID analysis indicated the presence of gasoline, diesel, and lube-oil range organics. The GC-FID trace of this oily sample resembles a mixture of gasoline, light hydrocarbon solvent, diesel fuel and motor-oil lubricant (see DMD data validation report dated December 10, 2012 in Attachment B).

At locations DOF-MW2 to DOF-MW5, analyzed constituent detections in subsurface soil were relatively infrequent and the detections were of relatively low concentrations consistent with the groundwater analytical data from these locations. The highest soil concentrations were generally detected at location DOF-MW6 where relatively high concentrations of petroleum hydrocarbons (3,000 mg/kg gasoline range organics and

19,000 mg/kg diesel range organics) were detected. A total PCB concentration of approximately 1.5 mg/kg was also detected at this location. Relatively high petroleum and phenolic constituent concentrations were also detected at location DOF-MW7, including the highest concentration of PCP (160 mg/kg – 3 to 4 feet), also consistent with the groundwater analytical data.

Results of Storm Water System Sample Analyses. Two water samples and one stormwater sediment sample were collected on August 3, 2012. The purpose of the sampling was to assess possible stormwater contributions to embayment sediment and whether significant leakage of groundwater into the stormwater pipe is occurring. Sampling was completed during a low tide, low flow period when stormwater contributions to the system were minimal. The sample was also obtained near the end of the dry season when groundwater levels would typically be at their seasonal lows.

The water samples were obtained from upstream manhole MH1 and the discharge outfall. At the time of the sampling only a small amount of water was being discharged into the embayment. The chloride concentration of both water samples indicates most of the water was likely river water that had entered the system during a high tide and was draining from the system during a low tide. At the time of the sampling, only a small amount of water was flowing through the system and discharging into the embayment.

The stormwater sediment sample was collected from the bottom of manhole MH1. The manhole was approximately eight feet deep with two feet of water in the “*sump*” at the bottom of the structure. The sediment sample was obtained from the bottom of the manhole sump.

The samples were analyzed for the following constituents, the results of which are summarized in Table 16.

- Field and Conventional Parameters
- Metals
- Petroleum hydrocarbons
- VOCs
- SVOCs
- Pesticides
- PCBs
- Chlorinated dioxin/furans (manhole sediment sample)

As noted above, the chloride concentration of the water samples ranged between 6,970 and 7,710 mg/l which likely represents a mixture of LDW water that entered the stormwater pipe and possibly groundwater that entered the stormwater system upstream of MH1. For reference purposes, the chloride concentration of seawater is approximately 19,000 mg/l (Mason 1966).

The quality of water discharging from the outfall was similar to the quality of water sampled from the upstream manhole (MH-1). A few VOCs were detected in the MH-1 sample at low concentrations (e.g. acetone, ethylbenzene, xylenes) that were either not detected or detected at a lower concentration in the outfall discharge. No PCBs were detected in the outfall water sample. The data indicate that leakage of facility groundwater into the pipe was not occurring or was not having an adverse impact on the quality of water discharging from the outfall.

Metals, lube oil range hydrocarbons (1,400 mg/kg), and a number of SVOCs were detected in the stormwater sediment sample from MH-1, including PAHs and phthalates. The stormwater sediment sample had a total PCB concentration of 105 ug/kg.

Results of Baghouse Dust and Furnace Ash Sample Analyses. Samples of baghouse dust and furnace ash were collected from the facility on August 13, 2012. The samples were analyzed for metals and SVOCs. The results are summarized in Table 17. These materials are disposed off-site as non-hazardous waste in a Subtitle D landfill after testing (DOF 2012).

Upland Recommended Additional Work^{viii}

Using available groundwater gradient flow, soil, seep and groundwater data, a “*Preliminary Area of Concern*” beneath the facility was identified as shown on Figure 29. Upland data gap sampling and analysis will be performed in two general phases:

- **Phase 2a** – Collection of embayment sediment samples, the sampling of push-probes on and in the immediate vicinity of the ICS/NWC site, and the installation of deeper wells and initial testing of well samples on the Douglas property. A wet weather storm system sample would also be collected in Phase 2a.
- **Phase 2b** – Installation of new upland monitoring wells associated with ICS/NWC site, completion of quarterly groundwater monitoring in the deeper Douglas and existing/new ICS/NWC monitoring wells, and high water table storm water system sampling (near end of 2015 wet season).

Push-Probe Soil and Groundwater Sampling/Testing. To complete the RI, additional push-probe soil and groundwater testing will be completed as described below:

Push-Probe Soil Sampling

- A total of twenty-four (24) push-probes (twenty-one on-site and three off-site) would be drilled and sampled at the approximate locations shown on Figures 29 and 30. Push-probe soil sampling would be completed on a continuous basis for

^{viii} Push-probe and monitoring well locations shown on the figures are tentative and may shift based on access and other considerations. Tentative final locations would be submitted to Ecology for approval prior to completing the field sampling. It may be necessary for Ecology to provide some assistance in obtaining access to some off-property locations.

geologic logging purposes. Soil samples will be collected for possible laboratory analysis at target intervals (specified below). Specific sampling intervals may shift based on field observation of geologic contacts between material types or on evidence of contamination such as discoloration, changes in soil color, staining, sheens, odors, vapor measurements etc. The estimated number of push-probe soil samples that will be collected, analyzed and archived, and analyses to be completed are summarized in Table 18 and in Tables D1, D2 and D3 of Attachment D. Collected samples not submitted for laboratory analysis will be archived by the laboratory in frozen storage for up to one year. Push probe data will be collected to assess the issues discussed below.

- The horizontal position and depth of the lagoon/slough sediment residues would be further refined. To fill this data gap, eleven soil probes are proposed to be drilled and sampled at the locations shown in the vicinity of the former lagoon and slough on Figure 29. Four of the push-probes (P18, P21, P27, and P33) would be drilled to a depth of approximately fifty-two feet and the remaining seven probes would be drilled to a depth of twenty-two feet. Eight to nine soil samples would be obtained from the deeper probes and five to six soil samples would be collected from the shallower probes for possible laboratory analysis. Target sample collection intervals are listed below. Specific intervals may be shifted based on field observations.

Push-Probe Soil Sample Depth Interval (feet)
3 to 5
6 to 8
9 to 11
12 to 14
15 to 17
20 to 25
30 to 35
40 to 45
+50

Three (from shallower probes) to four (from deeper probes) samples would be submitted for laboratory analysis. The samples selected for soil analysis would be based on field observations and include soil above, within and below the ditch bottom residues. Three samples containing obvious lagoon residues will be selected for chlorinated dioxin/furan analysis^{ix}.

A sample from LP-3 (6 to 8 feet) exceeded the TSCA PCB concentration threshold of 50 mg/kg which indicates that some of the lagoon residues would need to be

^{ix} Analyses for dioxin/furans will include those congeners listed in Table 708-1 of WAC 173-340-900. The concentrations will be converted to a 2,3,7,8-TCDD equivalent concentration derived using Toxicity Equivalency Factors (TEFs) consistent with Ecology guidance.

handled and disposed consistent with this regulation, if excavated. Two of the recommended additional soil probes (P21 and P24) are proposed to assess the concentration of PCBs generally north and south of the LP-3 location.

- NAPL has been detected along the embayment shoreline. Four probes (P28 to P31) are proposed to be drilled to depths of approximately fifty-two feet. Eight to nine soil samples will be obtained from each push-probe. Four samples will be submitted for laboratory analysis while the balance of the samples will be archived for possible later analysis.

An attempt will be made to drill and sample a soil probe (P17) on the north side of the DOF-MW-6 location. The probe would be located as close to the top of the embayment slope as possible, although access is limited. The purpose of the probe is to assess the possible connection of constituents detected at the P-1 location and those detected in the embayment (see Figure 12 - Section D-D'). Five to six samples would be collected at the intervals specified above and three samples would be submitted for laboratory analysis.

- Several groundwater constituents above SLs were detected in samples from wells DOF-MW7 and DOF-MW8 located downgradient of the drum reconditioning plant. Six push-probes (P11 to P15 and P32) would be drilled and sampled at the conceptual locations in this vicinity shown on Figure 29. The purpose of the probes is to collect soil and reconnaissance level groundwater samples to assess the area contributing to the constituent concentrations detected in the well samples. Five probes would be drilled to a depth of twenty-two feet and one probe would be drilled to fifty-two feet. Up to five to six soil samples would be collected from the probes for possible laboratory analysis at approximately the same target depth intervals as described above for the “lagoon” probes. Samples of the underlying silt layer will be collected and analyzed, if encountered.

Soil samples from each probe would be submitted to the laboratory for analysis as indicated in Table 18. If the silt layer is encountered, additional samples may be initially analyzed. Samples not selected for analysis will be archived for possible later analysis. The samples selected for analysis would be based on field observations and include soil above, near and below the water table at the time of sampling. One sample from within the Inside Wash and Upstairs Reconditioning Plant building with obvious signs of contamination will be analyzed for dioxin/furans. Reconnaissance groundwater samples would be obtained and analyzed as described below.

- A push-probe (P16) will be drilled in the area between SA-MW3 and P8 as shown on Figure 29. The purpose of the probe is to supplement previously collected soil data on the northeast side of the facility. Six samples would be collected at the intervals specified above and three samples would be submitted for laboratory analysis.

- Based on the push-probe total metals soil testing results, eight to ten samples would be selected for analysis of TCLP RCRA metals. Six of the samples will be obtained from the push-probes and two to four samples would be obtained from the northern NAPL wells (discussed below). A range of metals concentrations would be tested. It is anticipated the data would be analyzed using linear regression. The purpose of this testing and analysis is to provide data on how soils might or might not designate as DW, which affects cost estimating of remedial alternatives in the FS.
- Historic aerial photographs (see Figure 30) indicate that auto wrecking yards existed upstream of the ICS/NWC facility and that drainage from these facilities likely entered the ditch drainage system that discharged to the embayment. Three additional soil probes would be drilled and sampled along the former ditch alignment south of the ICS/NWC facility boundary, depending on access. Conceptual locations are shown on Figure 30. Ecology may need to assist in acquiring access to the sampling locations.

The probes would be drilled to a depth of twenty-two feet. Five to six soil samples would be obtained at approximately the same depth intervals as described above for the “lagoon” probes. Three samples from each probe would be submitted for laboratory analysis. The three samples selected for analysis would be based on field observations and include soil above, near and below the water table at the time of sampling. Reconnaissance groundwater samples would be obtained and analyzed as described below.

Push-Probe Groundwater Sampling. The estimated number of push-probe groundwater samples to be collected and analyzed is summarized in Table 18 and in Table D4 of Attachment D. The analyses to be completed are listed in Tables D1 and D4. Push-probe reconnaissance groundwater samples will be collected as described below. Low flow sampling procedures would be used to minimize sample turbidity. Samples for dissolved metals analyses will be field filtered using a 0.45 micron filter.

- Six reconnaissance “grab” groundwater samples will be collected from the four deeper lagoon probes (P18, P21, P27 and P33) from two depth intervals:
 - Approximately 10 to 15 feet below the visual residues in the bottom of the filled in lagoon/slough (estimated elevation [-]10 to [-]15 feet MLLW). The grab samples would be analyzed for the suite of constituents listed in Table 18 and in Tables D1 and D4 (Attachment D)
 - Approximately 50 feet below ground surface (approximate elevation [-]35 feet MLLW). The samples will be analyzed for the constituents listed in Table 18 and Attachment D. Electrical conductivity (field), sodium, chloride, hardness and sulfate concentrations, along with data from the monitoring wells, will be used to assess possible fresh/salt water stratification beneath the site.

- Three reconnaissance level groundwater samples will be collected from lagoon push-probe locations (P20, P23, and P26) located along the northeast (downgradient) boundary of the former lagoon/slough (Figure 29). The samples will be collected from the approximate depth interval where contaminated residues are present in the former lagoon/slough bottom. If the initial probe location encounters contaminated residues, “step-out” probes will be drilled, as necessary, so the probe groundwater samples are collected downgradient of the residues.
- Five reconnaissance level groundwater samples will be collected from the interior site push-probes (P11 to P15) drilled upgradient of wells DOF-MW7 and DOF-MW8. Samples will be obtained near the water table at the time of drilling. Deeper groundwater samples will be obtained from P32 as indicated in Table 18.
- Four reconnaissance level groundwater samples from shoreline push-probes P28 to P31. The samples will be obtained from the target screening intervals for proposed monitoring wells Ba, J, F and G (see Table 18).
- Six reconnaissance level groundwater samples would be collected from the three off-site push-probe locations (P34 to P36) located south of the site property line within the former ditch alignment (Figure 30). Samples will be collected near the water table and approximately ten feet below the water table.

Drill and Install Additional Monitoring Wells for Groundwater Sampling.

Additional monitoring wells are recommended to fill data gaps with respect to the presence of and migration of COPCs in groundwater. Preliminary recommendations for the installation of additional wells were based on geology, flow directions and pattern of constituent detections in soil and groundwater. Final monitoring well locations will be selected after the results of the reconnaissance push-probe sampling described above are received and reviewed. Tentative final locations would be submitted to Ecology for approval prior to the wells being installed.

Figure 31 shows the general geology, low and high tide well water levels, screened intervals for existing monitoring wells and selected soil data. Screened intervals for wells located within the southwestern portion of the site (DOF-MW-2, - MW-3, -MW-4 and – MW-5) are below a silt (aquitar) layer. At the time of drilling, there was not a sufficient saturated thickness above the silt layer, so screens were set immediately below the silt layer^x. In other new wells, the screens were set within the approximately same intervals as DOF-MW-2 to DOF-MW-5 to allow a reliable set of water levels to be made to estimate groundwater flow directions.

Ecology expressed a concern that the new wells were not screened across the water table so it could not be determined if a separate phase Less Dense (Light) Non-Aqueous Phase Liquid (LNAPL) was present at the well locations. With the exception of location DOF-

^x Setting the screens below the silt layer was also done so the screens would not interconnect two groundwater zones consistent with Washington State well drilling regulations and professional practice.

MW-6, field observations and soil analytical data indicate no evidence of the presence of LNAPL based on the following:

- **Geologic Logs** – Oily sheens were not observed on any of the soil samples collected during drilling from locations DOF- MW-1 to DOF-MW-5, DOF-MW-7 and DOF-MW-8. Strong oily odor and some sheens were observed during the drilling of DOF-MW-6^{xi}.
- **Results of Soil Analyses** – The results of petroleum hydrocarbon soil analyses are summarized in Table 15. The soil SL concentration for residual saturation where petroleum product would potentially accumulate on the water table is 1,000 mg/kg for weathered gasoline and 2,000 mg/kg for diesel and heavy-oil fuels (WAC 173-340-900 – Table 747-5). Petroleum hydrocarbon soil concentrations are well below residual saturation SLs at all the new well locations except for DOF-MW-6. The mid-point depth of collected soil samples and the sum of diesel + heavy-oil range hydrocarbon concentrations are shown on Figure 31. Based on the available data, there is a possibility that LNAPL could be present at DOF-MW-6.
- **Deeper Migration Flow Paths to Embayment** – Figure 31 shows the monitoring well screen intervals, along with water levels and selected other data. Wells with the shorter screen intervals provide suitable groundwater samples to assess conditions within the indicated screen intervals. However, wells SA-MW-1 to SA-MW-3 provide, at best, an average over the relatively long screened intervals below the water table. To fill this data gap several additional deeper wells are recommended as presented below.

Fourteen additional monitoring wells (not including LNAPL wells) will be installed at the locations shown on Figure 29 and summarized in Table 18. Soil samples for geologic logging purposes would be collected on a continuous basis where push-probe data is not available. The wells would be installed using the same methods and procedures as outlined in the DOF 2012 work plan. The estimated number of well soil and groundwater samples to be collected and analyzed are summarized in Table 18 and in Tables D2, D3 and D4 of Attachment D. The analyses to be completed are listed in Tables 18, D1 and D4. Push-probe reconnaissance groundwater samples will be collected as described below. Low flow sampling procedures would be used to minimize sample turbidity. Samples for metals analyses will be field filtered using a 0.45 micron filter.

- At locations Ba, F, G and J deeper push-probes will be drilled and sampled as part of Phase 2a. The results of the push-probes will be used to determine the screening interval for these monitoring wells.

^{xi} Sheens were observed near the water table in soil samples collected from locations SA-MW-1 and SA-MW-2 by SAIC for Ecology in 2007, and in several of the DOF probes completed in 2008 including (DOF-P2, -P3, -P5, and -P8) completed by DOF in 2008 (see Appendix A of DOF 2012 work plan for logs).

- A fine grained aquitard unit underlies portions of the site at elevations between approximately (+)10 and (-)5 feet MLLW (Figures 14 and 31). Ecology has expressed concern that the fine grained aquitard soils may store and release contaminants to groundwater and has requested that samples of aquitard soils be collected and analyzed.

Samples of the fine grained aquitard materials will be collected/analyzed at proposed new well locations A, C, D, and L, and in the deeper soil probe adjacent to LP3^{xii}. At locations A, C, and D, two samples will be collected: 0 to 1 foot and 1-2 feet below the top of the aquitard unit.

- Soil samples from downgradient well locations Hb and I would be collected at the target sampling intervals described for the probe sampling. The target sampling intervals may be modified to collect samples will obvious signs of contamination such as discoloration, changes in soil color, staining, sheens, odors, vapor measurements etc. Collected samples will be archived in frozen storage for possible laboratory analysis for up to one year after collection.

Drill and Install Additional Monitoring Wells to Evaluate Presence of LNAPL.

LNAPL has been observed to be present in monitoring well SA-MW1. Soil total petroleum hydrocarbon concentrations (diesel + heavy oil range hydrocarbons) in the vicinity of SA-MW1 ranged between 1,980 mg/kg and 64,000 mg/kg (see Figure 19 of 2012 RI/FS Work Plan). The MTCA regulations recognize that LNAPL can accumulate on the water table at concentrations above 2,000 mg/kg, depending on soil type, although this is not always the case.

Three specific LNAPL wells will be installed at the locations shown on Figure 29 as summarized in Table 18. Data from these wells will be supplemented with data from other shallow wells screened across the water table, and the results of the 2008 push-probe TPH analyses (Figure 19 of the 2012 RI/FS Work Plan) and other soil analyses.

Three soil samples will be collected and analyzed from each LNAPL well location at the approximate intervals described above for lagoon samples. The estimated number of samples that will be collected, analyzed and archived are listed in Table 18 and in Tables D2 and D3. The samples will be analyzed for the constituents listed in Tables D1 and D3.

LNAPL wells will be installed in a similar manner as the shallow monitoring wells described above. Screens would be set across the water table. LNAPL measurements would be made using an interface probe. The LNAPL wells would be installed after the building push-probes are drilled/sampled. Based on the push-probe data within the

^{xii} As a practical matter, if the silt layer is present, samples will be collected and be available for analysis from the push-probes completed during Phase 2a. Most push-probes will be drilled deeper than 20 feet which should encounter the silt stratum, if present.

building, the NAPL well layout may be modified. Tentative final locations would be submitted to Ecology for approval (based on push-probe data) prior to the LNAPL wells being installed.

Refine Groundwater Flow Directions. After the new monitoring and LNAPL wells are installed and developed, they will be surveyed to the same datum as the existing wells. Two sets of fluid level measurements (water and LNAPL, if present) will be made in new and existing wells; one at a higher tide and one at a lower tide. The water levels will be converted to elevations (including appropriate density corrections if LNAPL is present) and groundwater contour maps will be prepared to refine estimates of groundwater flow directions. Data from well pairs will be used to estimate vertical hydraulic gradients for both high and low tidal conditions.

Assess Hydraulic Conductivity of Subsurface Sands. In-situ “slug tests” will be completed in six wells to assess the hydraulic conductivity (permeability to water) of the sands that underlie the site. Tests will be completed at the locations and wells listed in the following table. Grain size analyses will be completed of samples within the screen intervals of the new wells previously discussed.

Slug Test – Test Locations

Location	Screen Depth (feet)	Material Type
DOF-MW1 (existing)	12-17	Fine sand
DOF-MW4 (existing)	17-22	Fine to medium sand
DOF-MW6 (existing)	13-18	Fine to medium sand
DOF-MW6 (new well Ba)	Est. 25-30	TBD
DOF-MW7 (existing)	13-18	Fine sand
HC-B1 (new well F)	Est. 25-30	TBD

Note: TBD – To be determined.

Rising or falling head slug tests will be completed. The rates of water level recovery (or decline) will be measured using a transducer connected to a data logger. The data will be analyzed using the methods described in Kruseman and de Ridder (1990).

Collect/Analyze Additional Groundwater Samples. Groundwater samples would be collected from the new and existing monitoring wells for four quarters. The samples would be analyzed for the constituents listed in Table D1 and D4 (Attachment D). In addition, the Phase 2 groundwater analytical program would include the following:

- Groundwater samples analyzed for total and dissolved mercury, and pesticides would use the methods listed in Table D5 in Attachment D that are associated with the indicated reporting levels.
- A LNAPL sample from well SA-MW-1 would also be collected. The sample would be analyzed for chlorinated dioxin/furans.

Buried Oil Container. The buried “*container*” where oily fluid was discovered during the drilling of LP-4 will be further assessed. The location is covered with concrete. Ground penetrating radar (GPR) was used in an attempt to assess the size and type of the buried feature but was not successful (DOF 2013b). Ecology has requested that a means to remove as much of the oily fluid as practical be identified and assessed. This will be attempted as part of the recommended additional testing. If material can be collected, a sample of the material would be analyzed to assess constituent concentrations and for disposal purposes. The sample would be analyzed for VOCs, petroleum hydrocarbons, PCBs, total/TCLP RCRA metals and other tests as required for proper disposal.

Storm Water System and Embayment Sampling. As recommended in DOF (2013a), additional water samples would be collected from the storm water system during a low tide/low rainfall period and towards the end of the wet season when groundwater levels would be expected to be higher than during the previous drier weather sampling. Samples would also be collected during a higher rainfall period in the fall of 2014 with the on-set of seasonal precipitation.

The storm sewer samples would be collected in a similar manner as previously accomplished and be analyzed for the same set of constituents (Table 9 “*Storm Water Analyses*” in the DOF 2012 work plan – Attachment D). Embayment water samples would also be collected and analyzed for electrical conductivity (field), sodium, chloride, hardness and sulfate. Two samples would be obtained from along the shoreline during a high tide. One sample would be obtained from approximately two feet below the water surface and a second sample would be obtained approximately two feet above the mud-line.

DATA REPORTING

Once the field samples are collected, analyzed and laboratory data are received and validated, data will be uploaded to Ecology’s EIM system and submitted with the monthly progress report, as appropriate. Data summary reports will be prepared for Phase 2a and 2b. The purpose of these reports is to present a site characterization and identify any remaining data gaps. The data reports will generally include the following:

- Site maps showing sediment sample, probe and new well locations.
- Survey data – horizontal coordinates and top of casing elevations for the new monitoring wells.
- Push-probe logs and logs/construction features of monitoring wells.
- Narrative description of the field sampling and well installation activities.
- Sediment, soil and groundwater analytical data – summarized in tables as appropriate.
- Laboratory data sheets (electronic files).
- Data validation reports and associated validated data.
- Geologic sections illustrating the site subsurface conditions.

- Groundwater flow maps and discussion of horizontal and vertical hydraulic gradients.
- Results of hydraulic conductivity testing and grain size analyses.
- Comparison of data with screening levels and identification of completed exposure pathways.
- Site conceptual model that integrates site hydrogeology, soil and groundwater COPCs, migration pathways, etc.
- Discussion of testing results and implications for assessing handling and disposal options for soil and sediment as part of the FS.
- Results of storm water system and embayment testing.
- Identification of any remaining data gaps required to complete the RI and FS reports.

FIELD SCHEDULE TO FILL DATA GAPS

The overall field schedule to collect data to fill data-gaps is shown on Figure 32. Field sampling began in early September 2014 with collection of surface sediment samples from the embayment. It is anticipated that the majority of field sampling and laboratory analyses will be completed by October 2015, including three rounds of sampling from the deeper Douglas Property wells and two complete rounds of sampling of wells associated with the project facility. At that point in the project, data will be evaluated to identify any remaining data gaps that need to be filled to complete the RI/FS. While the data gap assessment is underway, the remaining sampling rounds (one of the deeper Douglas property wells; two of the ICS/NWC wells) will be completed. Once these data are received and any remaining data gap issues are resolved with Ecology, preparation of the RI will commence according the schedule in the Agreed Order.

CLOSING

The services described in this memorandum were performed consistent with generally accepted professional consulting principles and practices. No other warranty, expressed or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this document.

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TABLE 1 - Revised Sediment Screening Levels (SLs)

Constituent	Units	Preliminary SLs (a)	Ecology LDW CULs - Draft Final (ug/kg dw or OCN) (b)	Revised List of Screening Levels	Comment
Antimony	-----	na	na	-----	
Arsenic	mg/kg-dw	57	7	7	Revised SL based on background
Beryllium	-----	na	na	-----	
Cadmium	mg/kg-dw	5.1	5.1	5.1	
Chromium (Total)	mg/kg-dw	260	260	260	
Copper	mg/kg-dw	390	390	390	
Lead	mg/kg-dw	450	450	450	
Mercury	mg/kg-dw	0.41	0.41	0.41	
Nickel	-----	na	na	-----	
Silver	mg/kg-dw	6.1	6.1	6.1	
Zinc	mg/kg-dw	410	410	410	
Total Petroleum Hydrocarbons	mg/kg-dw	na	2000	2000	MTCA Method A Soil CUL - Sum of diesel and lube-oil range hydrocarbons
Phenol	ug/kg-dw	420	420	420	
2-Chloro-phenol	-----	na	na	-----	
1,3-Dichlorobenzene	-----	na	na	-----	
1,4-Dichlorobenzene	ug/kg-OCN	9000	3100	3100	Revised SL
Benzyl alcohol	ug/kg-dw	57	57	57	
1,2-Dichlorobenzene	ug/kg-OCN	2300	2300	2300	
2-Methylphenol	ug/kg-dw	63	63	63	
4-Methylphenol	ug/kg-dw	670	670	670	
N-Nitrosodi-n-propylamine	-----	na	na	-----	
Hexachloroethane	-----	na	na	-----	
Nitrobenzene	-----	na	na	-----	
Isophorone	-----	na	na	-----	
2,4-Dimethylphenol	ug/kg-dw	29	29	29	
Benzoic acid	ug/kg-dw	650	650	650	
2,4-Dichlorophenol	-----	na	na	-----	
1,2,4-Trichlorobenzene	ug/kg-OCN	810	810	810	
Naphthalene	ug/kg-OCN	99000	99000	99000	
4-Chloro-3-methylphenol	-----	na	na	-----	

TABLE 1 - Revised Sediment Screening Levels (SLs)

Constituent	Units	Preliminary SLs (a)	Ecology LDW CULs - Draft Final (ug/kg dw or OCN) (b)	Revised List of Screening Levels	Comment
2-Methylnaphthalene	ug/kg-OCN	38000	38000	38000	
2,4,6-Trichlorophenol	-----	na	na	-----	
2,4,5-Trichlorophenol	-----	na	na	-----	
2-Chloronaphthalene	-----	na	na	-----	
Dimethylphthalate	ug/kg-OCN	53000	53000	53000	
Acenaphthylene	ug/kg-OCN	66000	66000	66000	
Acenaphthene	ug/kg-OCN	16000	16000	16000	
Dibenzofuran	ug/kg-OCN	15000	15000	15000	
2,6-Dinitrotoluene	-----	na	na	-----	
2,4-Dinitrotoluene	-----	na	na	-----	
Diethylphthalate	ug/kg-OCN	61000	61000	61000	
4-Chlorophenyl-phenylether	-----	na	na	-----	
Fluorene	ug/kg-OCN	23000	23000	23000	
N-Nitrosodiphenylamine	ug/kg-OCN	11000	11000	11000	
Pentachlorophenol	ug/kg-dw	360	360	360	
Phenanthrene	ug/kg-OCN	100000	100000	100000	
Carbazole	-----	na	na	-----	
Anthracene	ug/kg-OCN	220000	220000	220000	
Di-n-butylphthalate	ug/kg-OCN	220000	220000	220000	
Fluoranthene	ug/kg-OCN	160000	160000	160000	
Pyrene	ug/kg-OCN	1000000	1000000	1000000	
Butylbenzylphthalate	ug/kg-OCN	4900	4900	4900	
bis(2-Ethylhexyl)phthalate	ug/kg-OCN	47000	47000	47000	
Di-n-octylphthalate	ug/kg-OCN	58000	58000	58000	
Benzo(a)anthracene	ug/kg-OCN	110000	-----	-----	cPAH - SL based on beach play as a benzo(a)pyrene equivalent concentration
Chrysene	ug/kg-OCN	110000	-----	-----	cPAH - SL based on beach play as a benzo(a)pyrene equivalent concentration
total Benzofluoranthenes	ug/kg-OCN	230000	-----	-----	cPAH - SL based on beach play as a benzo(a)pyrene equivalent concentration
Benzo(a)pyrene	ug/kg-OCN	99000	90 (dw)	90 (dw)	cPAH - SL based on beach play as a benzo(a)pyrene equivalent concentration

TABLE 1 - Revised Sediment Screening Levels (SLs)

Constituent	Units	Preliminary SLs (a)	Ecology LDW CULs - Draft Final (ug/kg dw or OCN) (b)	Revised List of Screening Levels	Comment
Indeno(1,2,3-cd)pyrene	ug/kg-OCN	34000	-----	-----	cPAH - SL based on beach play as a benzo(a)pyrene equivalent concentration
Dibenz(a,h)anthracene	ug/kg-OCN	12000	-----	-----	cPAH - SL based on beach play as a benzo(a)pyrene equivalent concentration
Benzo(g,h,i)perylene	ug/kg-OCN	31000	31000	31000	
LPAH	ug/kg-OCN	370000	370000	370000	
HPAH	ug/kg-OCN	960000	960000	960000	
Tributyltin ion	-----	na	na	-----	
alpha-BHC	-----	na	na	-----	
beta-BHC	-----	na	na	-----	
delta-BHC	-----	na	na	-----	
gamma-BHC (Lindane)	-----	na	na	-----	
Heptachlor	-----	na	na	-----	
Aldrin	-----	na	na	-----	
Heptachlor epoxide	-----	na	na	-----	
Endosulfan I	-----	na	na	-----	
Dieldrin	-----	na	na	-----	
4,4'-DDE	-----	na	na	-----	
Endrin	-----	na	na	-----	
Endosulfan II	-----	na	na	-----	
4,4'-DDD	-----	na	na	-----	
Endosulfan sulfate	-----	na	na	-----	
4,4'-DDT	-----	na	na	-----	
Methoxychlor	-----	na	na	-----	
Endrin ketone	-----	na	na	-----	
Endrin aldehyde	-----	na	na	-----	
trans-Chlordane	-----	na	na	-----	
cis-Chlordane	-----	na	na	-----	
Toxaphene	-----	na	na	-----	
Hexachlorobenzene	ug/kg-OCN	380	380	380	
Hexachlorobutadiene	ug/kg-OCN	3900	3900	3900	

TABLE 1 - Revised Sediment Screening Levels (SLs)

Constituent	Units	Preliminary SLs (a)	Ecology LDW CULs - Draft Final (ug/kg dw or OCN) (b)	Revised List of Screening Levels	Comment
Aroclor 1016	-----	na	na	-----	
Aroclor 1242	-----	na	na	-----	
Aroclor 1248	-----	na	na	-----	
Aroclor 1254	-----	na	na	-----	
Aroclor 1260	-----	na	na	-----	
Aroclor 1221	-----	na	na	-----	
Aroclor 1232	-----	na	na	-----	
Total PCBs	ug/kg-OCN	12000	2 dw	2 dw	Revised - based on LDW background
2,3,7,8-TCDD (Dioxin/Furans)	ug/kg-dw	na	0.0002	0.0002	Added - based on LDW background

Notes; (a) - SLs based on Sediment Management Stds. - Sediment Quality Standards (SQSs)
 (b) - LDW Site Cleanup Levels - Draft Final spreadsheet received from Ecology 1-13-14
 SL - Screening Level
 na - not available
 OCN - Organic carbon normalized concentration
 dw - Dry weight concentration
 - Shaded value is an organic carbon normalized value

**TABLE 2 - Results of Surface Sediment
Sample Analyses - July 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, WA

Sample Location	Collection Date	Comments	ARI Delivery Group	% solids %	Specific gravity SU	Wet density lb/ft ³	Moisture content %	Dry density lb/ft ³	TOC %	Antimony mg/kg, dry	Arsenic mg/kg, dry	Beryllium mg/kg, dry
Screening Levels										na	7	na
ICS-DSS-01-SE	12/10/12		VW14	77	----	----	----	----	2.65	0.5 J_R	61.1	0.02 U
ICS-DSS-02-SE	7/3/12		VB16	76	----	137.1	17.0	117.2	3.24	0.2 U	10.0	0.2 U
ICS-DSS-03-SE	7/3/12		VB16	49	----	----	----	----	3.45	0.4 U	17.2	0.4 U
ICS-DSS-04-SE	7/3/12		VB16	64	2.60	103.6	55.1	66.8	2.83	0.7 J_R	13.2	0.3 U
ICS-DSS-05-SE	7/3/12		VB16	65	----	----	----	----	2.62	0.5 J_R	28.8	0.3 U
ICS-DSS-06-SE	7/3/12		VB16	62	----	----	----	----	5.55	0.5 J_R	7.1	0.3 U
ICS-DSS-07-SE	7/3/12		VB16	76	----	----	----	----	3.34	0.3 U	10.6	0.3 U
ICS-DSS-08-SE	7/3/12		VB16	76	----	106.4	11.3	95.6	2.92	0.3 J_R	13.9	0.3 U
ICS-DSS-09-SE	7/3/12		VB16	71	----	----	----	----	18.1	1.9 J_R	13.0	0.3 U
ICS-DSS-10-SE	7/3/12		VB16	79	----	----	----	----	0.553	0.3 U	4.2	0.3 U
ICS-DSS-11-SE	7/3/12		VB16	69	----	----	----	----	2.73	0.3 J_R	8.1	0.3 U
ICS-DSS-12-SE	7/3/12		VB16	69	----	----	----	----	30.9	2.2 J_R	8.3	0.3 U
ICS-DSS-13-SE	7/3/12		VB16	77	----	----	----	----	1.85	0.2 U	3.4	0.3
ICS-DSS-14-SE	7/2/12		VB00	62	----	----	----	----	4.96	0.5 J_R	23.2	0.3 U
ICS-DSS-15-SE	7/3/12		VB16	59	----	----	----	----	4.25	0.3 U	19.1	0.4
ICS-DSS-16-SE	7/2/12		VB00	83	----	----	----	----	1.05	0.2 U	14.9	0.2 U
ICS-DSS-17-SE	7/2/12		VB00	74	2.69	111.7	30.8	85.4	2.32	0.3 U	8.3	0.3
ICS-DSS-18-SE	7/2/12		VB00	70	----	----	----	----	2.66	0.3 U	21.0	0.3 U
ICS-DSS-19-SE	7/2/12		VB00	48	2.61	88.8	105.7	43.2	2.93	0.8 J_R	16.4	0.4 U
ICS-DSS-20-SE	7/2/12		VB00	65	----	----	----	----	1.54	0.3 U	12.1	0.4
ICS-DSS-21-SE	7/2/12		VB00	53	----	----	----	----	1.92	0.4 U	10.4	0.4 U
ICS-DSS-22-SE	7/2/12		VB00	68	----	----	----	----	1.22	0.3 U	7.0	0.4
ICS-DSS-23-SE	7/2/12		VB00	82	----	----	----	----	1.42	0.2 U	3.1	0.2 U
ICS-DSS-24-SE	7/3/12		VB16	45	----	----	----	----	2.64	0.4 U	11.1	0.5
ICS-DSS-25-SE	7/3/12		VB16	44	----	----	----	----	3.48	0.4 U	9.7	0.4 U
ICS-DSS-26-SE	7/2/12		VB00	70	----	----	----	----	2.63	0.6 J_R	12.6	0.3 U
ICS-DSS-27-SE	7/2/12		VB00	69	----	----	----	----	2.92	0.3 U	17.1	0.3 U
ICS-DSS-28-SE	7/2/12		VB00	64	----	----	----	----	2.24	0.3 U	14.5	0.5
ICS-DSS-29-SE	7/2/12		VB00	78	----	----	----	----	1.93	0.2 U	8.9	0.2 U
ICS-DSS-30-SE	7/2/12		VB00	80	2.73	102.5	21.6	84.3	0.442	0.2 U	5.4	0.2 U
ICS-DSS-31-SE	7/3/12		VB16	61	----	----	----	----	----	----	----	----
ICS-DSS-32-SE	7/3/12		VB16	35	----	----	----	----	----	----	----	----
ICS-DUP-01-SE	7/3/12	field dup of 13	VB16	79	----	----	----	----	1.55	0.2 U	3.3	0.3
ICS-DUP-02-SE	7/3/12	field dup of 04	VB16	61	----	----	----	----	7.86	1.2 J_R	17.6	0.3 U

**TABLE 2 - Results of Surface Sediment
Sample Analyses - July 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, WA

Sample Location	Cadmium mg/kg, dry	Chromium mg/kg, dry	Copper mg/kg, dry	Lead mg/kg, dry	Mercury mg/kg, dry	Nickel mg/kg, dry	Silver mg/kg, dry	Zinc mg/kg, dry	Total Petroleum Hydrocarbons		
									Diesel-range mg/kg, dry	Lube-range mg/kg, dry	Total mg/kg, dry
Screening Levels	5.1	260	390	450	0.41	na	6.1	410	-----	-----	2000
ICS-DSS-01-SE	0.3	35.2	96.3	69.8	0.17	35.8	0.2 U	125	84	550	634
ICS-DSS-02-SE	0.2	26.4	88.3	35.5	0.12	32.1	0.2 U	98	52	280	332
ICS-DSS-03-SE	0.6	37	90	92.3	0.45	27	0.4 U	289	120	440	560
ICS-DSS-04-SE	5.3	167	217	1250	2.42	27.7	0.3	1270	1400	3000	4400
ICS-DSS-05-SE	0.7	84.6	144	150	0.28	41.3	0.3 U	190	76	240	316
ICS-DSS-06-SE	2.6	612	115	633	7.7	25.9	1.3	400	570	1600	2170
ICS-DSS-07-SE	0.2	24.0	36.1	75.6	0.25	26.6	0.3 U	141	17	83	100
ICS-DSS-08-SE	0.9	70.5	91.1	201	3.8	26.7	0.3	195	200	620	820
ICS-DSS-09-SE	8.2	288	260	5920	14.3	39.1	1.3	1220	6700	15,000	21700
ICS-DSS-10-SE	0.3	28.4	24.5	59.0	0.21	25.2	0.3 U	74	14	56	70
ICS-DSS-11-SE	1.0	90.6	67.1	626	0.71	31.8	0.3 U	281	56	220	276
ICS-DSS-12-SE	4.3	1110	115	3930	0.16	151	0.4	3820	12,000	42,000	54000
ICS-DSS-13-SE	0.2	25.0	24.8	42.1	0.12	25.3	0.2 U	52	43	90	133
ICS-DSS-14-SE	0.5	36.1	70.8	201	0.17	34.9	0.3 U	188	24	130	154
ICS-DSS-15-SE	0.4	23.2	49.4	55.5	0.21	20.5	0.3 U	168	68	280	348
ICS-DSS-16-SE	0.1	15.3	24.6	18.0	0.03	23.5	0.2 U	66	8.5	35	43.5
ICS-DSS-17-SE	0.1 U	32	40.3	44.4	0.15	28.7	0.3 U	75	24	100	124
ICS-DSS-18-SE	0.3	21.2	46.8	55.5	0.20	24.7	0.3 U	150	18	83	101
ICS-DSS-19-SE	1.3	65	103	343	1.73	26	1.2	318	240	710	950
ICS-DSS-20-SE	0.2	26	37.4	42.3	0.18	18.0	0.3 U	109	28	88	116
ICS-DSS-21-SE	0.4	29	54.4	55.9	0.54	20.5	0.4 U	146	49	150	199
ICS-DSS-22-SE	0.3	21	33.4	22.3	0.17	18.2	0.3	81	58	170	228
ICS-DSS-23-SE	0.2	24.3	38.9	29.5	0.08	26.9	0.2 U	58	34	95	129
ICS-DSS-24-SE	0.2 U	27	53	59.7	0.22	19	0.4 U	117	52	180	232
ICS-DSS-25-SE	0.4	28	58	50.4	0.34	22	0.4 U	130	77	230	307
ICS-DSS-26-SE	1.6	268	182	1690	0.83	70.8	0.4	1340	54	180	234
ICS-DSS-27-SE	0.6	39.6	120	683	0.92	26.5	0.5	242	150	520	670
ICS-DSS-28-SE	0.6	33	55.5	47.5	0.34	25.7	0.60	121	170	570	740
ICS-DSS-29-SE	0.3	15.7	30.3	74.1	0.05	17.7	0.2 U	100	11	120	131
ICS-DSS-30-SE	0.1 U	13.2	17.4	16.3	0.06	10.5	0.2 U	62	6.3 U	14	14
ICS-DSS-31-SE	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DSS-32-SE	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DUP-01-SE	0.1	20.1	22.5	48.3	0.11	21.6	0.2 U	55	40	67	107
ICS-DUP-02-SE	7.4	298	224	2190	2.20	32.8	0.5	1590	1400	2600	4000

**TABLE 2 - Results of Surface Sediment
Sample Analyses - July 2012 (Revised)**

Sample Location	Phenol µg/kg, dry	2-Chloro-phenol µg/kg, dry	1,3-Dichloro-benzene µg/kg, dry	1,4-Dichloro-benzene µg/kg, dry	Benzyl alcohol µg/kg, dry	1,2-Dichloro-benzene µg/kg, dry	2-Methyl-phenol µg/kg, dry	4-Methyl-phenol µg/kg, dry	N-Nitrosodi-n-propylamine µg/kg, dry
Screening Levels	420	na	na	(a)	57	(a)	63	670	na
ICS-DSS-01-SE	35 J	58 U	14 U	14 U	58 U	14 U	14 U	70 J	58 U
ICS-DSS-02-SE	55 U	55 U	14 U	14 U	55 U	14 U	14 U	110 U	55 U
ICS-DSS-03-SE	28	19 U	4.8 U	4.1 J	62	4.8 U	4.6 J	13 J	19 U
ICS-DSS-04-SE	83 U	83 U	21 U	21 U	83 U	21 U	21 U	79 J	83 U
ICS-DSS-05-SE	18 J	20 U	5.0 U	4.4 J	29	5.0 U	5.0 U	14 J	20 U
ICS-DSS-06-SE	88	20 U	5.0 U	3.4 J	25	6.3	16	32 J	20 U
ICS-DSS-07-SE	19 U	19 U	4.7 U	4.7 U	9.0 J	3.4 J	4.7 U	37 U	19 U
ICS-DSS-08-SE	55	19 U	4.8 U	12	12 J	13	4.9	14 J	19 U
ICS-DSS-09-SE	650 J	720 U	900	7600	640 J	12,000	620	1900	720 U
ICS-DSS-10-SE	18 U	18 U	4.6 U	4.6 U	7.1 J	4.6 U	4.6 U	37 U	18 U
ICS-DSS-11-SE	66	19 U	4.8 U	4.8	18 J	9.4	12	42	19 U
ICS-DSS-12-SE	5700	1700 U	440 U	440 U	20,000	1000	440 U	3500 U	14,000
ICS-DSS-13-SE	14 J	19 U	2.4 J	3.9 J	7.3 J	4.1 J	4.7 U	38 U	19 U
ICS-DSS-14-SE	31 J_Q	20 U	4.9 U	4.9 U	40	4.9 U	2.8 J	39 U	20 U
ICS-DSS-15-SE	28	20 U	5.0 U	4.3 J	30	4.3 J	3.8 J	27 J	20 U
ICS-DSS-16-SE	19 U	19 U	4.8 U	4.8 U	8.5 J	4.8 U	4.8 U	39 U	19 U
ICS-DSS-17-SE	16 J	18 U	4.6 U	4.6 U	7.4 J	4.6 U	21	12 J	18 U
ICS-DSS-18-SE	12 J	19 U	4.7 U	4.7 U	21	4.7 U	4.7 U	38 U	19 U
ICS-DSS-19-SE	140 J_Q	20 U	12	30	110	17	22	90	20 U
ICS-DSS-20-SE	44 J_Q	19 U	4.7 U	4.7 U	52	4.7 U	4.7 U	11 J	19 U
ICS-DSS-21-SE	67 J_Q	19 U	2.5 J	8.1	200	3.0 J	18	29 J	19 U
ICS-DSS-22-SE	11 J	19 U	4.8 U	4.6 J	9.6 J	4.8 U	4.8 U	38 U	19 U
ICS-DSS-23-SE	20 U	20 U	4.9 U	4.9 U	8.2 J	4.9 U	4.9 U	39 U	20 U
ICS-DSS-24-SE	19 U	19 U	4.8 U	3.5 J	84	4.8 U	3.5 J	14 J	19 U
ICS-DSS-25-SE	32	20 U	4.9 U	5.4	170	3.8 J	4.9 U	18 J	20 U
ICS-DSS-26-SE	190 J_Q	18 U	4.6 U	8.5	33	16	43	71	18 U
ICS-DSS-27-SE	35 J_Q	18 U	4.6 U	4.4 J	19	3.6 J	6.6	17 J	18 U
ICS-DSS-28-SE	28 J_Q	19 U	5.6	5.8	51	2.4 J	4.7 U	17 J	19 U
ICS-DSS-29-SE	18 U	18 U	4.6 U	4.6 U	7.3 J	4.6 U	4.6 U	37 U	18 U
ICS-DSS-30-SE	19 U	19 U	4.8 U	4.8 U	10 J	4.8 U	4.8 U	38 U	19 U
ICS-DSS-31-SE	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DSS-32-SE	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DUP-01-SE	14 J	19 U	4.8 U	2.5 J	8.8 J	4.8 U	4.8 U	38 U	19 U
ICS-DUP-02-SE	50 J	84 U	21 U	21 U	34 J	21 U	12 J	46 J	84 U

**TABLE 2 - Results of Surface Sediment
Sample Analyses - July 2012 (Revised)**

Sample Location	Hexachloroethane µg/kg, dry	Nitrobenzene µg/kg, dry	Isophorone µg/kg, dry	2,4-Dimethylphenol µg/kg, dry	Benzoic acid µg/kg, dry	2,4-Dichlorophenol µg/kg, dry	1,2,4-Trichlorobenzene µg/kg, dry	Naphthalene µg/kg, dry	4-Chloro-3-methylphenol µg/kg, dry
Screening Levels	na	na	na	29	650	na	(a)	(a)	na
ICS-DSS-01-SE	58 U	58 U	58 U	29 J	1200 U	580 U	14 U	52 J	290 U
ICS-DSS-02-SE	55 U	55 U	55 U	55 U	1100 U	550 U	14 U	55 U	270 U
ICS-DSS-03-SE	19 U	19 U	19 U	4.8 J	160 J	190 U	19 U	18 J	97 U
ICS-DSS-04-SE	83 U	83 U	50 J	50 J	1700 U	830 U	15 J	79 J	420 U
ICS-DSS-05-SE	20 U	20 U	20 U	20 U	400 U	200 U	5.0 U	20 U	99 U
ICS-DSS-06-SE	20 U	20 U	20 U	11 J	250 J	200 U	6.8	43	99 U
ICS-DSS-07-SE	19 U	19 U	19 U	19 U	370 U	190 U	4.7 U	19 U	93 U
ICS-DSS-08-SE	19 U	19 U	19 U	4.8 J	210 J	190 U	3.6 J	47	96 U
ICS-DSS-09-SE	720 U	720 U	1400 U	830	14,000 U	1100 J	1400	12,000	3600 U
ICS-DSS-10-SE	18 U	18 U	18 U	18 U	370 U	180 U	4.6 U	62	92 U
ICS-DSS-11-SE	19 U	19 U	14 J	14 J	330 J	190 U	15	130	96 U
ICS-DSS-12-SE	1700 U	1700 U	1700 U	4400	35,000 U	17,000 U	440 U	120,000	8700 U
ICS-DSS-13-SE	19 U	19 U	19 U	19 U	380 U	190 U	12	110	94 U
ICS-DSS-14-SE	20 U	20 U	20 U	20 U	230 J	200 U	4.9 U	20	97 U
ICS-DSS-15-SE	20 U	20 U	20 U	3.2 J	120 J	200 U	5.0 U	15 J	99 U
ICS-DSS-16-SE	19 U	19 U	19 U	19 U	390 U	190 U	4.8 U	19 U	97 U
ICS-DSS-17-SE	18 U	18 U	18 U	3.4 J	370 U	180 U	4.6 U	130	92 U
ICS-DSS-18-SE	19 U	19 U	19 U	19 U	380 U	190 U	4.7 U	19 U	94 U
ICS-DSS-19-SE	20 U	20 U	22	20 J	380 J	200 U	22	92	98 U
ICS-DSS-20-SE	19 U	19 U	19 U	3.0 J	1200	190 U	4.7 U	18 J	93 U
ICS-DSS-21-SE	19 U	19 U	19 U	8.9 J	360 J	190 U	2.9 J	41	94 U
ICS-DSS-22-SE	19 U	19 U	19 U	3.0 J	380 U	190 U	4.8 U	64	96 U
ICS-DSS-23-SE	20 U	20 U	20 U	20 U	390 U	200 U	4.6 J	110	98 U
ICS-DSS-24-SE	19 U	19 U	19 U	3.0 J	190 J	190 U	4.8 U	20	97 U
ICS-DSS-25-SE	20 U	20 U	20 U	3.1 J	250 J	200 U	3.0 J	20	99 U
ICS-DSS-26-SE	18 U	18 U	500	13 J	610	20 J	36	180	93 U
ICS-DSS-27-SE	18 U	18 U	21	5.7 J	220 J	180 U	7.0	78	92 U
ICS-DSS-28-SE	19 U	19 U	19 U	3.7 J	120 J	190 U	3.6 J	21	94 U
ICS-DSS-29-SE	18 U	18 U	18 U	18 U	370 U	180 U	4.6 U	18 U	92 U
ICS-DSS-30-SE	19 U	19 U	19 U	19 U	380 U	190 U	4.8 U	19 U	96 U
ICS-DSS-31-SE	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DSS-32-SE	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DUP-01-SE	19 U	19 U	19 U	19 U	380 U	190 U	8.4	82	96 U
ICS-DUP-02-SE	84 U	84 U	50 J	34 J	940 J	840 U	20 J	96	420 U

**TABLE 2 - Results of Surface Sediment
Sample Analyses - July 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, WA

	2-Methyl- naphthalene	2,4,6-Trichloro- phenol	2,4,5-Trichloro- phenol	2-Chloro- naphthalene	Dimethyl- phthalate	Acenaph- thylene	Acenaphthene	Dibenzofuran	2,6-Dinitro- toluene
Sample Location	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry
Screening Levels	(a)	na	na	na	(a)	(a)	(a)	(a)	na
ICS-DSS-01-SE	38 J	290 U	290 U	58 U	58 U	58 U	260	67	290 U
ICS-DSS-02-SE	55 U	270 U	270 U	55 U	55 U	55 U	100	30 J	270 U
ICS-DSS-03-SE	16 J	97 U	97 U	19 U	19 U	31	22	18 J	97 U
ICS-DSS-04-SE	75 J	420 U	420 U	83 U	180	58 J	83 U	83 U	420 U
ICS-DSS-05-SE	20 U	99 U	99 U	20 U	11 J	23	20 U	20 U	99 U
ICS-DSS-06-SE	80	99 U	99 U	20 U	54	11 J	20 U	20 U	99 U
ICS-DSS-07-SE	19 U	93 U	93 U	19 U	19 U	19 U	19 U	19 U	93 U
ICS-DSS-08-SE	52	96 U	96 U	19 U	500	12 J	19 U	12 J	96 U
ICS-DSS-09-SE	13,000	3600 U	3600 U	720 U	720 U	650 J	4600	3800	3600 U
ICS-DSS-10-SE	12 J	92 U	92 U	18 U	18 U	18 U	18 U	18 U	92 U
ICS-DSS-11-SE	100	96 U	96 U	19 U	60	19 U	19 U	60	96 U
ICS-DSS-12-SE	50,000	8700 U	8700 U	1700 U	1700 U	8700	39,000	26,000	8700 U
ICS-DSS-13-SE	62	94 U	94 U	19 U	19 U	17 J	13 J	30	94 U
ICS-DSS-14-SE	18 J	97 U	97 U	20 U	9.7 J	11 J	20 U	20 U	97 U
ICS-DSS-15-SE	15 J	99 U	99 U	20 U	20 U	20 U	20 U	20 U	99 U
ICS-DSS-16-SE	19 U	97 U	97 U	19 U	19 U	19 U	19 U	19 U	97 U
ICS-DSS-17-SE	35	92 U	92 U	18 U	12 J	11 J	18 U	34	92 U
ICS-DSS-18-SE	19 U	94 U	94 U	19 U	19 U	19 U	19 U	19 U	94 U
ICS-DSS-19-SE	120	98 U	98 U	20 U	68	25	49	33	98 U
ICS-DSS-20-SE	17 J	93 U	93 U	19 U	2900	10 J	19 U	15 J	93 U
ICS-DSS-21-SE	35	94 U	94 U	19 U	20	15 J	44	24	94 U
ICS-DSS-22-SE	21	96 U	96 U	19 U	19 U	12 J	31	20	96 U
ICS-DSS-23-SE	36	98 U	98 U	20 U	9.8 J	20 U	190	220	98 U
ICS-DSS-24-SE	14 J	97 U	97 U	19 U	19 U	13 J	9.7 J	14 J	97 U
ICS-DSS-25-SE	15 J	99 U	99 U	20 U	20 U	20 U	20 U	11 J	99 U
ICS-DSS-26-SE	150	93 U	93 U	18 U	82	12 J	36	52	93 U
ICS-DSS-27-SE	68	92 U	20 J	18 U	100	54	10 J	27	92 U
ICS-DSS-28-SE	21	94 U	94 U	19 U	19 U	19 U	19 U	14 J	94 U
ICS-DSS-29-SE	18 U	92 U	92 U	18 U	18 U	18 U	18 U	18 U	92 U
ICS-DSS-30-SE	19 U	96 U	96 U	19 U	19 U	19 U	19 U	19 U	96 U
ICS-DSS-31-SE	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DSS-32-SE	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DUP-01-SE	45	96 U	96 U	19 U	19 U	11 J	19 U	21	96 U
ICS-DUP-02-SE	100	420 U	420 U	84 U	67 J	50 J	84 U	84 U	420 U

**TABLE 2 - Results of Surface Sediment
Sample Analyses - July 2012 (Revised)**

Sample Location	2,4-Dinitro- toluene µg/kg, dry	Diethyl- phthalate µg/kg, dry	4-Chlorophenyl- phenylether µg/kg, dry	Fluorene µg/kg, dry	N-Nitrosodi- phenylamine µg/kg, dry	Pentachloro- phenol µg/kg, dry	Phenanthrene µg/kg, dry	Carbazole µg/kg, dry	Anthracene µg/kg, dry
Screening Levels	na	(a)	na	(a)	(a)	360	(a)	na	(a)
ICS-DSS-01-SE	290 U	140 U	58 U	220	58 U	150 J_Q	3700	470	720
ICS-DSS-02-SE	270 U	140 U	55 U	66	55 U	140 U	710	52 J	180
ICS-DSS-03-SE	97 U	48 U	19 U	23	19 U	56	270	70	85
ICS-DSS-04-SE	420 U	210 U	83 U	83 U	32 J	360	460	83 U	71 J
ICS-DSS-05-SE	99 U	50 U	20 U	12 J	3.5 J	22 J	390	32	29
ICS-DSS-06-SE	99 U	50 U	20 U	20 U	14 J	820	74	20 U	25
ICS-DSS-07-SE	93 U	47 U	19 U	19 U	19 U	25 J	29	19 U	19 U
ICS-DSS-08-SE	96 U	48 U	19 U	10 J	9.1 J	920	110	19	33
ICS-DSS-09-SE	3600 U	1800 U	720 U	6200	4000	6500 J	14,000	4500	16,000
ICS-DSS-10-SE	92 U	46 U	18 U	18 U	18 U	48 J_Q	28	18 U	18 U
ICS-DSS-11-SE	96 U	48 U	19 U	14 J	14 J	290	200	15 J	36
ICS-DSS-12-SE	8700 U	4400 U	1700 U	58,000	4800	1000 J	380,000	48,000	78,000
ICS-DSS-13-SE	94 U	47 U	19 U	25	11 J	45 J	180	19 U	40
ICS-DSS-14-SE	97 U	49 U	20 U	20 U	3.5 J	21 J	60	16 J	18 J
ICS-DSS-15-SE	99 U	50 U	20 U	20 U	3.3 J	51	61	9.9 J	15 J
ICS-DSS-16-SE	97 U	48 U	19 U	19 U	19 U	48 U	19 U	19 U	19 U
ICS-DSS-17-SE	92 U	46 U	18 U	18 U	2.9 J	24 J	110	10 J	23
ICS-DSS-18-SE	94 U	39 J	19 U	19 U	3.4 J	15 J	24	22	11 J
ICS-DSS-19-SE	98 U	36 J	20 U	51	20 U	400	330	49	100
ICS-DSS-20-SE	93 U	47 U	19 U	16 J	3.1 J	47 U	100	20	33
ICS-DSS-21-SE	94 U	47 U	19 U	41	19 U	65 J	430	31	90
ICS-DSS-22-SE	96 U	48 U	19 U	18 J	19 U	48 U	110	11 J	28
ICS-DSS-23-SE	98 U	49 U	20 U	400	20 U	49 U	150	14 J	70
ICS-DSS-24-SE	97 U	48 U	19 U	16 J	19 U	18 J	230	20	35
ICS-DSS-25-SE	99 U	49 U	20 U	12 J	2.7 J	28 J	90	16 J	28
ICS-DSS-26-SE	93 U	46 U	18 U	40	42	400	380	50	68
ICS-DSS-27-SE	92 U	46 U	18 U	12 J	7.8 J	140 J	170	29	62
ICS-DSS-28-SE	94 U	47 U	19 U	18 J	19	47 U	55	19 U	26
ICS-DSS-29-SE	92 U	46 U	18 U	18 U	18 U	46 U	18 J	18 U	18 U
ICS-DSS-30-SE	96 U	48 U	19 U	19 U	19 U	48 U	18 J	19 U	19 U
ICS-DSS-31-SE	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DSS-32-SE	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DUP-01-SE	96 U	48 U	19 U	18 J	8.4 J	27 J	130	19 U	29
ICS-DUP-02-SE	420 U	210 U	84 U	84 U	38 J	400	160	84 U	50 J

**TABLE 2 - Results of Surface Sediment
Sample Analyses - July 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, WA

Sample Location	Di-n-butyl- phthalate µg/kg, dry	Fluoranthene µg/kg, dry	Pyrene µg/kg, dry	Butylbenzyl- phthalate µg/kg, dry	Benzo(a)- anthracene µg/kg, dry	bis (2-Ethylhexyl)- phthalate µg/kg, dry	Chrysene µg/kg, dry	Di-n-octyl- phthalate µg/kg, dry	total Benzo- fluoranthenes µg/kg, dry
Screening Levels	(a)	(a)	(a)	(a)	(b)	(a)	(b)	(a)	(b)
ICS-DSS-01-SE	58 U	5100	5400	13 J	3500	520	3800	58 U	5000
ICS-DSS-02-SE	55 U	1100	1000	55 U	470	260	680	55 U	940
ICS-DSS-03-SE	19 U	1100	920	43 J _Q	340	620	770	19 U	850
ICS-DSS-04-SE	130	1100	710	230 J _Q	190	1300	410	83 U	470
ICS-DSS-05-SE	20 U	1100	770	20 U	110	320	310	20 U	360
ICS-DSS-06-SE	85	78	78	20 U	35	260	110	20 U	180
ICS-DSS-07-SE	19 U	49	41	19 U	20	36 J _b	36	19 U	52
ICS-DSS-08-SE	72	150	160	19 U	72	150	130	19 U	190
ICS-DSS-09-SE	3400	7000	6800	1100	2700	9600	5200	720 U	3300
ICS-DSS-10-SE	18 J	29	28	18 U	12 J	57	19	18 U	30 J
ICS-DSS-11-SE	43	160	150	58 J _Q	80	330	130	19 U	190
ICS-DSS-12-SE	44,000	390,000	290,000	44,000 J _Q	130,000	180,000	180,000	1700 U	120,000
ICS-DSS-13-SE	19 U	180	170	19 U	76	79	87	19 U	130
ICS-DSS-14-SE	20 U	120	110	25 J _Q	47	83	100	20 U	140
ICS-DSS-15-SE	20 U	130	130	31 J _Q	53	300	98	40	140
ICS-DSS-16-SE	19 U	11 J	9.7 J	19 U	19 U	16 J _b	19 U	19 U	14 J
ICS-DSS-17-SE	18 U	98	89	14 J	42	49	66	18 U	98
ICS-DSS-18-SE	22	63	66	16 J	34	79	67	19 U	140
ICS-DSS-19-SE	130	500	730	110 J _Q	260	1400	460	20 U	730
ICS-DSS-20-SE	320	290	280	19 U	160	98	370	19 U	300
ICS-DSS-21-SE	38	540	540	150 J _Q	200	320	340	19 U	410
ICS-DSS-22-SE	19 U	190	230	12 J	63	60	81	19 U	110
ICS-DSS-23-SE	20 U	510	350	20 U	71	84	92	20 U	110
ICS-DSS-24-SE	19 U	370	280	28 J _Q	96	300	190	19 U	230
ICS-DSS-25-SE	13 J	200	180	27 J _Q	100	270	160	27	240
ICS-DSS-26-SE	220	410	360	260 J _Q	170	550	240	18 U	420
ICS-DSS-27-SE	31	410	400	18 U	250	180	360	18 U	580
ICS-DSS-28-SE	14 J	160	160	19 U	43	190	50	19 U	77
ICS-DSS-29-SE	10 J	41	41	18 U	18 J	26	45	18 U	54
ICS-DSS-30-SE	19 U	24	25	19 U	19 U	24	15 J	19 U	26 J
ICS-DSS-31-SE	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DSS-32-SE	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DUP-01-SE	19 U	130	120	19 U	60	63	77	19 U	100
ICS-DUP-02-SE	120	200	250	84 U	120	1200	180	84 U	290

**TABLE 2 - Results of Surface Sediment
Sample Analyses - July 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, WA

Sample Location	Benzo(a)- pyrene µg/kg, dry	Indeno(1,2,3- cd)pyrene µg/kg, dry	Dibenz(a,h)- anthracene µg/kg, dry	Benzo(g,h,i)- perylene µg/kg, dry	LPAH µg/kg, dry	HPAH µg/kg, dry	Tributyltin ion µg/kg, dry	alpha-BHC µg/kg, dry	beta-BHC µg/kg, dry	delta-BHC µg/kg, dry
Screening Levels	90 (b)	(b)	(b)	(a)	(a)	(a)	na	na	na	na
ICS-DSS-01-SE	3000	1200	510	1200	4952	28,710	----	4.9 U	4.9 U	6.9 U
ICS-DSS-02-SE	440	270	140	300	1056	5340	----	0.47 U	3.8 U	0.47 U
ICS-DSS-03-SE	260	140	70	140	449	4590	----	2.8 U	2.3 U	4.9 U
ICS-DSS-04-SE	220	140	71 J	210	668	3521	----	3.8 U	30 U	3.8 U
ICS-DSS-05-SE	95	51	27	58	454	2881	----	0.48 U	4.6 U	9.5 U
ICS-DSS-06-SE	150	61	17 J	83	153	792	3.6 U	3.1 U	3.1 U	3.1 U
ICS-DSS-07-SE	24	19	10 J	24	29	275	----	0.48 U	0.48 U	0.48 U
ICS-DSS-08-SE	78	110	37	160	212	1087	----	1.6 U	1.6 U	1.6 U
ICS-DSS-09-SE	1800	900	580 J	1100	53,450	29,380	150	54 U	34 U	34 U
ICS-DSS-10-SE	13 J	9.2 J	18 U	13 J	90	153	----	0.48 U	0.48 U	0.48 U
ICS-DSS-11-SE	96	65	21	73	380	965	----	1.5 U	1.5 U	1.5 U
ICS-DSS-12-SE	71,000	21,000	13,000	19,000	683,700	1,234,000	----	300 U	300 U	300 U
ICS-DSS-13-SE	76	43	13 J	49	385	824	----	0.48 U	0.48 U	0.48 U
ICS-DSS-14-SE	46	38	14 J	47	109	662	----	0.47 U	0.47 U	0.47 U
ICS-DSS-15-SE	52	38	20	57	91	718	----	0.84 U	3.1 U	1.8 U
ICS-DSS-16-SE	19 U	19 U	19 U	19 U	19	35	----	0.49 U	0.49 U	0.49 U
ICS-DSS-17-SE	41	18 U	18 U	45	274	479	----	0.48 U	2.4 U	1.2 U
ICS-DSS-18-SE	44	34	19 U	38	35	486	----	0.48 U	0.48 U	0.48 U
ICS-DSS-19-SE	350	190	99	220	647	3539	16	1.0 U	1.0 U	1.0 U
ICS-DSS-20-SE	82	51	21	53	177	1607	----	0.49 U	0.49 U	0.49 U
ICS-DSS-21-SE	180	110	53	140	661	2513	----	1.7 U	2.4 U	0.49 U
ICS-DSS-22-SE	56	34	11 J	46	263	821	----	0.46 U	0.46 U	0.46 U
ICS-DSS-23-SE	41	27	20 U	32	920	1233	----	0.48 U	0.48 U	0.48 U
ICS-DSS-24-SE	94	50	26	50	324	1386	4.3	0.49 U	1.2 U	3.4 U
ICS-DSS-25-SE	100	58	20	70	150	1128	----	1.1 U	3.3 U	37 U
ICS-DSS-26-SE	200	160	47	200	716	2207	----	4.8 U	4.8 U	0.48 U
ICS-DSS-27-SE	280	170	77	180	386	2707	----	2.5 U	1.1 U	4.4 U
ICS-DSS-28-SE	28	18 J	19 U	23	120	559	----	0.48 U	0.48 U	0.48 U
ICS-DSS-29-SE	19	17 J	18 U	25	18	260	----	0.46 U	0.46 U	0.46 U
ICS-DSS-30-SE	19 U	10 J	19 U	10 J	18	110	----	0.49 U	0.49 U	0.49 U
ICS-DSS-31-SE	----	----	----	----	----	----	10	----	----	----
ICS-DSS-32-SE	----	----	----	----	----	----	9.6	----	----	----
ICS-DUP-01-SE	54	36	12 J	38	270	627	----	0.49 U	0.49 U	0.49 U
ICS-DUP-02-SE	180	120	71 J	190	356	1601	----	3.8 U	3.8 U	3.8 U

**TABLE 2 - Results of Surface Sediment
Sample Analyses - July 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, WA

Sample Location	gamma-BHC (Lindane) µg/kg, dry	Heptachlor µg/kg, dry	Aldrin µg/kg, dry	Heptachlor epoxide µg/kg, dry	Endosulfan I µg/kg, dry	Dieldrin µg/kg, dry	4,4'-DDE µg/kg, dry	Endrin µg/kg, dry	Endosulfan II µg/kg, dry	4,4'-DDD µg/kg, dry
Screening Levels	na	na	na	na	na	na	na	na	na	na
ICS-DSS-01-SE	4.9 U	4.9 U	4.9 U	9.9 U	4.9 U	9.9 U	51 J_P	9.9 U	9.9 U	9.9 U
ICS-DSS-02-SE	2.2 U	0.47 U	4.7 U	9.4 U	0.47 U	9.4 U	3.2 U	9.4 U	9.4 U	0.94 U
ICS-DSS-03-SE	4.5 U	4.6 U	0.49 U	23 U	0.49 U	17 U	68	9.7 U	9.7 U	0.97 U
ICS-DSS-04-SE	15 U	44 U	190 U	380 U	27 U	1200 U	2000	1600 U	380 U	400 J_M
ICS-DSS-05-SE	4.2 U	10 U	19 U	29 U	1.6 U	36 U	130	34 U	12 U	9.3 U
ICS-DSS-06-SE	3.1 U	8.8 U	31 U	180 U	11 U	460 U	2000	650 U	110 U	400 J_M
ICS-DSS-07-SE	0.48 U	0.48 U	0.80 U	3.8 U	0.48 U	9.5 U	9.5 U	9.5 U	9.5 U	5.5 U
ICS-DSS-08-SE	1.6 U	2.8 U	1.6 U	32 U	16 U	69 U	120 U	32 U	32 U	3.2 U
ICS-DSS-09-SE	680 U	2000 U	680 U	3200 U	200 U	1400 U	5000 J_M	68 U	1400 U	1000 J_M
ICS-DSS-10-SE	0.48 U	0.48 U	17 U	28 U	1.6 U	14 U	400	48 U	17 U	0.97 U
ICS-DSS-11-SE	1.5 U	1.5 U	7.5 U	15 U	3.3 U	26 U	180 U	100 U	15 U	15 U
ICS-DSS-12-SE	300 U	300 U	300 U	600 U	300 U	600 U	600 U	600 U	600 U	600 U
ICS-DSS-13-SE	0.48 U	0.48 U	3.0 U	15 U	0.48 U	8.1 U	22 U	21 U	6.4 U	6.9 U
ICS-DSS-14-SE	0.47 U	0.47 U	0.47 U	0.93 U	0.47 U	7.2 U	9.1	9.3 U	0.93 U	1.5
ICS-DSS-15-SE	2.7 U	2.2 U	4.8 U	14 U	0.48 U	9.6 U	37	9.6 U	9.6 U	0.96 U
ICS-DSS-16-SE	0.49 U	0.49 U	0.49 U	0.99 U	0.49 U	0.99 U	0.99 U	0.99 U	0.99 U	0.99 U
ICS-DSS-17-SE	0.48 U	1.8 U	4.8 U	18 U	27 U	25 U	110	0.95 U	41 U	20 J_M
ICS-DSS-18-SE	0.48 U	0.48 U	1.5 U	3.3 U	0.48 U	5.6 U	12	9.6 U	2.2 U	1.5
ICS-DSS-19-SE	8.2 U	22 U	10 U	130 U	10 U	120 U	380	170 U	74 U	60 J_M
ICS-DSS-20-SE	0.49 U	0.49 U	1.6 U	3.1 U	0.49 U	4.8 U	8.8	8.7 U	0.98 U	2.3
ICS-DSS-21-SE	1.6 U	2.2 U	4.9 U	9.9 U	4.9 U	9.9 U	41	0.99 U	9.2 U	16
ICS-DSS-22-SE	0.46 U	1.6 U	0.46 U	9.2 U	4.6 U	9.2 U	28	0.92 U	9.2 U	5.9
ICS-DSS-23-SE	1.6 U	0.76 U	2.2 U	0.96 U	0.48 U	4.5 U	5.4	6.7 U	0.96 U	2.2
ICS-DSS-24-SE	1.4 U	2.5 U	4.9 U	9.8 U	4.9 U	9.8 U	60 U	9.8 U	9.8 U	0.98 U
ICS-DSS-25-SE	2.4 U	0.48 U	4.8 U	9.6 U	0.48 U	9.6 U	57 U	9.6 U	9.6 U	0.96 U
ICS-DSS-26-SE	4.8 U	3.5 U	4.8 U	9.7 U	0.48 U	32 U	70	0.97 U	58 U	21
ICS-DSS-27-SE	5.7 U	0.70 U	7.0 U	69 U	7.0 U	120 U	310	160 U	100 U	40 J_M
ICS-DSS-28-SE	2.4 U	5.2 U	4.8 U	9.6 U	4.8 U	24 U	40	9.6 U	9.6 U	39
ICS-DSS-29-SE	0.46 U	0.46 U	0.46 U	0.93 U	0.46 U	0.93 U	1.5	0.93 U	0.93 U	0.93 U
ICS-DSS-30-SE	0.49 U	0.49 U	0.49 U	0.97 U	0.49 U	0.97 U	1.3	0.97 U	0.97 U	0.97 U
ICS-DSS-31-SE	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DSS-32-SE	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DUP-01-SE	1.1 U	0.49 U	1.2 U	4.9 U	0.49 U	8.7 U	25 U	7.0 U	4.9 U	0.98 U
ICS-DUP-02-SE	14 U	37 U	190 U	380 U	24 U	930 U	1400 U	380 U	380 U	380 U

**TABLE 2 - Results of Surface Sediment
Sample Analyses - July 2012 (Revised)**

Sample Location	Endosulfan sulfate µg/kg, dry	4,4'-DDT µg/kg, dry	Methoxychlor µg/kg, dry	Endrin ketone µg/kg, dry	Endrin aldehyde µg/kg, dry	trans-Chlordane µg/kg, dry	cis-Chlordane µg/kg, dry	Toxaphene µg/kg, dry	Hexachlorobenzene µg/kg, dry	Hexachlorobutadiene µg/kg, dry
Screening Levels	na	na	na	na	na	na	na	na	na	na
ICS-DSS-01-SE	9.9 U	12 U	49 U	9.9 U	9.9 U	4.9 U	4.9 U	990 U	9.9 U	9.9 U
ICS-DSS-02-SE	9.4 U	9.4 U	29 U	9.4 U	9.4 U	4.7 U	4.7 U	570 U	2.9 U	0.47 U
ICS-DSS-03-SE	11 U	42	34 U	9.7 U	14 U	16 U	2.0 U	740 U	4.2 U	0.86 U
ICS-DSS-04-SE	7.7 U	2200 J_M	1900 U	380 U	380 U	140 J_M	100 J_M	8400 U	17 U	3.8 U
ICS-DSS-05-SE	9.3 U	50 J_M	19 U	25 U	18 U	5 J_M	0.48 U	97 U	0.48 U	0.48 U
ICS-DSS-06-SE	6.2 U	820 J_M	310 U	62 U	330 U	50 J_M	40 J_M	2800 U	5.7 U	3.1 U
ICS-DSS-07-SE	0.95 U	50 U	4.8 U	9.5 U	22 U	3.2 U	2.9 U	95 U	0.48 U	0.48 U
ICS-DSS-08-SE	3.2 U	32 U	16 U	32 U	49 U	31 U	16 U	730 U	2.0 U	1.6 U
ICS-DSS-09-SE	1400 U	6600 J_M	340 U	990 U	1300 U	200 U	200 U	10,000 U	1300 U	150 U
ICS-DSS-10-SE	24 U	48 U	4.8 U	35 U	22 U	8.1 U	9.5 U	240 U	0.85 U	0.48 U
ICS-DSS-11-SE	15 U	15 U	15 U	15 U	64 U	24 U	25 U	590 U	3.6 U	1.5 U
ICS-DSS-12-SE	600 U	600 U	3000 U	600 U	600 U	300 U	300 U	60,000 U	300 U	300 U
ICS-DSS-13-SE	0.97 U	20 U	10 U	19 U	18 U	2.3 U	4.0 U	97 U	0.48 U	0.48 U
ICS-DSS-14-SE	0.93 U	9.3 U	4.7 U	9.3 U	6.0 U	0.47 U	0.47 U	93 U	0.47 U	0.47 U
ICS-DSS-15-SE	7.3 U	9.6 U	5.6 U	9.6 U	9.6 U	4.8 U	1.4 U	96 U	0.48 U	0.77 U
ICS-DSS-16-SE	0.99 U	0.99 U	4.9 U	0.99 U	0.99 U	0.49 U	0.49 U	99 U	0.49 U	0.49 U
ICS-DSS-17-SE	20 U	40 J_M	120 U	37 U	64 U	9.6 U	9.6 U	950 U	0.60 U	0.48 U
ICS-DSS-18-SE	4.1 U	8.6 U	4.8 U	0.96 U	4.4 U	0.95 U	1.7 U	96 U	0.48 U	0.48 U
ICS-DSS-19-SE	21 U	240 J_M	46 U	21 U	66 U	20 J_M	10 J_M	1800 U	9.8 U	1.0 U
ICS-DSS-20-SE	0.98 U	9.8 U	4.9 U	7.3 U	4.3 U	0.49 U	0.49 U	98 U	0.49 U	0.49 U
ICS-DSS-21-SE	9.9 U	28 U	14 U	9.9 U	16 U	4.9 U	1.6 U	99 U	2.0 U	0.49 U
ICS-DSS-22-SE	0.92 U	26 U	4.6 U	5.3 U	0.92 U	0.46 U	0.46 U	92 U	0.46 U	0.46 U
ICS-DSS-23-SE	1.9 U	5.3 U	4.8 U	2.8 U	4.0 U	0.48 U	0.48 U	96 U	0.48 U	0.48 U
ICS-DSS-24-SE	9.8 U	0.98 U	8.7 U	9.8 U	23 U	4.9 U	2.7 U	98 U	1.6 U	0.49 U
ICS-DSS-25-SE	9.6 U	9.6 U	14 U	9.6 U	9.6 U	4.8 U	4.8 U	150 U	4.3 U	0.48 U
ICS-DSS-26-SE	0.97 U	22	13 U	9.7 U	16 U	29 J_M	17 J_M	430 U	3.3 U	0.48 U
ICS-DSS-27-SE	14 U	400	33 U	14 U	78 U	10 J_M	7 J_M	1400 U	4.9 U	0.70 U
ICS-DSS-28-SE	8.9 U	44 U	16 U	0.96 U	9.6 U	4.8 U	2.2 U	340 U	0.48 U	0.48 U
ICS-DSS-29-SE	0.93 U	2.3 U	4.6 U	0.93 U	0.93 U	0.46 U	0.46 U	93 U	0.46 U	0.46 U
ICS-DSS-30-SE	0.97 U	2.6	4.9 U	0.97 U	0.97 U	0.49 U	0.49 U	97 U	0.49 U	0.49 U
ICS-DSS-31-SE	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DSS-32-SE	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DUP-01-SE	0.98 U	0.98 U	4.9 U	4.9 U	11 U	8.7 U	2.5 U	98 U	1.0 U	0.49 U
ICS-DUP-02-SE	7.7 U	2200 U	1900 U	380 U	380 U	190 U	190 U	6300 U	15 U	3.8 U

**TABLE 2 - Results of Surface Sediment
Sample Analyses - July 2012 (Revised)**

Sample Location	Aroclor 1016 µg/kg, dry	Aroclor 1242 µg/kg, dry	Aroclor 1248 µg/kg, dry	Aroclor 1254 µg/kg, dry	Aroclor 1260 µg/kg, dry	Aroclor 1221 µg/kg, dry	Aroclor 1232 µg/kg, dry	Total Detected PCBs µg/kg, dry	2,3,7,8- TCDF ng/kg, dry
Screening Levels	----	----	----	----	----	----	----	2	----
ICS-DSS-01-SE	20 U	20 U	420	420	350	20 U	20 U	1190	----
ICS-DSS-02-SE	38 U	38 U	190	210	170	38 U	38 U	570	1.76
ICS-DSS-03-SE	97 U	97 U	450	530	560	97 U	97 U	1540	----
ICS-DSS-04-SE	310 U	310 U	3800 J _M	10,000	14,000	310 U	310 U	27,800	----
ICS-DSS-05-SE	97 U	3500	97 U	1700	1200	97 U	97 U	6400	----
ICS-DSS-06-SE	250 U	250 U	2500 J _M	5800	7000	250 U	250 U	15,300	----
ICS-DSS-07-SE	38 U	38 U	71	190 U	520	38 U	38 U	591	----
ICS-DSS-08-SE	63 U	63 U	950 U	2000	1400	63 U	63 U	3400	12.4
ICS-DSS-09-SE	5400 U	120,000	5400 U	44,000	30,000	5400 U	5400 U	194,000	----
ICS-DSS-10-SE	39 U	39 U	690	630	600	39 U	39 U	1920	----
ICS-DSS-11-SE	120 U	120 U	1500	1800	2000	120 U	120 U	5300	----
ICS-DSS-12-SE	240 U	11,000	240 U	8900	2600	240 U	240 U	22,500	----
ICS-DSS-13-SE	39 U	39 U	280	230	200	39 U	39 U	710	----
ICS-DSS-14-SE	39 U	39 U	72	180	330	39 U	39 U	582	----
ICS-DSS-15-SE	96 U	96 U	680	740	680	96 U	96 U	2100	----
ICS-DSS-16-SE	4.0 U	4.0 U	8.0	12	22	4.0 U	4.0 U	42	----
ICS-DSS-17-SE	39 U	39 U	190	270	280	39 U	39 U	740	----
ICS-DSS-18-SE	40 U	40 U	110	190	200	40 U	40 U	500	----
ICS-DSS-19-SE	410 U	410 U	4400	4700	3400	410 U	410 U	12,500	22.1
ICS-DSS-20-SE	39 U	39 U	240	320	230	39 U	39 U	790	----
ICS-DSS-21-SE	40 U	40 U	450	580	490	40 U	40 U	1520	----
ICS-DSS-22-SE	38 U	38 U	540	760	400	38 U	38 U	1700	----
ICS-DSS-23-SE	20 U	20 U	180	200	180	20 U	20 U	560	----
ICS-DSS-24-SE	98 U	98 U	590	560	560	98 U	98 U	1710	----
ICS-DSS-25-SE	96 U	96 U	500	530	420	96 U	96 U	1450	----
ICS-DSS-26-SE	39 U	39 U	1600	1800	770	39 U	39 U	4170	----
ICS-DSS-27-SE	280 U	280 U	980 U	3100	2700	280 U	280 U	5800	----
ICS-DSS-28-SE	38 U	38 U	1100	1200	580	38 U	38 U	2880	----
ICS-DSS-29-SE	3.8 U	3.8 U	11 U	30	29	3.8 U	3.8 U	59	----
ICS-DSS-30-SE	3.9 U	3.9 U	39 U	130	44	3.9 U	3.9 U	174	----
ICS-DSS-31-SE	----	----	----	----	----	----	----	----	----
ICS-DSS-32-SE	----	----	----	----	----	----	----	----	----
ICS-DUP-01-SE	39 U	39 U	260	260	210	39 U	39 U	730	----
ICS-DUP-02-SE	770 U	770 U	5800 U	14,000	18,000	770 U	770 U	32,000	----

**TABLE 2 - Results of Surface Sediment
Sample Analyses - July 2012 (Revised)**

Sample Location	total TCDF ng/kg, dry	2,3,7,8- TCDD ng/kg, dry	total TCDD ng/kg, dry	1,2,3,7,8- PeCDF ng/kg, dry	2,3,4,7,8- PeCDF ng/kg, dry	total PeCDF ng/kg, dry	1,2,3,7,8- PeCDD ng/kg, dry	total PeCDD ng/kg, dry	1,2,3,4,7,8- HxCDF ng/kg, dry	1,2,3,6,7,8- HxCDF ng/kg, dry	2,3,4,6,7,8- HxCDF ng/kg, dry
Screening Levels	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-01-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-02-SE	31.0	2.37	15.9	1.42 J	2.93	58.4	5.52	36.2	11.4	4.22	3.80
ICS-DSS-03-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-04-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-05-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-06-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-07-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-08-SE	314	15.6	114	12.7	30.9	670	49.0	346	163	68.9	86.9
ICS-DSS-09-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-10-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-11-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-12-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-13-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-14-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-15-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-16-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-17-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-18-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-19-SE	229	30.8	124	21.0	44.2	728	60.5	369	265	71.7	102
ICS-DSS-20-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-21-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-22-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-23-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-24-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-25-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-26-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-27-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-28-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-29-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-30-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-31-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-32-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DUP-01-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DUP-02-SE	----	----	----	----	----	----	----	----	----	----	----

**TABLE 2 - Results of Surface Sediment
Sample Analyses - July 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, WA

Sample Location	1,2,3,7,8,9- HxCDF ng/kg, dry	total HxCDF ng/kg, dry	1,2,3,4,7,8- HxCDD ng/kg, dry	1,2,3,6,7,8- HxCDD ng/kg, dry	1,2,3,7,8,9- HxCDD ng/kg, dry	total HxCDD ng/kg, dry	1,2,3,4,6,7,8- HpCDF ng/kg, dry	1,2,3,4,7,8,9- HpCDF ng/kg, dry	total HpCDF ng/kg, dry	1,2,3,4,6,7,8- HpCDD ng/kg, dry	total HpCDD ng/kg, dry
Screening Levels	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-01-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-02-SE	1.86 J	162	7.05	26.9	27.3	236	144	5.09	381	771	1520
ICS-DSS-03-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-04-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-05-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-06-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-07-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-08-SE	19.3	1810	65.9	363	271	2780	1810	93.6	5000	8330	15,400
ICS-DSS-09-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-10-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-11-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-12-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-13-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-14-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-15-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-16-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-17-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-18-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-19-SE	38.7	2750	67.1	367	306	3060	2090	117	6780	10,800	22,200
ICS-DSS-20-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-21-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-22-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-23-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-24-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-25-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-26-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-27-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-28-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-29-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-30-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-31-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DSS-32-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DUP-01-SE	----	----	----	----	----	----	----	----	----	----	----
ICS-DUP-02-SE	----	----	----	----	----	----	----	----	----	----	----

**TABLE 2 - Results of Surface Sediment
Sample Analyses - July 2012 (Revised)**

Sample Location	OCDF ng/kg, dry	OCDD ng/kg, dry	TEQ	
			ND=0 ng/kg, dry	ND/2 ng/kg, dry
Screening Levels	----	----	0.2	0.2
ICS-DSS-01-SE	----	----	----	----
ICS-DSS-02-SE	384	7400	28.8	28.8
ICS-DSS-03-SE	----	----	----	----
ICS-DSS-04-SE	----	----	----	----
ICS-DSS-05-SE	----	----	----	----
ICS-DSS-06-SE	----	----	----	----
ICS-DSS-07-SE	----	----	----	----
ICS-DSS-08-SE	5080	70,100	304	304
ICS-DSS-09-SE	----	----	----	----
ICS-DSS-10-SE	----	----	----	----
ICS-DSS-11-SE	----	----	----	----
ICS-DSS-12-SE	----	----	----	----
ICS-DSS-13-SE	----	----	----	----
ICS-DSS-14-SE	----	----	----	----
ICS-DSS-15-SE	----	----	----	----
ICS-DSS-16-SE	----	----	----	----
ICS-DSS-17-SE	----	----	----	----
ICS-DSS-18-SE	----	----	----	----
ICS-DSS-19-SE	7250	117,000	396	396
ICS-DSS-20-SE	----	----	----	----
ICS-DSS-21-SE	----	----	----	----
ICS-DSS-22-SE	----	----	----	----
ICS-DSS-23-SE	----	----	----	----
ICS-DSS-24-SE	----	----	----	----
ICS-DSS-25-SE	----	----	----	----
ICS-DSS-26-SE	----	----	----	----
ICS-DSS-27-SE	----	----	----	----
ICS-DSS-28-SE	----	----	----	----
ICS-DSS-29-SE	----	----	----	----
ICS-DSS-30-SE	----	----	----	----
ICS-DSS-31-SE	----	----	----	----
ICS-DSS-32-SE	----	----	----	----
ICS-DUP-01-SE	----	----	----	----
ICS-DUP-02-SE	----	----	----	----

J = estimate associated with value less than the verifiable lower quantitation limit

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J & *b* = associated value may be biased high due to

contribution from laboratory background or method blank

J_M = estimated value from GC/MS (M.8270) analysis due to chemical interference on GC/ECD(M. 8081).

TEQ (TCDD toxicity equivalence) based on WHO 2005 relative toxicity factors.

J_p = estimated value due to high variability exhibited between dual column responses on GC/ECD (M. 8081)

(a) - Screening level based on carbon normalized values

(b) - Screening level based on benzo(a)pyrene beach-play TEQ

na - Screening level not available

Exceeds dry-weight based screening level as available


**TABLE 3 - Exceedance Factors - Constituents w/ Dry Weight Screening Levels
Embayment Surface Sediments**

ICS/NW Cooperage Site
Seattle, WA

Sample Location Screening Levels	Collection Date	ARI Delivery Group	Arsenic	Arsenic	Cadmium	Cadmium	Chromium	Chromium	Lead	Lead	Mercury	Mercury
			mg/kg, dry	EF	mg/kg, dry	EF	mg/kg, dry	EF	mg/kg, dry	EF	mg/kg, dry	EF
			7	1	5.1	1	260	1	450	1	0.41	1
ICS-DSS-01-SE	41253	VW14	61.1	8.7	0.3	0.1	35.2	0.1	69.8	0.2	0.17	0.4
ICS-DSS-02-SE	41093	VB16	10.0	1.4	0.2	0.0	26.4	0.1	35.5	0.1	0.12	0.3
ICS-DSS-03-SE	41093	VB16	17.2	2.5	0.6	0.1	37	0.1	92.3	0.2	0.45	1.1
ICS-DSS-04-SE	41093	VB16	13.2	1.9	5.3	1.0	167	0.6	1250	2.8	2.42	5.9
ICS-DSS-05-SE	41093	VB16	28.8	4.1	0.7	0.1	84.6	0.3	150	0.3	0.28	0.7
ICS-DSS-06-SE	41093	VB16	7.1	1.0	2.6	0.5	612	2.4	633	1.4	7.7	18.8
ICS-DSS-07-SE	41093	VB16	10.6	1.5	0.2	0.0	24.0	0.1	75.6	0.2	0.25	0.6
ICS-DSS-08-SE	41093	VB16	13.9	2.0	0.9	0.2	70.5	0.3	201	0.4	3.8	9.3
ICS-DSS-09-SE	41093	VB16	13.0	1.9	8.2	1.6	288	1.1	5920	13.2	14.3	34.9
ICS-DSS-10-SE	41093	VB16	4.2	0.6	0.3	0.1	28.4	0.1	59.0	0.1	0.21	0.5
ICS-DSS-11-SE	41093	VB16	8.1	1.2	1.0	0.2	90.6	0.3	626	1.4	0.71	1.7
ICS-DSS-12-SE	41093	VB16	8.3	1.2	4.3	0.8	1110	4.3	3930	8.7	0.16	0.4
ICS-DSS-13-SE	41093	VB16	3.4	0.5	0.2	0.0	25.0	0.1	42.1	0.1	0.12	0.3
ICS-DSS-14-SE	41092	VB00	23.2	3.3	0.5	0.1	36.1	0.1	201	0.4	0.17	0.4
ICS-DSS-15-SE	41093	VB16	19.1	2.7	0.4	0.1	23.2	0.1	55.5	0.1	0.21	0.5
ICS-DSS-16-SE	41092	VB00	14.9	2.1	0.1	0.0	15.3	0.1	18.0	0.0	0.03	0.1
ICS-DSS-17-SE	41092	VB00	8.3	1.2	0.1 U	0.0	32	0.1	44.4	0.1	0.15	0.4
ICS-DSS-18-SE	41092	VB00	21.0	3.0	0.3	0.1	21.2	0.1	55.5	0.1	0.20	0.5
ICS-DSS-19-SE	41092	VB00	16.4	2.3	1.3	0.3	65	0.3	343	0.8	1.73	4.2
ICS-DSS-20-SE	41092	VB00	12.1	1.7	0.2	0.0	26	0.1	42.3	0.1	0.18	0.4
ICS-DSS-21-SE	41092	VB00	10.4	1.5	0.4	0.1	29	0.1	55.9	0.1	0.54	1.3
ICS-DSS-22-SE	41092	VB00	7.0	1.0	0.3	0.1	21	0.1	22.3	0.0	0.17	0.4
ICS-DSS-23-SE	41092	VB00	3.1	0.4	0.2	0.0	24.3	0.1	29.5	0.1	0.08	0.2
ICS-DSS-24-SE	41093	VB16	11.1	1.6	0.2 U	0.0	27	0.1	59.7	0.1	0.22	0.5
ICS-DSS-25-SE	41093	VB16	9.7	1.4	0.4	0.1	28	0.1	50.4	0.1	0.34	0.8
ICS-DSS-26-SE	41092	VB00	12.6	1.8	1.6	0.3	268	1.0	1690	3.8	0.83	2.0
ICS-DSS-27-SE	41092	VB00	17.1	2.4	0.6	0.1	39.6	0.2	683	1.5	0.92	2.2
ICS-DSS-28-SE	41092	VB00	14.5	2.1	0.6	0.1	33	0.1	47.5	0.1	0.34	0.8
ICS-DSS-29-SE	41092	VB00	8.9	1.3	0.3	0.1	15.7	0.1	74.1	0.2	0.05	0.1
ICS-DSS-30-SE	41092	VB00	5.4	0.8	0.1 U	0.0	13.2	0.1	16.3	0.0	0.06	0.1
ICS-DUP-13-SE	41093	VB16	3.3	0.5	0.1	0.0	20.1	0.1	48.3	0.1	0.11	0.3
ICS-DUP-04-SE	41093	VB16	17.6	2.5	7.4	1.5	298	1.1	2190	4.9	2.20	5.4

**TABLE 3 - Exceedance Factors - Constituents w/ Dry Weight Screening Levels
Embayment Surface Sediments**

Sample Location	Collection Date	ARI Delivery Group	Arsenic	Arsenic	Cadmium	Cadmium	Chromium	Chromium	Lead	Lead	Mercury	Mercury
			mg/kg, dry	EF	mg/kg, dry	EF	mg/kg, dry	EF	mg/kg, dry	EF	mg/kg, dry	EF
Spl. Number			30	30	30	30	30	30	30	30	30	30
No. Exceed.			25	25	2	2	4	4	7	7	10	10
% Exceed			83.3%	83.3%	6.7%	6.7%	13.3%	13.3%	23.3%	23.3%	33.3%	33.3%
Maximum			61.1	8.7	8.2	1.6	1110	4.3	5920	13.2	14.3	34.9
Minimum			3.1	0.4	0.1	0.0	13.2	0.1	16.3	0.0	0.0	0.1


Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit
U = nondetected at the associated lower reporting limit.
 2,3,7,8-TCDD - TEQ (TCDD toxicity equivalence) based on WHO 2005 relative toxicity factors.
 cPAH TEQ based on Ecology guidance
 EF - Exceedance Factor
 TEQ - Toxicity Equivalency Quotient
 BaPEq. - Benzo(a)pyrene equivalent concentration
 Concentration exceeds screening level

**TABLE 3 - Exceedance Factors - Constituents w/ Dry Weight Screening Levels
Embayment Surface Sediments**

Sample Location	Zinc mg/kg, dry	Zinc EF	TPH D+ Lube Oil mg/kg,dry	TPH D+ Lube Oil EF	Phenol µg/kg, dry	Phenol EF	Benzyl alcohol µg/kg, dry	Benzyl alcohol EF	2-Methyl- phenol µg/kg, dry	2-Methyl- phenol EF
Screening Levels	410	1	2000	1	420	1	57	1	63	1
ICS-DSS-01-SE	125	0.3	634	0.3	35 J	0.1	58 U	1.0	14 U	0.2
ICS-DSS-02-SE	98	0.2	332	0.2	55 U	0.1	55 U	1.0	14 U	0.2
ICS-DSS-03-SE	289	0.7	560	0.3	28	0.1	62	1.1	5 J	0.1
ICS-DSS-04-SE	1270	3.1	4400	2.2	83 U	0.2	83 U	1.5	21.0 U	0.3
ICS-DSS-05-SE	190	0.5	316	0.2	18 J	0.0	29	0.5	5.0 U	0.1
ICS-DSS-06-SE	400	1.0	2170	1.1	88	0.2	25	0.4	16	0.3
ICS-DSS-07-SE	141	0.3	100	0.1	19 U	0.0	9 J	0.2	4.7 U	0.1
ICS-DSS-08-SE	195	0.5	820	0.4	55	0.1	12 J	0.2	4.9	0.1
ICS-DSS-09-SE	1220	3.0	21700	10.9	650 J	1.5	640 J	11.2	620	9.8
ICS-DSS-10-SE	74	0.2	70	0.0	18 U	0.0	7 J	0.1	4.6 U	0.1
ICS-DSS-11-SE	281	0.7	276	0.1	66	0.2	18 J	0.3	12	0.2
ICS-DSS-12-SE	3820	9.3	54000	27.0	5700	13.6	20,000	351	440 U	7.0
ICS-DSS-13-SE	52	0.1	133	0.1	14 J	0.0	7 J	0.1	4.7 U	0.1
ICS-DSS-14-SE	188	0.5	154	0.1	31 J	0.1	40	0.7	2.8 J	0.0
ICS-DSS-15-SE	168	0.4	348	0.2	28	0.1	30	0.5	3.8 J	0.1
ICS-DSS-16-SE	66	0.2	43.5	0.0	19 U	0.0	9 J	0.1	4.8 U	0.1
ICS-DSS-17-SE	75	0.2	124	0.1	16 J	0.0	7 J	0.1	21	0.3
ICS-DSS-18-SE	150	0.4	101	0.1	12 J	0.0	21	0.4	4.7 U	0.1
ICS-DSS-19-SE	318	0.8	950	0.5	140 J	0.3	110	1.9	22	0.3
ICS-DSS-20-SE	109	0.3	116	0.1	44 J	0.1	52	0.9	4.7 U	0.1
ICS-DSS-21-SE	146	0.4	199	0.1	67 J	0.2	200	3.5	18	0.3
ICS-DSS-22-SE	81	0.2	228	0.1	11 J	0.0	10 J	0.2	4.8 U	0.1
ICS-DSS-23-SE	58	0.1	129	0.1	20 U	0.0	8 J	0.1	4.9 U	0.1
ICS-DSS-24-SE	117	0.3	232	0.1	19 U	0.0	84	1.5	3.5 J	0.1
ICS-DSS-25-SE	130	0.3	307	0.2	32	0.1	170	3.0	4.9 U	0.1
ICS-DSS-26-SE	1340	3.3	234	0.1	190 J	0.5	33	0.6	43	0.7
ICS-DSS-27-SE	242	0.6	670	0.3	35 J	0.1	19	0.3	6.6	0.1
ICS-DSS-28-SE	121	0.3	740	0.4	28 J	0.1	51	0.9	4.7 U	0.1
ICS-DSS-29-SE	100	0.2	131	0.1	18 U	0.0	7 J	0.1	4.6 U	0.1
ICS-DSS-30-SE	62	0.2	14	0.0	19 U	0.0	10 J	0.2	4.8 U	0.1
ICS-DUP-13-SE	55	0.1	107	0.1	14 J	0.0	9 J	0.2	4.8 U	0.1
ICS-DUP-04-SE	1590	3.9	4000	2.0	50 J	0.1	34 J	0.6	12 J	0.2

**TABLE 3 - Exceedance Factors - Constituents w/ Dry Weight Screening Levels
Embayment Surface Sediments**

Sample Location	Zinc mg/kg, dry	Zinc EF	TPH D+ Lube Oil mg/kg,dry	TPH D+ Lube Oil EF	Phenol µg/kg, dry	Phenol EF	Benzyl alcohol µg/kg, dry	Benzyl alcohol EF	2-Methyl- phenol µg/kg, dry	2-Methyl- phenol EF
Spl. Number	30	30	30	30	30	30	30	30	30	30
No. Exceed.	4	4	4	4	2	2	6	6	1	1
% Exceed	13.3%	13.3%	13.3%	13.3%	6.7%	6.7%	20.0%	20.0%	3.3%	3.3%
Maximum	3820	9.3	54000	27.0	5700	13.6	20000	351	620	9.8
Minimum	52.0	0.1	14.0	0.0	11.0	0.0	7.1	0.1	2.8	0.0


Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit
U = nondetected at the associated lower reporting limit.
 2,3,7,8-TCDD - TEQ (TCDD toxicity equivalence) based on WHO 2005 relative toxicity factors.
 cPAH TEQ based on Ecology guidance
 EF - Exceedance Factor
 TEQ - Toxicity Equivalency Quotient
 BaPEq. - Benzo(a)pyrene equivalent concentration
 Concentration exceeds screening level

**TABLE 3 - Exceedance Factors - Constituents w/ Dry Weight Screening Levels
Embayment Surface Sediments**

Sample Location Screening Levels	4-Methyl-phenol	4-Methyl-phenol	2,4-Dimethyl-phenol	2,4-Dimethyl-phenol	Benzoic acid	Benzoic acid	Pentachloro-phenol	Pentachloro-phenol	Benzo(a)-anthracene	Chrysene
	µg/kg, dry	EF	µg/kg, dry	EF	µg/kg, dry	EF	µg/kg, dry	EF	µg/kg, dry	µg/kg, dry
	670	1	29	1	650	1	360	1	TEQ	TEQ
ICS-DSS-01-SE	70 J	0.1	29 J	1.0	1200 U	1.8	150 J	0.4	3500	3800
ICS-DSS-02-SE	110 U	0.2	55 U	1.9	1100 U	1.7	140 U	0.4	470	680
ICS-DSS-03-SE	13 J	0.0	5 J	0.2	160 J	0.2	56	0.2	340	770
ICS-DSS-04-SE	79 J	0.1	50 J	1.7	1700 U	2.6	360	1.0	190	410
ICS-DSS-05-SE	14 J	0.0	20 U	0.7	400 U	0.6	22 J	0.1	110	310
ICS-DSS-06-SE	32 J	0.0	11 J	0.4	250 J	0.4	820	2.3	35	110
ICS-DSS-07-SE	37 U	0.1	19 U	0.7	370 U	0.6	25 J	0.1	20	36
ICS-DSS-08-SE	14 J	0.0	5 J	0.2	210 J	0.3	920	2.6	72	130
ICS-DSS-09-SE	1900	2.8	830	28.6	14000 U	21.5	6500 J	18.1	2700	5200
ICS-DSS-10-SE	37 U	0.1	18 U	0.6	370 U	0.6	48 J	0.1	12	19
ICS-DSS-11-SE	42	0.1	14 J	0.5	330 J	0.5	290	0.8	80	130
ICS-DSS-12-SE	3500 U	5.2	4400	152	35000 U	53.8	1000 J	2.8	130000	180000
ICS-DSS-13-SE	38 U	0.1	19 U	0.7	380 U	0.6	45 J	0.1	76	87
ICS-DSS-14-SE	39 U	0.1	20 U	0.7	230 J	0.4	21 J	0.1	47	100
ICS-DSS-15-SE	27 J	0.0	3 J	0.1	120 J	0.2	51	0.1	53	98
ICS-DSS-16-SE	39 U	0.1	19 U	0.7	390 U	0.6	48 U	0.1	19	19
ICS-DSS-17-SE	12 J	0.0	3 J	0.1	370 U	0.6	24 J	0.1	42	66
ICS-DSS-18-SE	38 U	0.1	19 U	0.7	380 U	0.6	15 J	0.0	34	67
ICS-DSS-19-SE	90	0.1	20 J	0.7	380 J	0.6	400	1.1	260	460
ICS-DSS-20-SE	11 J	0.0	3 J	0.1	1200	1.8	47 U	0.1	160	370
ICS-DSS-21-SE	29 J	0.0	9 J	0.3	360 J	0.6	65 J	0.2	200	340
ICS-DSS-22-SE	38 U	0.1	3 J	0.1	380 U	0.6	48 U	0.1	63	81
ICS-DSS-23-SE	39 U	0.1	20 U	0.7	390 U	0.6	49 U	0.1	71	92
ICS-DSS-24-SE	14 J	0.0	3 J	0.1	190 J	0.3	18 J	0.1	96	190
ICS-DSS-25-SE	18 J	0.0	3 J	0.1	250 J	0.4	28 J	0.1	100	160
ICS-DSS-26-SE	71	0.1	13 J	0.4	610	0.9	400	1.1	170	240
ICS-DSS-27-SE	17 J	0.0	6 J	0.2	220 J	0.3	140 J	0.4	250	360
ICS-DSS-28-SE	17 J	0.0	4 J	0.1	120 J	0.2	47 U	0.1	43	50
ICS-DSS-29-SE	37 U	0.1	18 U	0.6	370 U	0.6	46 U	0.1	18	45
ICS-DSS-30-SE	38 U	0.1	19 U	0.7	380 U	0.6	48 U	0.1	19	15
ICS-DUP-13-SE	38 U	0.1	19 U	0.7	380 U	0.6	27 J	0.1	60	77
ICS-DUP-04-SE	46 J	0.1	34 J	1.2	940 J	1.4	400	1.1	120	180

**TABLE 3 - Exceedance Factors - Constituents w/ Dry Weight Screening Levels
Embayment Surface Sediments**

Sample Location	4-Methyl-phenol µg/kg, dry	4-Methyl-phenol EF	2,4-Dimethyl-phenol µg/kg, dry	2,4-Dimethyl-phenol EF	Benzoic acid µg/kg, dry	Benzoic acid EF	Pentachloro-phenol µg/kg, dry	Pentachloro-phenol EF	Benzo(a)-anthracene µg/kg, dry	Chrysene µg/kg, dry
Spl. Number	30	30	30	30	30	30	30	30	30	30
No. Exceed.	1	1	3	3	2	2	7	7	TEQ	TEQ
% Exceed	3.3%	3.3%	10.0%	10.0%	6.7%	6.7%	23.3%	23.3%	TEQ	TEQ
Maximum	3500	2.8	4400	152	35000	1.8	6500	18.1	130000	180000
Minimum	11.0	0.0	3.0	0.1	120.0	0.2	15.0	0.0	12	15

Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit
U = nondetected at the associated lower reporting limit.
 2,3,7,8-TCDD - TEQ (TCDD toxicity equivalence) based on WHO 2005 relative toxicity factors.
 cPAH TEQ based on Ecology guidance
 EF - Exceedance Factor
 TEQ - Toxicity Equivalency Quotient
 BaPEq. - Benzo(a)pyrene equivalent concentration
 Concentration exceeds screening level

**TABLE 3 - Exceedance Factors - Constituents w/ Dry Weight Screening Levels
Embayment Surface Sediments**

ICS/NW Cooperaage Site
Seattle, WA

Sample Location	total Benzo- fluoranthenes	Benzo(a)- pyrene	Indeno(1,2,3- cd)pyrene	Dibenz(a,h)- anthracene	BaPEq. (TEQ)	BaPEq. (TEQ)	Total Detected PCBs	Total Detected PCBs	2,3,7,8-TCDD - TEQ	
	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	EF	µg/kg, dry	µg/kg, dry	ND=0 ng/kg, dry	ND/2 ng/kg, dry
Screening Levels	TEQ	TEQ	TEA	TEQ	90	1	2	1	0.2	1
ICS-DSS-01-SE	5000	3000	1200	510	4518	50.2	1190	595	----	----
ICS-DSS-02-SE	940	440	270	140	754.8	8.4	570	285	28.8	28.8
ICS-DSS-03-SE	850	260	140	70	470.7	5.2	1540	770	----	----
ICS-DSS-04-SE	470	220	140	71	375.1	4.2	27,800	13900	----	----
ICS-DSS-05-SE	360	95	51	27	177.2	2.0	6400	3200	----	----
ICS-DSS-06-SE	180	150	61	17	195.7	2.2	15,300	7650	----	----
ICS-DSS-07-SE	52	24	19	10	43.46	0.5	591	295.5	----	----
ICS-DSS-08-SE	190	78	110	37	153.5	1.7	3400	1700	304	304
ICS-DSS-09-SE	3300	1800	900	580	3122	34.7	194,000	97000	----	----
ICS-DSS-10-SE	30	13	9.2	18	36.31	0.4	1920	960	----	----
ICS-DSS-11-SE	190	96	65	21	151.8	1.7	5300	2650	----	----
ICS-DSS-12-SE	120000	71000	21000	13000	112900	1254	22,500	11250	----	----
ICS-DSS-13-SE	130	76	43	13	114.77	1.3	710	355	----	----
ICS-DSS-14-SE	140	46	38	14	83.5	0.9	582	291	----	----
ICS-DSS-15-SE	140	52	38	20	96.08	1.1	2100	1050	----	----
ICS-DSS-16-SE	14	19	19	19	43.39	0.5	42	21	----	----
ICS-DSS-17-SE	98	41	18	18	75.46	0.8	740	370	----	----
ICS-DSS-18-SE	140	44	34	19	84.47	0.9	500	250	----	----
ICS-DSS-19-SE	730	350	190	99	571.6	6.4	12,500	6250	396	396
ICS-DSS-20-SE	300	82	51	21	157.8	1.8	790	395	----	----
ICS-DSS-21-SE	410	180	110	53	308.4	3.4	1520	760	----	----
ICS-DSS-22-SE	110	56	34	11	88.51	1.0	1700	850	----	----
ICS-DSS-23-SE	110	41	27	20	82.72	0.9	560	280	----	----
ICS-DSS-24-SE	230	94	50	26	159.5	1.8	1710	855	----	----
ICS-DSS-25-SE	240	100	58	20	161.4	1.8	1450	725	----	----
ICS-DSS-26-SE	420	200	160	47	324.4	3.6	4170	2085	----	----
ICS-DSS-27-SE	580	280	170	77	460.6	5.1	5800	2900	----	----
ICS-DSS-28-SE	77	28	18	19	61.3	0.7	2880	1440	----	----
ICS-DSS-29-SE	54	19	17	18	46.35	0.5	59	29.5	----	----
ICS-DSS-30-SE	26	19	10	19	43.65	0.5	174	87	----	----
ICS-DUP-13-SE	100	54	36	12	86.37	1.0	730	365	----	----
ICS-DUP-04-SE	290	180	120	71	305.8	3.4	32,000	16000	----	----

**TABLE 3 - Exceedance Factors - Constituents w/ Dry Weight Screening Levels
Embayment Surface Sediments**

Sample Location	total Benzo- fluoranthenes	Benzo(a)- pyrene	Indeno(1,2,3- cd)pyrene	Dibenz(a,h)- anthracene	BaPEq. (TEQ)	BaPEq. (TEQ)	Total Detected PCBs	Total Detected PCBs	2,3,7,8-TCDD - TEQ	
	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	EF	µg/kg, dry	µg/kg, dry	ND=0 ng/kg, dry	ND/2 ng/kg, dry
Spl. Number	30	30	30	30	30	30	30	30	3	3
No. Exceed.	TEQ	TEQ	TEQ	TEQ	19	19	30	30	3	3
% Exceed	TEQ	TEQ	TEQ	TEQ	63.3%	63.3%	100%	100%	100%	100%
Maximum	120000	71000	21000	13000	112900	1254	194000	97000	396	396
Minimum	14	13	9.2	10	36.3	0.4	42.0	21.0	28.8	28.8

Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit
U = nondetected at the associated lower reporting limit.
 2,3,7,8-TCDD - TEQ (TCDD toxicity equivalence) based on WHO 2005 relative toxicity factors.
*c*PAH TEQ based on Ecology guidance
 EF - Exceedance Factor
 TEQ - Toxicity Equivalency Quotient
 BaPEq. - Benzo(a)pyrene equivalent concentration
 Concentration exceeds screening level

**TABLE 4 - Exceedance Factors - Constituents w/ OCN Screening Levels
Embayment Surface Sediments**

ICS/NW Cooperage Site
Seattle, WA

Sample Location	Collection Date	ARI Delivery Group	TOC	1,4-Dichlorobenzene			1,2-Dichlorobenzene			1,2,4-Trichlorobenzene		
				µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF
Screening Levels				(a)	3100	1	(a)	2300	1	(a)	810	1
ICS-DSS-01-SE	41253	VW14	0.0265	14 U	528	0.17	14 U	528	0.23	14 U	528	0.65
ICS-DSS-02-SE	41093	VB16	0.0324	14 U	432	0.14	14 U	432	0.19	14 U	432	0.53
ICS-DSS-03-SE	41093	VB16	0.0345	4.1 J	119	0.04	5 U	139	0.06	19 U	551	0.68
ICS-DSS-04-SE	41093	VB16	0.0283	21 U	742	0.24	21 U	742	0.32	15 J	530	0.65
ICS-DSS-05-SE	41093	VB16	0.0262	4.4 J	168	0.05	5 U	191	0.08	5 U	191	0.24
ICS-DSS-06-SE	41093	VB16	0.0555	3.4 J	61	0.02	6.3	114	0.05	6.8	123	0.15
ICS-DSS-07-SE	41093	VB16	0.0334	5 U	141	0.05	3.4 J	102	0.04	5 U	141	0.17
ICS-DSS-08-SE	41093	VB16	0.0292	12	411	0.13	13	445	0.19	3.6 J	123	0.15
ICS-DSS-09-SE	41093	VB16	0.181	7600	41989	13.5	12,000	66298	28.8	1400	7735	9.55
ICS-DSS-10-SE	41093	VB16	0.00553	5 U	832	0.27	5 U	832	0.36	5 U	832	1.03
ICS-DSS-11-SE	41093	VB16	0.0273	4.8	176	0.06	9.4	344	0.15	15	549	0.68
ICS-DSS-12-SE	41093	VB16	0.309	440 U	1424	0.46	1000	3236	1.4	440 U	1424	1.76
ICS-DSS-13-SE	41093	VB16	0.0185	3.9 J	211	0.07	4.1 J	222	0.10	12	649	0.80
ICS-DSS-14-SE	41092	VB00	0.0496	5 U	99	0.03	5 U	99	0.04	5 U	99	0.12
ICS-DSS-15-SE	41093	VB16	0.0425	4.3 J	101	0.03	4.3 J	101	0.04	5 U	118	0.15
ICS-DSS-16-SE	41092	VB00	0.0105	5 U	457	0.15	5 U	457	0.20	5 U	457	0.56
ICS-DSS-17-SE	41092	VB00	0.0232	5 U	198	0.06	5 U	198	0.09	5 U	198	0.24
ICS-DSS-18-SE	41092	VB00	0.0266	5 U	177	0.06	5 U	177	0.08	5 U	177	0.22
ICS-DSS-19-SE	41092	VB00	0.0293	30	1024	0.33	17	580	0.25	22	751	0.93
ICS-DSS-20-SE	41092	VB00	0.0154	5 U	305	0.10	5 U	305	0.13	5 U	305	0.38
ICS-DSS-21-SE	41092	VB00	0.0192	8.1	422	0.14	3.0 J	156	0.07	2.9 J	151	0.19
ICS-DSS-22-SE	41092	VB00	0.0122	4.6 J	377	0.12	5 U	393	0.17	4.8 U	393	0.49
ICS-DSS-23-SE	41092	VB00	0.0142	5 U	345	0.11	5 U	345	0.15	4.6 J	324	0.40
ICS-DSS-24-SE	41093	VB16	0.0264	3.5 J	133	0.04	5 U	182	0.08	4.8 U	182	0.22
ICS-DSS-25-SE	41093	VB16	0.0348	5 U	155	0.05	3.8 J	109	0.05	3.0 J	86	0.11
ICS-DSS-26-SE	41092	VB00	0.0263	9 U	323	0.10	16	608	0.26	36	1369	1.69
ICS-DSS-27-SE	41092	VB00	0.0292	4.4 J	151	0.05	3.6 J	123	0.05	7.0	240	0.30
ICS-DSS-28-SE	41092	VB00	0.0224	5.8	259	0.08	2.4 J	107	0.05	3.6 J	161	0.20
ICS-DSS-29-SE	41092	VB00	0.0193	5 U	238	0.08	5 U	238	0.10	4.6 U	238	0.29
ICS-DSS-30-SE	41092	VB00	0.00442	5 U	1086	0.35	5 U	1086	0.47	4.8 U	1086	1.34
ICS-DUP-13-SE	41093	VB16	0.0155	2.5 J	161	0.05	5 U	310	0.13	8.4	542	0.67
ICS-DUP-04-SE	41093	VB16	0.0786	21 U	267	0.09	21 U	267	0.12	20.0 J	254	0.31
Spl. Number				30	30	30	30	30	30	30	30	30
No. Exceed.				----	1	1	----	2	2	----	3	3
% Exceed				----	3.3%	3.3%	----	6.7%	6.7%	----	10.0%	10.0%
Maximum				7600	41989	14	12000	66298	29	1400	7735	10
Minimum				2.5	61	0.02	2.40	98.79	0.04	2.90	86.21	0.11

**TABLE 4 - Exceedance Factors - Constituents w/ OCN Screening Levels
Embayment Surface Sediments**

ICS/NW Cooperage Site
Seattle, WA

Sample Location	Naphthalene			2-Methylnaphthalene			Dimethylphthalate			Acenaphthylene		
	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF
Screening Levels	(a)	99000	1	(a)	38000	1	(a)	53000	1	(a)	66000	1
ICS-DSS-01-SE	52 J	1962	0.02	38 J	1434	0.04	58 U	2189	0.04	58 U	2189	0.03
ICS-DSS-02-SE	55 U	1698	0.02	55 U	1698	0.04	55 U	1698	0.03	55 U	1698	0.03
ICS-DSS-03-SE	18 J	522	0.01	16 J	464	0.01	19 U	551	0.01	31	899	0.01
ICS-DSS-04-SE	79 J	2792	0.03	75 J	2650	0.07	180	6360	0.12	58 J	2049	0.03
ICS-DSS-05-SE	20 U	763	0.01	20 U	763	0.02	11 J	420	0.01	23	878	0.01
ICS-DSS-06-SE	43	775	0.01	80	1441	0.04	54	973	0.02	11 J	198	0.00
ICS-DSS-07-SE	19 U	569	0.01	19 U	569	0.01	19 U	569	0.01	19 U	569	0.01
ICS-DSS-08-SE	47	1610	0.02	52	1781	0.05	500	17123	0.32	12 J	411	0.01
ICS-DSS-09-SE	12,000	66298	0.67	13,000	71823	1.89	720 U	3978	0.08	650 J	3591	0.05
ICS-DSS-10-SE	62	11212	0.11	12 J	2170	0.06	18 U	3255	0.06	18 U	3255	0.05
ICS-DSS-11-SE	130	4762	0.05	100	3663	0.10	60	2198	0.04	19 U	696	0.01
ICS-DSS-12-SE	120,000	388350	3.92	50,000	161812	4.26	1700 U	5502	0.10	8700	28155	0.43
ICS-DSS-13-SE	110	5946	0.06	62	3351	0.09	19 U	1027	0.02	17 J	919	0.01
ICS-DSS-14-SE	20	403	0.00	18 J	363	0.01	10 J	196	0.00	11 J	222	0.00
ICS-DSS-15-SE	15 J	353	0.00	15 J	353	0.01	20 U	471	0.01	20 U	471	0.01
ICS-DSS-16-SE	19 U	1810	0.02	19 U	1810	0.05	19 U	1810	0.03	19 U	1810	0.03
ICS-DSS-17-SE	130	5603	0.06	35	1509	0.04	12 J	517	0.01	11 J	474	0.01
ICS-DSS-18-SE	19 U	714	0.01	19 U	714	0.02	19 U	714	0.01	19 U	714	0.01
ICS-DSS-19-SE	92	3140	0.03	120	4096	0.11	68	2321	0.04	25	853	0.01
ICS-DSS-20-SE	18 J	1169	0.01	17 J	1104	0.03	2900	188312	3.55	10 J	649	0.01
ICS-DSS-21-SE	41	2135	0.02	35	1823	0.05	20	1042	0.02	15 J	781	0.01
ICS-DSS-22-SE	64	5246	0.05	21	1721	0.05	19 U	1557	0.03	12 J	984	0.01
ICS-DSS-23-SE	110	7746	0.08	36	2535	0.07	9.8 J	690	0.01	20 U	1408	0.02
ICS-DSS-24-SE	20	758	0.01	14 J	530	0.01	19 U	720	0.01	13 J	492	0.01
ICS-DSS-25-SE	20	575	0.01	15 J	431	0.01	20 U	575	0.01	20 U	575	0.01
ICS-DSS-26-SE	180	6844	0.07	150	5703	0.15	82	3118	0.06	12 J	456	0.01
ICS-DSS-27-SE	78	2671	0.03	68	2329	0.06	100	3425	0.06	54	1849	0.03
ICS-DSS-28-SE	21	938	0.01	21	938	0.02	19 U	848	0.02	19 U	848	0.01
ICS-DSS-29-SE	18 U	933	0.01	18 U	933	0.02	18 U	933	0.02	18 U	933	0.01
ICS-DSS-30-SE	19 U	4299	0.04	19 U	4299	0.11	19 U	4299	0.08	19 U	4299	0.07
ICS-DUP-13-SE	82	5290	0.05	45	2903	0.08	19 U	1226	0.02	11 J	710	0.01
ICS-DUP-04-SE	96	1221	0.01	100	1272	0.03	67 J	852	0.02	50 J	636	0.01
Spl. Number	30	30	30	30	30	30	30	30	30	30	30	30
No. Exceed.	-----	1	1	-----	2	2	-----	1	1	-----	0	0
% Exceed	-----	3.3%	3.3%	-----	6.7%	6.7%	-----	3.3%	3.3%	-----	0.0%	0.0%
Maximum	120000	388350	3.9	50000	161812	4.3	2900	188312	3.6	8700	28155	0.4
Minimum	15.00	353	0.00	12.00	353	0.01	9.70	196	0.00	10.00	198	0.00

**TABLE 4 - Exceedance Factors - Constituents w/ OCN Screening Levels
Embayment Surface Sediments**

ICS/NW Cooperage Site
Seattle, WA

Sample Location	Acenaphthene			Dibenzofuran			Diethylphthalate		
	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF
Screening Levels	(a)	16000	1	(a)	15000	1	(a)	61000	1
ICS-DSS-01-SE	260	9811	0.61	67	2528	0.17	140 U	5283	0.09
ICS-DSS-02-SE	100	3086	0.19	30 J	926	0.06	140 U	4321	0.07
ICS-DSS-03-SE	22	638	0.04	18 J	522	0.03	48 U	1391	0.02
ICS-DSS-04-SE	83 U	2933	0.18	83 U	2933	0.20	210 U	7420	0.12
ICS-DSS-05-SE	20 U	763	0.05	20 U	763	0.05	50 U	1908	0.03
ICS-DSS-06-SE	20 U	360	0.02	20 U	360	0.02	50 U	901	0.01
ICS-DSS-07-SE	19 U	569	0.04	19 U	569	0.04	47 U	1407	0.02
ICS-DSS-08-SE	19 U	651	0.04	12 J	411	0.03	48 U	1644	0.03
ICS-DSS-09-SE	4600	25414	1.59	3800	20994	1.40	1800 U	9945	0.16
ICS-DSS-10-SE	18 U	3255	0.20	18 U	3255	0.22	46 U	8318	0.14
ICS-DSS-11-SE	19 U	696	0.04	60	2198	0.15	48 U	1758	0.03
ICS-DSS-12-SE	39,000	126214	7.89	26,000	84142	5.61	4400 U	14239	0.23
ICS-DSS-13-SE	13 J	703	0.04	30	1622	0.11	47 U	2541	0.04
ICS-DSS-14-SE	20 U	403	0.03	20 U	403	0.03	49 U	988	0.02
ICS-DSS-15-SE	20 U	471	0.03	20 U	471	0.03	50 U	1176	0.02
ICS-DSS-16-SE	19 U	1810	0.11	19 U	1810	0.12	48 U	4571	0.07
ICS-DSS-17-SE	18 U	776	0.05	34	1466	0.10	46 U	1983	0.03
ICS-DSS-18-SE	19 U	714	0.04	19 U	714	0.05	39 J	1466	0.02
ICS-DSS-19-SE	49	1672	0.10	33	1126	0.08	36 J	1229	0.02
ICS-DSS-20-SE	19 U	1234	0.08	15 J	974	0.06	47 U	3052	0.05
ICS-DSS-21-SE	44	2292	0.14	24	1250	0.08	47 U	2448	0.04
ICS-DSS-22-SE	31	2541	0.16	20	1639	0.11	48 U	3934	0.06
ICS-DSS-23-SE	190	13380	0.84	220	15493	1.03	49 U	3451	0.06
ICS-DSS-24-SE	9.7 J	367	0.02	14 J	530	0.04	48 U	1818	0.03
ICS-DSS-25-SE	20 U	575	0.04	11 J	316	0.02	49 U	1408	0.02
ICS-DSS-26-SE	36	1369	0.09	52	1977	0.13	46 U	1749	0.03
ICS-DSS-27-SE	10 J	342	0.02	27	925	0.06	46 U	1575	0.03
ICS-DSS-28-SE	19 U	848	0.05	14 J	625	0.04	47 U	2098	0.03
ICS-DSS-29-SE	18 U	933	0.06	18 U	933	0.06	46 U	2383	0.04
ICS-DSS-30-SE	19 U	4299	0.27	19 U	4299	0.29	48 U	10860	0.18
ICS-DUP-13-SE	19 U	1226	0.08	21	1355	0.09	48 U	3097	0.05
ICS-DUP-04-SE	84 U	1069	0.07	84 U	1069	0.07	210 U	2672	0.04
Spl. Number	30	30	30	30	30	30	30	30	30
No. Exceed.	----	2	2	----	2	2	----	0	0
% Exceed	----	6.7%	6.7%	----	6.7%	6.7%	----	0.0%	0.0%
Maximum	39000	126214	7.9	26000	84142	5.6	4400	14239	0.2
Minimum	9.70	342	0.02	11.00	316	0.02	36.00	901	0.01

**TABLE 4 - Exceedance Factors - Constituents w/ OCN Screening Levels
Embayment Surface Sediments**

Sample Location	Fluorene			N-Nitrosodiphenylamine			Phenanthrene		
	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF
Screening Levels	(a)	23000	1	(a)	11000	1	(a)	100000	1
ICS-DSS-01-SE	220	8302	0.36	58 U	2189	0.20	3700	139623	1.40
ICS-DSS-02-SE	66	2037	0.09	55 U	1698	0.15	710	21914	0.22
ICS-DSS-03-SE	23	667	0.03	19 U	551	0.05	270	7826	0.08
ICS-DSS-04-SE	83 U	2933	0.13	32 J	1131	0.10	460	16254	0.16
ICS-DSS-05-SE	12 J	458	0.02	4 J	134	0.01	390	14885	0.15
ICS-DSS-06-SE	20 U	360	0.02	14 J	252	0.02	74	1333	0.01
ICS-DSS-07-SE	19 U	569	0.02	19 U	569	0.05	29	868	0.01
ICS-DSS-08-SE	10 J	342	0.01	9.1 J	312	0.03	110	3767	0.04
ICS-DSS-09-SE	6200	34254	1.49	4000	22099	2.01	14,000	77348	0.77
ICS-DSS-10-SE	18 U	3255	0.14	18 U	3255	0.30	28	5063	0.05
ICS-DSS-11-SE	14 J	513	0.02	14 J	513	0.05	200	7326	0.07
ICS-DSS-12-SE	58,000	187702	8.16	4800	15534	1.41	380,000	1229773	12.30
ICS-DSS-13-SE	25	1351	0.06	11 J	595	0.05	180	9730	0.10
ICS-DSS-14-SE	20 U	403	0.02	3.5 J	71	0.01	60	1210	0.01
ICS-DSS-15-SE	20 U	471	0.02	3.3 J	78	0.01	61	1435	0.01
ICS-DSS-16-SE	19 U	1810	0.08	19 U	1810	0.16	19 U	1810	0.02
ICS-DSS-17-SE	18 U	776	0.03	2.9 J	125	0.01	110	4741	0.05
ICS-DSS-18-SE	19 U	714	0.03	3.4 J	128	0.01	24	902	0.01
ICS-DSS-19-SE	51	1741	0.08	20 U	683	0.06	330	11263	0.11
ICS-DSS-20-SE	16 J	1039	0.05	3.1 J	201	0.02	100	6494	0.06
ICS-DSS-21-SE	41	2135	0.09	19 U	990	0.09	430	22396	0.22
ICS-DSS-22-SE	18 J	1475	0.06	19 U	1557	0.14	110	9016	0.09
ICS-DSS-23-SE	400	28169	1.22	20 U	1408	0.13	150	10563	0.11
ICS-DSS-24-SE	16 J	606	0.03	19 U	720	0.07	230	8712	0.09
ICS-DSS-25-SE	12 J	345	0.01	2.7 J	78	0.01	90	2586	0.03
ICS-DSS-26-SE	40	1521	0.07	42	1597	0.15	380	14449	0.14
ICS-DSS-27-SE	12 J	411	0.02	7.8 J	267	0.02	170	5822	0.06
ICS-DSS-28-SE	18 J	804	0.03	19	848	0.08	55	2455	0.02
ICS-DSS-29-SE	18 U	933	0.04	18 U	933	0.08	18 J	933	0.01
ICS-DSS-30-SE	19 U	4299	0.19	19 U	4299	0.39	18 J	4072	0.04
ICS-DUP-13-SE	18 J	1161	0.05	8 J	542	0.05	130	8387	0.08
ICS-DUP-04-SE	84 U	1069	0.05	38	483	0.04	160	2036	0.02
Spl. Number	30	30	30	30	30	30	30	30	30
No. Exceed.	----	3	3	----	2	2	----	2	2
% Exceed	----	10.0%	10.0%	----	6.7%	6.7%	----	6.7%	6.7%
Maximum	58000	187702	8.2	4800	22099	2.0	380000	1229773	12.3
Minimum	10.00	342	0.01	2.70	70.56	0.01	18.00	868	0.01

**TABLE 4 - Exceedance Factors - Constituents w/ OCN Screening Levels
Embayment Surface Sediments**

ICS/NW Cooperaage Site
Seattle, WA

Sample Location	Anthracene			Di-n-butylphthalate			Fluoranthene		
	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF
Screening Levels	(a)	220000	1	(a)	220000	1	(a)	160000	1
ICS-DSS-01-SE	720	27170	0.12	58 U	2189	0.01	5100	192453	1.20
ICS-DSS-02-SE	180	5556	0.03	55 U	1698	0.01	1100	33951	0.21
ICS-DSS-03-SE	85	2464	0.01	19 U	551	0.00	1100	31884	0.20
ICS-DSS-04-SE	71 J	2509	0.01	130	4594	0.02	1100	38869	0.24
ICS-DSS-05-SE	29	1107	0.01	20 U	763	0.00	1100	41985	0.26
ICS-DSS-06-SE	25	450	0.00	85	1532	0.01	78	1405	0.01
ICS-DSS-07-SE	19 U	569	0.00	19 U	569	0.00	49	1467	0.01
ICS-DSS-08-SE	33	1130	0.01	72	2466	0.01	150	5137	0.03
ICS-DSS-09-SE	16,000	88398	0.40	3400	18785	0.09	7000	38674	0.24
ICS-DSS-10-SE	18 U	3255	0.01	18 J	3255	0.01	29	5244	0.03
ICS-DSS-11-SE	36	1319	0.01	43	1575	0.01	160	5861	0.04
ICS-DSS-12-SE	78,000	252427	1.15	44,000	142395	0.65	390,000	1262136	7.89
ICS-DSS-13-SE	40	2162	0.01	19 U	1027	0.00	180	9730	0.06
ICS-DSS-14-SE	18 J	363	0.00	20 U	403	0.00	120	2419	0.02
ICS-DSS-15-SE	15 J	353	0.00	20 U	471	0.00	130	3059	0.02
ICS-DSS-16-SE	19 U	1810	0.01	19 U	1810	0.01	11 J	1048	0.01
ICS-DSS-17-SE	23	991	0.00	18 U	776	0.00	98	4224	0.03
ICS-DSS-18-SE	11 J	414	0.00	22	827	0.00	63	2368	0.01
ICS-DSS-19-SE	100	3413	0.02	130	4437	0.02	500	17065	0.11
ICS-DSS-20-SE	33	2143	0.01	320	20779	0.09	290	18831	0.12
ICS-DSS-21-SE	90	4688	0.02	38	1979	0.01	540	28125	0.18
ICS-DSS-22-SE	28	2295	0.01	19 U	1557	0.01	190	15574	0.10
ICS-DSS-23-SE	70	4930	0.02	20 U	1408	0.01	510	35915	0.22
ICS-DSS-24-SE	35	1326	0.01	19 U	720	0.00	370	14015	0.09
ICS-DSS-25-SE	28	805	0.00	13 J	374	0.00	200	5747	0.04
ICS-DSS-26-SE	68	2586	0.01	220	8365	0.04	410	15589	0.10
ICS-DSS-27-SE	62	2123	0.01	31	1062	0.00	410	14041	0.09
ICS-DSS-28-SE	26	1161	0.01	14 J	625	0.00	160	7143	0.04
ICS-DSS-29-SE	18 U	933	0.00	10 J	518	0.00	41	2124	0.01
ICS-DSS-30-SE	19 U	4299	0.02	19 U	4299	0.02	24	5430	0.03
ICS-DUP-13-SE	29	1871	0.01	19 U	1226	0.01	130	8387	0.05
ICS-DUP-04-SE	50 J	636	0.00	120	1527	0.01	200	2545	0.02
Spl. Number	30	30	30	30	30	30	30	30	30
No. Exceed.	----	1	1	----	0	0	----	2	2
% Exceed	----	3.3%	3.3%	----	0.0%	0.0%	----	6.7%	6.7%
Maximum	78000	252427	1.1	44000	142395	0.6	390000	1262136	7.9
Minimum	11.00	353	0.00	10.00	374	0.00	11.00	1048	0.01

**TABLE 4 - Exceedance Factors - Constituents w/ OCN Screening Levels
Embayment Surface Sediments**

Sample Location	Pyrene			Butylbenzyl-phthalate			Benzo(a)anthracene		
	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF
Screening Levels	(a)	1000000	1	(a)	4900	1	(a)(b)	110000	1
ICS-DSS-01-SE	5400	203774	0.20	13 J	491	0.10	3500	132075	1.20
ICS-DSS-02-SE	1000	30864	0.03	55 U	1698	0.35	470	14506	0.13
ICS-DSS-03-SE	920	26667	0.03	43 J	1246	0.25	340	9855	0.09
ICS-DSS-04-SE	710	25088	0.03	230 J	8127	1.66	190	6714	0.06
ICS-DSS-05-SE	770	29389	0.03	20 U	763	0.16	110	4198	0.04
ICS-DSS-06-SE	78	1405	0.00	20 U	360	0.07	35	631	0.01
ICS-DSS-07-SE	41	1228	0.00	19 U	569	0.12	20	599	0.01
ICS-DSS-08-SE	160	5479	0.01	19 U	651	0.13	72	2466	0.02
ICS-DSS-09-SE	6800	37569	0.04	1100	6077	1.24	2700	14917	0.14
ICS-DSS-10-SE	28	5063	0.01	18 U	3255	0.66	12 J	2170	0.02
ICS-DSS-11-SE	150	5495	0.01	58 J	2125	0.43	80	2930	0.03
ICS-DSS-12-SE	290,000	938511	0.94	44000 J	142395	29.06	130,000	420712	3.82
ICS-DSS-13-SE	170	9189	0.01	19 U	1027	0.21	76	4108	0.04
ICS-DSS-14-SE	110	2218	0.00	25 J	504	0.10	47	948	0.01
ICS-DSS-15-SE	130	3059	0.00	31 J	729	0.15	53	1247	0.01
ICS-DSS-16-SE	9.7 J	924	0.00	19 U	1810	0.37	19 U	1810	0.02
ICS-DSS-17-SE	89	3836	0.00	14 J	603	0.12	42	1810	0.02
ICS-DSS-18-SE	66	2481	0.00	16 J	602	0.12	34	1278	0.01
ICS-DSS-19-SE	730	24915	0.02	110 J	3754	0.77	260	8874	0.08
ICS-DSS-20-SE	280	18182	0.02	19 U	1234	0.25	160	10390	0.09
ICS-DSS-21-SE	540	28125	0.03	150 J	7813	1.59	200	10417	0.09
ICS-DSS-22-SE	230	18852	0.02	12 J	984	0.20	63	5164	0.05
ICS-DSS-23-SE	350	24648	0.02	20 U	1408	0.29	71	5000	0.05
ICS-DSS-24-SE	280	10606	0.01	28 J	1061	0.22	96	3636	0.03
ICS-DSS-25-SE	180	5172	0.01	27 J	776	0.16	100	2874	0.03
ICS-DSS-26-SE	360	13688	0.01	260 J	9886	2.02	170	6464	0.06
ICS-DSS-27-SE	400	13699	0.01	18 U	616	0.13	250	8562	0.08
ICS-DSS-28-SE	160	7143	0.01	19 U	848	0.17	43	1920	0.02
ICS-DSS-29-SE	41	2124	0.00	18 U	933	0.19	18 J	933	0.01
ICS-DSS-30-SE	25	5656	0.01	19 U	4299	0.88	19 U	4299	0.04
ICS-DUP-13-SE	120	7742	0.01	19 U	1226	0.25	60	3871	0.04
ICS-DUP-04-SE	250	3181	0.00	84 U	1069	0.22	120	1527	0.01
Spl. Number	30	30	30	30	30	30	30	30	30
No. Exceed.	----	0	0	----	5	5	----	2	2
% Exceed	----	0.0%	0.0%	----	16.7%	16.7%	----	6.7%	6.7%
Maximum	290000	938511	0.9	44000	142395	29.1	130000	420712	3.8
Minimum	9.70	924	0.00	12.00	360	0.07	12.00	599	0.01

**TABLE 4 - Exceedance Factors - Constituents w/ OCN Screening Levels
Embayment Surface Sediments**

ICS/NW Cooperage Site
Seattle, WA

Sample Location	<i>bis</i> (2-Ethylhexyl)phthalate			Chrysene			Di-n-octylphthalate		
	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF
Screening Levels	(a)	47000	1	(a)(b)	110000	1	(a)	58000	1
ICS-DSS-01-SE	520	19623	0.42	3800	143396	1.30	58 U	2189	0.04
ICS-DSS-02-SE	260	8025	0.17	680	20988	0.19	55 U	1698	0.03
ICS-DSS-03-SE	620	17971	0.38	770	22319	0.20	19 U	551	0.01
ICS-DSS-04-SE	1300	45936	0.98	410	14488	0.13	83 U	2933	0.05
ICS-DSS-05-SE	320	12214	0.26	310	11832	0.11	20 U	763	0.01
ICS-DSS-06-SE	260	4685	0.10	110	1982	0.02	20 U	360	0.01
ICS-DSS-07-SE	36	1078	0.02	36	1078	0.01	19 U	569	0.01
ICS-DSS-08-SE	150	5137	0.11	130	4452	0.04	19 U	651	0.01
ICS-DSS-09-SE	9600	53039	1.13	5200	28729	0.26	720 U	3978	0.07
ICS-DSS-10-SE	57	10307	0.22	19	3436	0.03	18 U	3255	0.06
ICS-DSS-11-SE	330	12088	0.26	130	4762	0.04	19 U	696	0.01
ICS-DSS-12-SE	180,000	582524	12.39	180,000	582524	5.30	1700 U	5502	0.09
ICS-DSS-13-SE	79	4270	0.09	87	4703	0.04	19 U	1027	0.02
ICS-DSS-14-SE	83	1673	0.04	100	2016	0.02	20 U	403	0.01
ICS-DSS-15-SE	300	7059	0.15	98	2306	0.02	40	941	0.02
ICS-DSS-16-SE	16 J	1524	0.03	19 U	1810	0.02	19 U	1810	0.03
ICS-DSS-17-SE	49	2112	0.04	66	2845	0.03	18 U	776	0.01
ICS-DSS-18-SE	79	2970	0.06	67	2519	0.02	19 U	714	0.01
ICS-DSS-19-SE	1400	47782	1.02	460	15700	0.14	20 U	683	0.01
ICS-DSS-20-SE	98	6364	0.14	370	24026	0.22	19 U	1234	0.02
ICS-DSS-21-SE	320	16667	0.35	340	17708	0.16	19 U	990	0.02
ICS-DSS-22-SE	60	4918	0.10	81	6639	0.06	19 U	1557	0.03
ICS-DSS-23-SE	84	5915	0.13	92	6479	0.06	20 U	1408	0.02
ICS-DSS-24-SE	300	11364	0.24	190	7197	0.07	19 U	720	0.01
ICS-DSS-25-SE	270	7759	0.17	160	4598	0.04	27	776	0.01
ICS-DSS-26-SE	550	20913	0.44	240	9125	0.08	18 U	684	0.01
ICS-DSS-27-SE	180	6164	0.13	360	12329	0.11	18 U	616	0.01
ICS-DSS-28-SE	190	8482	0.18	50	2232	0.02	19 U	848	0.01
ICS-DSS-29-SE	26	1347	0.03	45	2332	0.02	18 U	933	0.02
ICS-DSS-30-SE	24	5430	0.12	15 J	3394	0.03	19 U	4299	0.07
ICS-DUP-13-SE	63	4065	0.09	77	4968	0.05	19 U	1226	0.02
ICS-DUP-04-SE	1200	15267	0.32	180	2290	0.02	84 U	1069	0.02
Spl. Number	30	30	30	30	30	30	30	30	30
No. Exceed.	----	2	2	----	2	2	----	0	0
% Exceed	----	6.7%	6.7%	----	6.7%	6.7%	----	0.0%	0.0%
Maximum	180000	582524	12.4	180000	582524	5.3	1700	5502	0.1
Minimum	16.00	1078	0.02	15.00	1078	0.01	18.00	360	0.01

**TABLE 4 - Exceedance Factors - Constituents w/ OCN Screening Levels
Embayment Surface Sediments**

ICS/NW Cooperage Site
Seattle, WA

Sample Location	total Benzofluoranthenes			Benzo(a)pyrene			Indeno(1,2,3-cd)pyrene		
	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF
Screening Levels	(a)(b)	230000	1	(a)(b)	99000	1	(a)(b)	34000	1
ICS-DSS-01-SE	5000	188679	0.82	3000	113208	1.14	1200	45283	1.33
ICS-DSS-02-SE	940	29012	0.13	440	13580	0.14	270	8333	0.25
ICS-DSS-03-SE	850	24638	0.11	260	7536	0.08	140	4058	0.12
ICS-DSS-04-SE	470	16608	0.07	220	7774	0.08	140	4947	0.15
ICS-DSS-05-SE	360	13740	0.06	95	3626	0.04	51	1947	0.06
ICS-DSS-06-SE	180	3243	0.01	150	2703	0.03	61	1099	0.03
ICS-DSS-07-SE	52	1557	0.01	24	719	0.01	19	569	0.02
ICS-DSS-08-SE	190	6507	0.03	78	2671	0.03	110	3767	0.11
ICS-DSS-09-SE	3300	18232	0.08	1800	9945	0.10	900	4972	0.15
ICS-DSS-10-SE	30 J	5425	0.02	13 J	2351	0.02	9.2 J	1664	0.05
ICS-DSS-11-SE	190	6960	0.03	96	3516	0.04	65	2381	0.07
ICS-DSS-12-SE	120,000	388350	1.69	71,000	229773	2.32	21,000	67961	2.00
ICS-DSS-13-SE	130	7027	0.03	76	4108	0.04	43	2324	0.07
ICS-DSS-14-SE	140	2823	0.01	46	927	0.01	38	766	0.02
ICS-DSS-15-SE	140	3294	0.01	52	1224	0.01	38	894	0.03
ICS-DSS-16-SE	14 J	1333	0.01	19 U	1810	0.02	19 U	1810	0.05
ICS-DSS-17-SE	98	4224	0.02	41	1767	0.02	18 U	776	0.02
ICS-DSS-18-SE	140	5263	0.02	44	1654	0.02	34	1278	0.04
ICS-DSS-19-SE	730	24915	0.11	350	11945	0.12	190	6485	0.19
ICS-DSS-20-SE	300	19481	0.08	82	5325	0.05	51	3312	0.10
ICS-DSS-21-SE	410	21354	0.09	180	9375	0.09	110	5729	0.17
ICS-DSS-22-SE	110	9016	0.04	56	4590	0.05	34	2787	0.08
ICS-DSS-23-SE	110	7746	0.03	41	2887	0.03	27	1901	0.06
ICS-DSS-24-SE	230	8712	0.04	94	3561	0.04	50	1894	0.06
ICS-DSS-25-SE	240	6897	0.03	100	2874	0.03	58	1667	0.05
ICS-DSS-26-SE	420	15970	0.07	200	7605	0.08	160	6084	0.18
ICS-DSS-27-SE	580	19863	0.09	280	9589	0.10	170	5822	0.17
ICS-DSS-28-SE	77	3438	0.01	28	1250	0.01	18 J	804	0.02
ICS-DSS-29-SE	54	2798	0.01	19	984	0.01	17 J	881	0.03
ICS-DSS-30-SE	26 J	5882	0.03	19 U	4299	0.04	10 J	2262	0.07
ICS-DUP-13-SE	100	6452	0.03	54	3484	0.04	36	2323	0.07
ICS-DUP-04-SE	290	3690	0.02	180	2290	0.02	120	1527	0.04
Spl. Number	30	30	30	30	30	30	30	30	30
No. Exceed.	----	1	1	----	2	2	----	2	2
% Exceed	----	3.3%	3.3%	----	6.7%	6.7%	----	6.7%	6.7%
Maximum	120000	388350	1.7	71000	229773	2.3	21000	67961	2.0
Minimum	14.00	1333	0.01	13.00	719	0.01	9.20	569	0.02

**TABLE 4 - Exceedance Factors - Constituents w/ OCN Screening Levels
Embayment Surface Sediments**

ICS/NW Cooperage Site
Seattle, WA

Sample Location	Dibenz(a,h)anthracene			Benzo(g,h,i)perylene			LPAH			HPAH		
	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF
Screening Levels	(a)(b)	12000	1	(a)	31000	1	(a)	370000	1	(a)	960000	1
ICS-DSS-01-SE	510	19245	1.60	1200	45283	1.46	4952	186868	0.51	28,710	1083396	1.13
ICS-DSS-02-SE	140	4321	0.36	300	9259	0.30	1056	32593	0.09	5340	164815	0.17
ICS-DSS-03-SE	70	2029	0.17	140	4058	0.13	449	13014	0.04	4590	133043	0.14
ICS-DSS-04-SE	71 J	2509	0.21	210	7420	0.24	668	23604	0.06	3521	124417	0.13
ICS-DSS-05-SE	27	1031	0.09	58	2214	0.07	454	17328	0.05	2881	109962	0.11
ICS-DSS-06-SE	17 J	306	0.03	83	1495	0.05	153	2757	0.01	792	14270	0.01
ICS-DSS-07-SE	10 J	299	0.02	24	719	0.02	29	868	0.00	275	8234	0.01
ICS-DSS-08-SE	37	1267	0.11	160	5479	0.18	212	7260	0.02	1087	37226	0.04
ICS-DSS-09-SE	580 J	3204	0.27	1100	6077	0.20	53,450	295304	0.80	29,380	162320	0.17
ICS-DSS-10-SE	18 U	3255	0.27	13 J	2351	0.08	90	16275	0.04	153	27703	0.03
ICS-DSS-11-SE	21	769	0.06	73	2674	0.09	380	13919	0.04	965	35348	0.04
ICS-DSS-12-SE	13,000	42071	3.51	19,000	61489	1.98	683,700	2212621	5.98	1,234,000	3993528	4.16
ICS-DSS-13-SE	13 J	703	0.06	49	2649	0.09	385	20811	0.06	824	44541	0.05
ICS-DSS-14-SE	14 J	282	0.02	47	948	0.03	109	2198	0.01	662	13347	0.01
ICS-DSS-15-SE	20	471	0.04	57	1341	0.04	91	2141	0.01	718	16894	0.02
ICS-DSS-16-SE	19 U	1810	0.15	19 U	1810	0.06	19	1810	0.00	35	3305	0.00
ICS-DSS-17-SE	18 U	776	0.06	45	1940	0.06	274	11810	0.03	479	20647	0.02
ICS-DSS-18-SE	19 U	714	0.06	38	1429	0.05	35	1316	0.00	486	18271	0.02
ICS-DSS-19-SE	99	3379	0.28	220	7509	0.24	647	22082	0.06	3539	120785	0.13
ICS-DSS-20-SE	21	1364	0.11	53	3442	0.11	177	11494	0.03	1607	104351	0.11
ICS-DSS-21-SE	53	2760	0.23	140	7292	0.24	661	34427	0.09	2513	130885	0.14
ICS-DSS-22-SE	11 J	902	0.08	46	3770	0.12	263	21557	0.06	821	67295	0.07
ICS-DSS-23-SE	20 U	1408	0.12	32	2254	0.07	920	64789	0.18	1233	86831	0.09
ICS-DSS-24-SE	26	985	0.08	50	1894	0.06	324	12261	0.03	1386	52500	0.05
ICS-DSS-25-SE	20	575	0.05	70	2011	0.06	150	4310	0.01	1128	32414	0.03
ICS-DSS-26-SE	47	1787	0.15	200	7605	0.25	716	27224	0.07	2207	83916	0.09
ICS-DSS-27-SE	77	2637	0.22	180	6164	0.20	386	13219	0.04	2707	92705	0.10
ICS-DSS-28-SE	19 U	848	0.07	23	1027	0.03	120	5357	0.01	559	24955	0.03
ICS-DSS-29-SE	18 U	933	0.08	25	1295	0.04	18	933	0.00	260	13472	0.01
ICS-DSS-30-SE	19 U	4299	0.36	10 J	2262	0.07	18	4072	0.01	110	24887	0.03
ICS-DUP-13-SE	12 J	774	0.06	38	2452	0.08	270	17419	0.05	627	40452	0.04
ICS-DUP-04-SE	71 J	903	0.08	190	2417	0.08	356	4529	0.01	1601	20369	0.02
Spl. Number	30	30	30	30	30	30	30	30	30	30	30	30
No. Exceed.	----	2	2	----	2	2	----	1	1	----	2	2
% Exceed	----	6.7%	6.7%	----	6.7%	6.7%	----	3.3%	3.3%	----	6.7%	6.7%
Maximum	13000	42071	3.5	19000	61489	2.0	683700	2212621	6.0	1234000	3993528	4.2
Minimum	10.00	282	0.02	10.00	719	0.02	18.00	868	0.00	34.70	3305	0.00

**TABLE 4 - Exceedance Factors - Constituents w/ OCN Screening Levels
Embayment Surface Sediments**

ICS/NW Cooperaage Site
Seattle, WA

Sample Location	Hexachlorobenzene			Hexachlorobutadiene			Aroclor 1016	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	ug/kg OCN	EF	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry
Screening Levels	na	380	1	na	3900	1	----	----	----	----	----
ICS-DSS-01-SE	10 U	374	0.98	10 U	374	0.10	20 U	20 U	420	420	350
ICS-DSS-02-SE	3 U	90	0.24	0.5 U	15	0.00	38 U	38 U	190	210	170
ICS-DSS-03-SE	4 U	122	0.32	0.9 U	25	0.01	97 U	97 U	450	530	560
ICS-DSS-04-SE	17 U	601	1.58	4 U	134	0.03	310 U	310 U	3800 J	10,000	14,000
ICS-DSS-05-SE	0.5 U	18	0.05	0.5 U	18	0.00	97 U	3500	97 U	1700	1200
ICS-DSS-06-SE	6 U	103	0.27	3 U	56	0.01	250 U	250 U	2500 J	5800	7000
ICS-DSS-07-SE	0.5 U	14	0.04	0.5 U	14	0.00	38 U	38 U	71	190 U	520
ICS-DSS-08-SE	2 U	68	0.18	2 U	55	0.01	63 U	63 U	950 U	2000	1400
ICS-DSS-09-SE	1300 U	7182	18.90	150 U	829	0.21	5400 U	120,000	5400 U	44,000	30,000
ICS-DSS-10-SE	1 U	154	0.40	0.5 U	87	0.02	39 U	39 U	690	630	600
ICS-DSS-11-SE	4 U	132	0.35	2 U	55	0.01	120 U	120 U	1500	1800	2000
ICS-DSS-12-SE	300 U	971	2.55	300 U	971	0.25	240 U	11,000	240 U	8900	2600
ICS-DSS-13-SE	0.5 U	26	0.07	0.5 U	26	0.01	39 U	39 U	280	230	200
ICS-DSS-14-SE	0.5 U	9	0.02	0.5 U	9	0.00	39 U	39 U	72	180	330
ICS-DSS-15-SE	0.5 U	11	0.03	0.8 U	18	0.00	96 U	96 U	680	740	680
ICS-DSS-16-SE	0.5 U	47	0.12	0.5 U	47	0.01	4 U	4 U	8.0	12	22
ICS-DSS-17-SE	1 U	26	0.07	0.5 U	21	0.01	39 U	39 U	190	270	280
ICS-DSS-18-SE	0.5 U	18	0.05	0.5 U	18	0.00	40 U	40 U	110	190	200
ICS-DSS-19-SE	10 U	334	0.88	1 U	34	0.01	410 U	410 U	4400	4700	3400
ICS-DSS-20-SE	0.5 U	32	0.08	0.5 U	32	0.01	39 U	39 U	240	320	230
ICS-DSS-21-SE	2 U	104	0.27	0.5 U	26	0.01	40 U	40 U	450	580	490
ICS-DSS-22-SE	0.5 U	38	0.10	0.5 U	38	0.01	38 U	38 U	540	760	400
ICS-DSS-23-SE	0.5 U	34	0.09	0.5 U	34	0.01	20 U	20 U	180	200	180
ICS-DSS-24-SE	2 U	61	0.16	0.5 U	19	0.00	98 U	98 U	590	560	560
ICS-DSS-25-SE	4 U	124	0.33	0.5 U	14	0.00	96 U	96 U	500	530	420
ICS-DSS-26-SE	3 U	125	0.33	0.5 U	18	0.00	39 U	39 U	1600	1800	770
ICS-DSS-27-SE	5 U	168	0.44	0.7 U	24	0.01	280 U	280 U	980 U	3100	2700
ICS-DSS-28-SE	0.5 U	21	0.06	0.5 U	21	0.01	38 U	38 U	1100	1200	580
ICS-DSS-29-SE	0.5 U	24	0.06	0.5 U	24	0.01	4 U	4 U	11 U	30	29
ICS-DSS-30-SE	0.5 U	111	0.29	0.5 U	111	0.03	4 U	4 U	39 U	130	44
ICS-DUP-13-SE	1 U	65	0.17	0.5 U	32	0.01	39 U	39 U	260	260	210
ICS-DUP-04-SE	15 U	191	0.50	4 U	48	0.01	770 U	770 U	5800 U	14,000	18,000
Spl. Number	30	30	30	30	30	30	30	30	30	30	30
No. Exceed.	----	0	0	----	0	0	----	----	----	----	----
% Exceed	----	0.0%	0.0%	----	0.0%	0.0%	----	----	----	----	----
Maximum	1300	7182	18.9	300	971	0.2	nd	120000	5800	44000	30000
Minimum	0.46	9.48	0.02	0.46	9.48	0.00	nd	3.80	8.00	12.00	22.00

**TABLE 4 - Exceedance Factors - Constituents w/ OCN Screening Levels
Embayment Surface Sediments**

Sample Location	Aroclor 1221	Aroclor 1232	Total Detected PCBs		
	µg/kg, dry	µg/kg, dry	µg/kg, dry	ug/kg OCN	EF
Screening Levels	-----	-----	-----	12000	1
ICS-DSS-01-SE	20 U	20 U	1190	44906	3.7
ICS-DSS-02-SE	38 U	38 U	570	17593	1.5
ICS-DSS-03-SE	97 U	97 U	1540	44638	3.7
ICS-DSS-04-SE	310 U	310 U	27,800	982332	81.9
ICS-DSS-05-SE	97 U	97 U	6400	244275	20.4
ICS-DSS-06-SE	250 U	250 U	15,300	275676	23.0
ICS-DSS-07-SE	38 U	38 U	591	17695	1.5
ICS-DSS-08-SE	63 U	63 U	3400	116438	9.7
ICS-DSS-09-SE	5400 U	5400 U	194,000	1071823	89.3
ICS-DSS-10-SE	39 U	39 U	1920	347197	28.9
ICS-DSS-11-SE	120 U	120 U	5300	194139	16.2
ICS-DSS-12-SE	240 U	240 U	22,500	72816	6.1
ICS-DSS-13-SE	39 U	39 U	710	38378	3.2
ICS-DSS-14-SE	39 U	39 U	582	11734	1.0
ICS-DSS-15-SE	96 U	96 U	2100	49412	4.1
ICS-DSS-16-SE	4 U	4 U	42	4000	0.3
ICS-DSS-17-SE	39 U	39 U	740	31897	2.7
ICS-DSS-18-SE	40 U	40 U	500	18797	1.6
ICS-DSS-19-SE	410 U	410 U	12,500	426621	35.6
ICS-DSS-20-SE	39 U	39 U	790	51299	4.3
ICS-DSS-21-SE	40 U	40 U	1520	79167	6.6
ICS-DSS-22-SE	38 U	38 U	1700	139344	11.6
ICS-DSS-23-SE	20 U	20 U	560	39437	3.3
ICS-DSS-24-SE	98 U	98 U	1710	64773	5.4
ICS-DSS-25-SE	96 U	96 U	1450	41667	3.5
ICS-DSS-26-SE	39 U	39 U	4170	158555	13.2
ICS-DSS-27-SE	280 U	280 U	5800	198630	16.6
ICS-DSS-28-SE	38 U	38 U	2880	128571	10.7
ICS-DSS-29-SE	4 U	4 U	59	3057	0.3
ICS-DSS-30-SE	4 U	4 U	174	39367	3.3
ICS-DUP-13-SE	39 U	39 U	730	47097	3.9
ICS-DUP-04-SE	770 U	770 U	32,000	407125	33.9
Spl. Number	30	30	30	30	30
No. Exceed.	-----	-----	-----	27	27
% Exceed	-----	-----	-----	90.0%	90.0%
Maximum	nd	nd	194000	1071823	89.3
Minimum	nd	nd	42.00	3057	0.25

*J = estimate associated with value less than the verifiable
lower quantitation limit*

U = nondetected at the associated lower reporting limit.

(a) - Screening level based on carbon normalized values

(b) - Screening level based on benzo(a)pyrene beach-play TEQ


also is available

na - Screening level not available

EF - Exceedance Factor

TEQ - Toxicity Equivalency Quotient

OCN - Organic carbon normalized

 Exceeds OCN screening level

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

Core Location	Mid-Point Depth (feet)	Collection Date	ARI Delivery Group	% solids %	Wet density lb/ft ³	Moisture content %	Dry density lb/ft ³	TOC %	Antimony mg/kg, dry	Arsenic mg/kg, dry	Beryllium mg/kg, dry	Cadmium mg/kg, dry
Screening Levels	0 to 10 cm	-----	-----	-----	-----	-----	-----	-----	na	7	na	5.1
ICS-A-SE-1	0.4	11/26/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-2	1.3	11/26/12	VV01	76	-----	-----	-----	1.37	0.3 U	11.5	0.3 U	0.3
ICS-A-SE-3	2.7	11/26/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-4	3.9	11/26/12	VV01	61	-----	-----	-----	2.77	0.3 U	9.7	0.4	0.2
ICS-A-SE-5	5.1	11/26/12	VV01	66	-----	-----	-----	1.61	0.3 U	6.5	0.5	0.1 U
ICS-A-SE-6	6.3	11/26/12	XD56	59	-----	-----	-----	3.22	0.3 U	9.5	0.6	0.2
ICS-A-SE-7	7.2	11/26/12	XD56	62	-----	-----	-----	4.22	0.3 U	9.2	0.6	0.2
ICS-B-SE-1	1.1	11/27/12	VV01	65	-----	-----	-----	0.775	0.3 U	19.8	0.3 U	0.2 U
ICS-B-SE-2	2.2	11/27/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-B-SE-3	3.3	11/27/12	VV01	49	-----	-----	-----	3.96	0.8 J _R	31.1	0.4 U	5.4
ICS-B-SE-4	4.4	11/27/12	XD56	64	-----	-----	-----	3.37	0.3 U	9.4	0.3 U	1.1
ICS-B-SE-5	5.5	11/27/12	VV01	61	-----	-----	-----	3.64	0.3 U	7.7	0.5	0.2
ICS-B-SE-6	6.6	11/27/12	XD56	60	100.6	65.8	60.7	2.66	0.3 U	10.1	0.6	0.3
ICS-C-SE-1	0.5	11/27/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-C-SE-2	2.3	11/27/12	VV01	73	-----	-----	-----	0.894	0.3 U	5.6	0.3 U	0.1 U
ICS-C-SE-3	3.3	11/27/12	VV01	62	-----	-----	-----	2.29	0.3 U	7.3	0.4	0.1
ICS-C-SE-4	4.4	11/27/12	VV01	80	-----	-----	-----	1.57	0.2 U	4.1	0.2 U	0.1 U
ICS-D-SE-1	0.7	11/27/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-D-SE-2	2.1	11/27/12	VV01	66	-----	-----	-----	6.91	1.1 J _R	15.1	0.3 U	8.8
ICS-D-SE-3	3.8	11/27/12	VV01	65	-----	-----	-----	2.07	0.3 U	8.7	0.4	0.2
ICS-D-SE-4	5.3	11/27/12	VV01	62	-----	-----	-----	2.70	0.3 U	8.8	0.6	0.2
ICS-D-SE-5	6.7	11/27/12	XD56	61	-----	-----	-----	2.26	0.3 U	9.4	0.5	0.2
ICS-F-SE-1	0.5	11/27/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-2	1.7	11/27/12	XD56	56	-----	-----	-----	3.15	0.3 U	12.7	0.3 U	3.4
ICS-F-SE-3	3.1	11/27/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-3	3.1	12/10/12	VV01	-----	99.5	70.8	58.3	-----	-----	-----	-----	-----
ICS-F-SE-4	4.5	11/27/12	XD56	60	-----	-----	-----	2.22	0.3 U	8.7	0.6	0.2
ICS-F-SE-5	5.8	11/27/12	VV01	60	-----	-----	-----	2.67	0.3 U	11.2	0.5	0.2
ICS-F-SE-6	7	11/27/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-7	8.3	11/27/12	VV01	66	-----	-----	-----	1.26	0.3 U	5.8	0.4	0.1 U
ICS-F-SE-8	9.7	11/27/12	VV01	76	115.7	28.5	90.1	0.436	0.3 U	2.0	0.3 U	0.1 U
ICS-F-SE-9	10.9	11/27/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Collection Date	ARI Delivery Group	% solids %	Wet density lb/ft ³	Moisture content %	Dry density lb/ft ³	TOC %	Antimony mg/kg, dry	Arsenic mg/kg, dry	Beryllium mg/kg, dry	Cadmium mg/kg, dry
Screening Levels	0 to 10 cm	-----	-----	-----	-----	-----	-----	-----	na	7	na	5.1
ICS-G-SE-1	0.6	11/28/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-2	1.8	11/28/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-3	3	11/28/12	VV01	63	-----	-----	-----	1.78	0.3 U	11.9	0.5	0.5
ICS-DUP1-SE	dup. of G-SE-3	11/28/12	VV01	61	-----	-----	-----	1.32	0.3 U	10.1	0.5	0.5
ICS-G-SE-4	4.1	11/28/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-5	5.1	11/28/12	VV01	58	-----	-----	-----	1.85	0.3 U	24.9	0.4	2.6
ICS-G-SE-6	6.8	11/28/12	VV01	60	-----	-----	-----	1.60	0.3 U	11.6	0.5	0.3
ICS-H-SE-1	0.4	11/28/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-H-SE-2	1.7	11/28/12	VV01	79	-----	-----	-----	2.00	0.2 U	4.7	0.3	0.5
ICS-H-SE-3	3.3	11/28/12	VV01	69	-----	-----	-----	3.41	0.2 U	7.2	0.2 U	1.3
ICS-H-SE-4	4.7	11/28/12	VV10	74	-----	-----	-----	0.856	0.3 U	2.7	0.3 U	0.1 U
ICS-I-SE-1	0.9	11/28/12	VV10	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-I-SE-2	2.6	11/28/12	VV10	70	-----	-----	-----	3.13	0.3	10.1	0.3	0.4
ICS-I-SE-3	4.2	11/28/12	VV10	58	96.2	84.7	52.1	2.28	0.3 U	6.6	0.4	0.2
ICS-I-SE-4	5.9	11/28/12	XD56	61	-----	-----	-----	2.84	0.3 U	11.1	0.5	0.2
ICS-I-SE-5	7.8	11/28/12	VV10	67	114	35.6	84.1	1.02	0.3 U	5.1	0.3 U	0.1 U
ICS-I-SE-6	9.5	11/28/12	VV10	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-1	0.8	11/28/12	VV10	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-2	2.6	11/28/12	VV10	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-3	4.9	11/28/12	VV10	56	-----	-----	-----	2.31	0.4 U	26.0	0.5	2.2
ICS-J-SE-4	6.8	11/28/12	XD56	66	-----	-----	-----	0.96	0.3 U	6.1	0.3 U	0.1 U
ICS-J-SE-5	8.5	11/28/12	VV10	67	-----	-----	-----	1.33	0.3 U	5.6	0.3	0.1 U
ICS-J-SE-6	10.4	11/28/12	VV10	63	-----	-----	-----	1.55	0.3 U	7.2	0.4	0.1 U
ICS-K-SE-1	0.7	11/30/12	VV10	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-K-SE-2	2.2	11/30/12	VV10	57	-----	-----	-----	2.37	0.3 U	11.3	0.3 U	2.5
ICS-DUP2-SE	dup. of K-SE-2	11/30/12	VV10	57	-----	-----	-----	2.03	0.3 U	12.6	0.3 U	1.5
ICS-K-SE-3	3.8	11/30/12	XD56	88	-----	-----	-----	0.88	0.2 U	4.1	0.2 U	0.2
ICS-K-SE-4	5.5	11/30/12	VV10	60	-----	-----	-----	2.31	0.3 U	21.0	0.4	1.6
ICS-K-SE-5	7	11/30/12	VV10	73	-----	-----	-----	1.83	0.3 U	6.9	0.3	0.1 U
ICS-L-SE-1	0.7	11/30/12	VV10	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-L-SE-2	1.9	11/30/12	VV10	74	-----	-----	-----	1.66	0.3 U	6.3	0.3 U	0.4
ICS-L-SE-3	3.5	11/30/12	VV10	62	-----	-----	-----	1.55	0.3 U	7.1	0.3	0.3

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

Core Location	Mid-Point Depth (feet)	Collection Date	ARI Delivery Group	% solids %	Wet density lb/ft ³	Moisture content %	Dry density lb/ft ³	TOC %	Antimony mg/kg, dry	Arsenic mg/kg, dry	Beryllium mg/kg, dry	Cadmium mg/kg, dry
Screening Levels	0 to 10 cm	-----	-----	-----	-----	-----	-----	-----	na	7	na	5.1
ICS-L-SE-4	5	11/30/12	VV10	70	-----	-----	-----	1.44	0.3 U	6.2	0.3	0.1 U
ICS-L-SE-5	6.7	11/30/12	VV10	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	11/30/12	VV10	66	-----	-----	-----	2.55	0.3 U	7.7	0.3	0.4
ICS-M-SE-2	1.6	11/30/12	VV10	84	-----	-----	-----	2.95	0.2 U	2.9	0.2 U	0.1 U
ICS-M-SE-3	2.7	11/30/12	VV10	80	-----	-----	-----	0.283	0.2 U	1.1	0.2 U	0.1 U

Notes: *U = nondetected at the associated lower reporting limit.*
J = estimate associated with value less than the verifiable lower quantitation limit.
J_R = estimate; due to low matrix spike recovery. Value likely biased low.
J_Q = estimate; due to noncompliant CCV check.
J_B = associated value may be biased high due to contribution from laboratory background or method blank.
J_P = estimated value due to high variability exhibited between dual column responses on GC/ECD (M.8081).
(a) - SMS-SQS - Sediment Management Standards - Sediment Quality Standard (for those with dry weight criteria)
(b) - SMS-SQS - Criteria carbon-normalized (see Table XX).
 - Value exceeds SMS-SQS (based on dry weight criteria)

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Chromium mg/kg, dry	Copper mg/kg, dry	Lead mg/kg, dry	Mercury mg/kg, dry	Nickel mg/kg, dry	Silver mg/kg, dry	Zinc mg/kg, dry	Total Petroleum Hydrocarbons		
									Diesel-range mg/kg, dry	Lube-range mg/kg, dry	Total mg/kg, dry
Screening Levels	0 to 10 cm	260	390	450	0.41	na	6.1	410	-----	-----	2000
ICS-A-SE-1	0.4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-2	1.3	19.5	427	86.7	0.24	15.8	0.3 U	111	180	450	630
ICS-A-SE-3	2.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-4	3.9	21.5	42.8	10.3	0.17	20.5	0.3 U	61	32	52	84
ICS-A-SE-5	5.1	22	33.7	10.6	0.12	17.9	0.3 U	52	29	43	72
ICS-A-SE-6	6.3	25.7	49.3	12.4	0.15	24.0	0.3 U	72	29	58	87
ICS-A-SE-7	7.2	23.3	43.5	10.4	0.14	20.3	0.3 U	63	44	77	121
ICS-B-SE-1	1.1	22.7	34.8	14.9	0.04	26.6	0.3 U	80	29	56	85
ICS-B-SE-2	2.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-B-SE-3	3.3	153	169	796	13.1	29	0.5	670	6700	7600	14300
ICS-B-SE-4	4.4	45.8	133	218	1.84 J	17.8	0.3 U	286	4200	10000	14200
ICS-B-SE-5	5.5	24	43.1	12.4	0.13	21.3	0.3 U	65	39	75	114
ICS-B-SE-6	6.6	25.4	50.6	13.3	0.19 J	24.6	0.3 U	74	47	100	147
ICS-C-SE-1	0.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-C-SE-2	2.3	11.0	36.0	13.1	0.04	8.3	0.3 U	31	34	57	91
ICS-C-SE-3	3.3	18.9	34.0	7.9	0.12	18.1	0.3 U	53	27	39	66
ICS-C-SE-4	4.4	10.8	11.0	8.0	0.03	7.3	0.2 U	26	20	41	61
ICS-D-SE-1	0.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-D-SE-2	2.1	431	254	4430	38.8	43.9	0.4	3240	12,000	9900	21900
ICS-D-SE-3	3.8	25	41.3	28.3	2.05	21.1	0.3 U	79	39	64	103
ICS-D-SE-4	5.3	27	47.7	10.6	0.14	24.3	0.3 U	68	27	44	71
ICS-D-SE-5	6.7	25.1	46.6	11.6	0.15 J	21.9	0.3 U	67	43	76	119
ICS-F-SE-1	0.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-2	1.7	114	56.6	4380	0.29 J	23.2	0.3 U	1420	12000	2100	14100
ICS-F-SE-3	3.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-3	3.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-4	4.5	24.7	46.1	11.5	0.16 J	23.0	0.3 U	70	43	72	115
ICS-F-SE-5	5.8	24.4	50.9	17.4	0.17	22.7	0.3 U	66	40	49	89
ICS-F-SE-6	7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-7	8.3	18.4	33.7	11.5	0.09	17.9	0.3 U	54	17	26	43
ICS-F-SE-8	9.7	12.2	14.2	2.1	0.02	10.8	0.3 U	28	6.5 U	13 U	13 U
ICS-F-SE-9	10.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Chromium mg/kg, dry	Copper mg/kg, dry	Lead mg/kg, dry	Mercury mg/kg, dry	Nickel mg/kg, dry	Silver mg/kg, dry	Zinc mg/kg, dry	Total Petroleum Hydrocarbons		
									Diesel-range mg/kg, dry	Lube-range mg/kg, dry	Total mg/kg, dry
Screening Levels	0 to 10 cm	260	390	450	0.41	na	6.1	410	-----	-----	2000
ICS-G-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-2	1.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-3	3	23.7	41.7	22.5	0.20	22.0	0.4	91	85	140	225
ICS-DUP1-SE	dup. of G-SE-3	22.5	39.3	20.4	0.21	21.2	0.4	84	82	130	212
ICS-G-SE-4	4.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-5	5.1	112	141	1340	0.49	49.0	0.6	840	6700	9600	16300
ICS-G-SE-6	6.8	23.0	65.3	33.9	0.20	24.2	0.3 U	81	73	120	193
ICS-H-SE-1	0.4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-H-SE-2	1.7	59.7	46.9	168	0.39	32.8	0.2 U	149	300	580	880
ICS-H-SE-3	3.3	96.4	61.3	936	4.85	19.8	0.2 U	377	1400	2000	3400
ICS-H-SE-4	4.7	14.0	18.1	6.5	0.04	10.5	0.3 U	37	28	50	78
ICS-I-SE-1	0.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-I-SE-2	2.6	24.9	37.3	123	1.77	17.3	0.2 U	109	290	560	850
ICS-I-SE-3	4.2	18.4	41.4	25.4	0.30	16.6	0.3 U	60	76	130	206
ICS-I-SE-4	5.9	26.3	58.5	38.5	0.24 J	22.0	0.3 U	91	61	120	181
ICS-I-SE-5	7.8	14.4	34.7	18.8	0.14	12.5	0.3 U	40	250	460	710
ICS-I-SE-6	9.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-1	0.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-2	2.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-3	4.9	64.4	61.1	224	0.29	20.2	0.9	201	1600	1400	3000
ICS-J-SE-4	6.8	16.0	22.3	11.4	0.08 J	11.7	0.3 U	51	40	72	112
ICS-J-SE-5	8.5	15.3	25.3	13.7	0.11	13.1	0.3 U	44	33	62	95
ICS-J-SE-6	10.4	17.8	43.6	22.4	0.11	16.3	0.3 U	56	41	58	99
ICS-K-SE-1	0.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-K-SE-2	2.2	52.4	129	310	1.95	19.2	0.5	213	560	1200	1760
ICS-DUP2-SE	dup. of K-SE-2	59.3	115	364	2.32	21.6	0.6	261	530	1200	1730
ICS-K-SE-3	3.8	26.4	25.1	79.3	0.38 J	21.2	0.2 U	70	70	180	250
ICS-K-SE-4	5.5	45.2	46.3	241	0.21	18.0	0.5	143	620	440	1060
ICS-K-SE-5	7	14.9	25.1	17.7	0.12	13.2	0.3 U	46	28	55	83
ICS-L-SE-1	0.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-L-SE-2	1.9	23.6	21.9	87.2	0.34	10.5	0.3 U	82	1200	1400	2600
ICS-L-SE-3	3.5	17.9	44.3	62.0	0.63	14.0	0.3 U	89	77	120	197

TABLE 5 - Results of Subsurface Sediment Sample Analyses-November 2012 (Revised)

Core Location	Mid-Point Depth (feet)	Chromium mg/kg, dry	Copper mg/kg, dry	Lead mg/kg, dry	Mercury mg/kg, dry	Nickel mg/kg, dry	Silver mg/kg, dry	Zinc mg/kg, dry	Total Petroleum Hydrocarbons		
									Diesel-range mg/kg, dry	Lube-range mg/kg, dry	Total mg/kg, dry
Screening Levels	0 to 10 cm	260	390	450	0.41	na	6.1	410	-----	-----	2000
ICS-L-SE-4	5	18.4	29.5	11.9	0.31	17.0	0.3 U	52	24	42	66
ICS-L-SE-5	6.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	21.7	52.9	57.9	0.21	17.8	0.3 U	116	55	160	215
ICS-M-SE-2	1.6	13.0	16.8	23.7	0.04	10.1	0.2 U	48	16	29	45
ICS-M-SE-3	2.7	8.9	8.0	1.9	0.3 U	7.4	0.2 U	21	6.1 U	12 U	12 U

Notes: *U = nondetected at the associated lower reporting limit.*
J = estimate associated with value less than the verifiable lower quantitation limit.
J_R = estimate; due to low matrix spike recovery. Value likely biased low.
J_Q = estimate; due to noncompliant CCV check.
J_B = associated value may be biased high due to contribution from laboratory background or method blank.
J_P = estimated value due to high variability exhibited between dual column responses on GC/ECD (M.8081).
*** bold-typed values resemble corresponding petroleum hydrocarbon mixture*
(a) - SMS-SQS - Sediment Management Standards - Sediment Quality Standard (for those with dry weight criteria)
(b) - SMS-SQS - Criteria carbon-normalized (see Table XX).
 - Value exceeds SMS-SQS (based on dry weight criteria)

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Phenol µg/kg, dry	2-Chloro-phenol µg/kg, dry	1,3-Dichloro-benzene µg/kg, dry	1,4-Dichloro-benzene µg/kg, dry	Benzyl alcohol µg/kg, dry	1,2-Dichloro-benzene µg/kg, dry	2-Methyl-phenol µg/kg, dry	4-Methyl-phenol µg/kg, dry
Screening Levels	0 to 10 cm	420	na	na	(b)	57	(b)	63	670
ICS-A-SE-1	0.4	----	----	----	----	----	----	----	----
ICS-A-SE-2	1.3	----	----	----	----	----	----	----	----
ICS-A-SE-3	2.7	----	----	----	----	----	----	----	----
ICS-A-SE-4	3.9	72 J	20 U	4.9 J	3.0 J	130	6.5	5.5	57
ICS-A-SE-5	5.1	34 J	19 U	4.8 U	2.9 J	130	10	3.8 J	25 J
ICS-A-SE-6	6.3	61	20 U	5.0 U	5.0 U	190	5.0 U	6.8	50
ICS-A-SE-7	7.2	66	19 U	4.8 U	4.8 U	140	4.8 U	6.5	41
ICS-B-SE-1	1.1	----	----	----	----	----	----	----	----
ICS-B-SE-2	2.2	----	----	----	----	----	----	----	----
ICS-B-SE-3	3.3	60 J	57 U	94	300	57 U	97	14 J	110 U
ICS-B-SE-4	4.4	96	52 U	160	370	52 U	150	42	55
ICS-B-SE-5	5.5	37 J	20 U	20	22	150	22	4.1 J	28 J
ICS-B-SE-6	6.6	42	20 U	4.9 U	4.9 U	160	4.9 U	5.1	32
ICS-C-SE-1	0.5	----	----	----	----	----	----	----	----
ICS-C-SE-2	2.3	----	----	----	----	----	----	----	----
ICS-C-SE-3	3.3	17 J	18 U	3.0 J	4.6 U	54	4.6 U	3.2 J	18 J
ICS-C-SE-4	4.4	20 U	20 U	47	33	20 U	2.8 J	4.9 U	39 U
ICS-D-SE-1	0.7	----	----	----	----	----	----	----	----
ICS-D-SE-2	2.1	----	----	----	----	----	----	----	----
ICS-D-SE-3	3.8	24 J	19 U	3.0 J	15	41	76	9.2	25 J
ICS-D-SE-4	5.3	21 J	20 U	5.0 U	5.0 U	100	5.0 U	3.1 J	23 J
ICS-D-SE-5	6.7	76	19 U	4.8 U	4.8 U	170	4.8 U	8.0	44
ICS-F-SE-1	0.5	----	----	----	----	----	----	----	----
ICS-F-SE-2	1.7	300 U	300 U	13 J	11 J	59 U	9.5 J	15 U	300 U
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----
ICS-F-SE-4	4.5	38	20 U	4.9 U	4.9 U	120	4.9 U	4.5 J	24
ICS-F-SE-5	5.8	----	----	----	----	----	----	----	----
ICS-F-SE-6	7	----	----	----	----	----	----	----	----
ICS-F-SE-7	8.3	13 J	20 U	4.9 U	4.9 U	42	4.9 U	4.9 U	13 J
ICS-F-SE-8	9.7	18 U	18 U	4.6 U	4.6 U	18 U	4.6 U	4.6 U	37 U
ICS-F-SE-9	10.9	----	----	----	----	----	----	----	----

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Phenol µg/kg, dry	2-Chloro-phenol µg/kg, dry	1,3-Dichloro-benzene µg/kg, dry	1,4-Dichloro-benzene µg/kg, dry	Benzyl alcohol µg/kg, dry	1,2-Dichloro-benzene µg/kg, dry	2-Methyl-phenol µg/kg, dry	4-Methyl-phenol µg/kg, dry
Screening Levels	0 to 10 cm	420	na	na	(b)	57	(b)	63	670
ICS-G-SE-1	0.6	----	----	----	----	----	----	----	----
ICS-G-SE-2	1.8	----	----	----	----	----	----	----	----
ICS-G-SE-3	3	----	----	----	----	----	----	----	----
ICS-DUP1-SE	dup. of G-SE-3	----	----	----	----	----	----	----	----
ICS-G-SE-4	4.1	----	----	----	----	----	----	----	----
ICS-G-SE-5	5.1	110 U	110 U	38 J	140	110 U	29 U	29 U	230 U
ICS-G-SE-6	6.8	18 J	19 U	4.8 U	4.8 U	61	3.2 J	2.6 J	25 J
ICS-H-SE-1	0.4	----	----	----	----	----	----	----	----
ICS-H-SE-2	1.7	----	----	----	----	----	----	----	----
ICS-H-SE-3	3.3	20 J	26 U	210	1000	26 U	100	4.2 J	51 U
ICS-H-SE-4	4.7	19 U	19 U	10	24	19 U	7.4	4.9 U	39 U
ICS-I-SE-1	0.9	----	----	----	----	----	----	----	----
ICS-I-SE-2	2.6	----	----	----	----	----	----	----	----
ICS-I-SE-3	4.2	57 U	57 U	14 U	14 U	36 J	14 U	14 U	110 U
ICS-I-SE-4	5.9	30	19 U	4.8 U	4.8 U	72	3.0 J	3.9 J	21
ICS-I-SE-5	7.8	18 U	18 U	4.6 U	4.6 U	18 U	4.6 U	4.6 U	37 U
ICS-I-SE-6	9.5	----	----	----	----	----	----	----	----
ICS-J-SE-1	0.8	----	----	----	----	----	----	----	----
ICS-J-SE-2	2.6	----	----	----	----	----	----	----	----
ICS-J-SE-3	4.9	----	----	----	----	----	----	----	----
ICS-J-SE-4	6.8	20	19 U	4.7 U	4.7 U	37	4.7 U	2.9 J	49
ICS-J-SE-5	8.5	13 J	19 U	4.7 U	4.7 U	27	4.7 U	2.4 J	42 J_Q
ICS-J-SE-6	10.4	10 J	19 U	4.8 U	4.8 U	44	4.8 U	4.8 U	14 J
ICS-K-SE-1	0.7	----	----	----	----	----	----	----	----
ICS-K-SE-2	2.2	----	----	----	----	----	----	----	----
ICS-DUP2-SE	dup. of K-SE-2	----	----	----	----	----	----	----	----
ICS-K-SE-3	3.8	19 U	19 U	3.0 J	5.0	19 U	3.1 J	4.7 U	19 U
ICS-K-SE-4	5.5	26 J	20 U	5.0 U	2.7 J	57	5.0 U	3.7 J	34 J
ICS-K-SE-5	7	20 U	20 U	4.9 U	4.9 U	20 U	4.9 U	4.9 U	39 U
ICS-L-SE-1	0.7	----	----	----	----	----	----	----	----
ICS-L-SE-2	1.9	----	----	----	----	----	----	----	----
ICS-L-SE-3	3.5	17 J	20 U	4.9 U	4.9 U	25	4.9 U	3.7 J	28 J

TABLE 5 - Results of Subsurface Sediment Sample Analyses-November 2012 (Revised)

Core Location	Mid-Point Depth (feet)	Phenol µg/kg, dry	2-Chloro-phenol µg/kg, dry	1,3-Dichloro-benzene µg/kg, dry	1,4-Dichloro-benzene µg/kg, dry	Benzyl alcohol µg/kg, dry	1,2-Dichloro-benzene µg/kg, dry	2-Methyl-phenol µg/kg, dry	4-Methyl-phenol µg/kg, dry
Screening Levels	0 to 10 cm	420	na	na	(b)	57	(b)	63	670
ICS-L-SE-4	5	11 J	19 U	4.8 U	4.8 U	27	4.8 U	7.1	38 J
ICS-L-SE-5	6.7	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-2	1.6	20 U	20 U	4.9 U	4.9 U	20 U	4.9 U	4.9 U	39 U
ICS-M-SE-3	2.7	19 U	19 U	4.7 U	4.7 U	19 U	4.7 U	4.7 U	38 U

Notes: *U = nondetected at the associated lower reporting limit.*
J = estimate associated with value less than the verifiable lower quantitation limit.
J_R = estimate; due to low matrix spike recovery. Value likely biased low.
J_Q = estimate; due to noncompliant CCV check.
J_B = associated value may be biased high due to contribution from laboratory background or method blank.
J_P = estimated value due to high variability exhibited between dual column responses on GC/ECD (M.8081).
(a) - SMS-SQS - Sediment Management Standards - Sediment Quality Standard (for those with dry weight criteria)
(b) - SMS-SQS - Criteria carbon-normalized (see Table XX).
 - Value exceeds SMS-SQS (based on dry weight criteria)

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	N-Nitrosodi-n-propylamine µg/kg, dry	Hexachloro-ethane µg/kg, dry	Nitrobenzene µg/kg, dry	Isophorone µg/kg, dry	2,4-Dimethyl-phenol µg/kg, dry	Benzoic acid µg/kg, dry	2,4-Dichloro-phenol µg/kg, dry	1,2,4-Trichloro-benzene µg/kg, dry	Naphthalene µg/kg, dry
Screening Levels	0 to 10 cm	na	na	na	na	29	650	na	(b)	(b)
ICS-A-SE-1	0.4	----	----	----	----	----	----	----	----	----
ICS-A-SE-2	1.3	----	----	----	----	----	----	----	----	----
ICS-A-SE-3	2.7	----	----	----	----	----	----	----	----	----
ICS-A-SE-4	3.9	20 U	20 U	20 U	20 U	15 J	620	200 U	6.9	66
ICS-A-SE-5	5.1	19 U	19 U	19 U	19 U	4.6 J	400	190 U	4.8 U	50
ICS-A-SE-6	6.3	20 U	20 U	20 U	20 U	25 U	470 J	99 U	5.0 U	71
ICS-A-SE-7	7.2	19 U	19 U	19 U	19 U	24 U	380 J	95 U	4.8 U	52
ICS-B-SE-1	1.1	----	----	----	----	----	----	----	----	----
ICS-B-SE-2	2.2	----	----	----	----	----	----	----	----	----
ICS-B-SE-3	3.3	57 U	57 U	57 U	57 U	58	1100 U	570 U	66	360
ICS-B-SE-4	4.4	52 U	52 U	52 U	52 U	120	520 U	260 U	52	120
ICS-B-SE-5	5.5	20 U	20 U	20 U	20 U	5.4 J	440	200 U	4.9 U	57
ICS-B-SE-6	6.6	20 U	20 U	20 U	20 U	25 U	310 J	98 U	4.9 U	73
ICS-C-SE-1	0.5	----	----	----	----	----	----	----	----	----
ICS-C-SE-2	2.3	----	----	----	----	----	----	----	----	----
ICS-C-SE-3	3.3	18 U	18 U	18 U	18 U	92	210 J	180 U	4.6 U	24
ICS-C-SE-4	4.4	20 U	20 U	20 U	20 U	22	390 U	200 U	4.9 U	18 J
ICS-D-SE-1	0.7	----	----	----	----	----	----	----	----	----
ICS-D-SE-2	2.1	----	----	----	----	----	----	----	----	----
ICS-D-SE-3	3.8	19 U	19 U	19 U	19 U	82	230 J	190 U	4.8 U	620
ICS-D-SE-4	5.3	20 U	20 U	20 U	20 U	4.3 J	320 J	200 U	5.0 U	69
ICS-D-SE-5	6.7	19 U	19 U	19 U	19 U	24 U	540 J	96 U	4.8 U	77
ICS-F-SE-1	0.5	----	----	----	----	----	----	----	----	----
ICS-F-SE-2	1.7	300 U	300 U	300 U	300 U	890	3000 U	1500 U	15 U	17,000
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----
ICS-F-SE-4	4.5	20 U	20 U	20 U	20 U	24 U	230 J	98 U	4.9 U	72
ICS-F-SE-5	5.8	----	----	----	----	----	----	----	----	----
ICS-F-SE-6	7	----	----	----	----	----	----	----	----	----
ICS-F-SE-7	8.3	20 U	20 U	20 U	20 U	20 U	120 J	200 U	4.9 U	22
ICS-F-SE-8	9.7	18 U	18 U	18 U	18 U	18 U	370 U	180 U	4.6 U	18 U
ICS-F-SE-9	10.9	----	----	----	----	----	----	----	----	----

TABLE 5 - Results of Subsurface Sediment Sample Analyses-November 2012 (Revised)

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	N-Nitrosodi-n-propylamine µg/kg, dry	Hexachloro-ethane µg/kg, dry	Nitrobenzene µg/kg, dry	Isophorone µg/kg, dry	2,4-Dimethyl-phenol µg/kg, dry	Benzoic acid µg/kg, dry	2,4-Dichloro-phenol µg/kg, dry	1,2,4-Trichloro-benzene µg/kg, dry	Naphthalene µg/kg, dry
Screening Levels	0 to 10 cm	na	na	na	na	29	650	na	(b)	(b)
ICS-G-SE-1	0.6	----	----	----	----	----	----	----	----	----
ICS-G-SE-2	1.8	----	----	----	----	----	----	----	----	----
ICS-G-SE-3	3	----	----	----	----	----	----	----	----	----
ICS-DUP1-SE	dup. of G-SE-3	----	----	----	----	----	----	----	----	----
ICS-G-SE-4	4.1	----	----	----	----	----	----	----	----	----
ICS-G-SE-5	5.1	110 U	110 U	110 U	110 U	58 J	2300 U	1100 U	29 U	380
ICS-G-SE-6	6.8	19 U	19 U	19 U	19 U	4.9 J	170 J	190 U	4.8 U	84
ICS-H-SE-1	0.4	----	----	----	----	----	----	----	----	----
ICS-H-SE-2	1.7	----	----	----	----	----	----	----	----	----
ICS-H-SE-3	3.3	26 U	26 U	26 U	26 U	15 J	510 U	260 U	36	190
ICS-H-SE-4	4.7	19 U	19 U	19 U	19 U	6.4 J	390 U	190 U	6.1	20
ICS-I-SE-1	0.9	----	----	----	----	----	----	----	----	----
ICS-I-SE-2	2.6	----	----	----	----	----	----	----	----	----
ICS-I-SE-3	4.2	57 U	57 U	57 U	57 U	57 U	1100 U	570 U	14 U	86
ICS-I-SE-4	5.9	19 U	19 U	19 U	19 U	24 U	190 U	97 U	4.8 U	56
ICS-I-SE-5	7.8	18 U	18 U	18 U	18 U	18 U	370 U	180 U	4.6 U	23
ICS-I-SE-6	9.5	----	----	----	----	----	----	----	----	----
ICS-J-SE-1	0.8	----	----	----	----	----	----	----	----	----
ICS-J-SE-2	2.6	----	----	----	----	----	----	----	----	----
ICS-J-SE-3	4.9	----	----	----	----	----	----	----	----	----
ICS-J-SE-4	6.8	19 U	19 U	19 U	19 U	24 U	190 U	95 U	4.7 U	53
ICS-J-SE-5	8.5	19 U	19 U	19 U	19 U	3.0 J	110 J	190 U	4.7 U	64
ICS-J-SE-6	10.4	19 U	19 U	19 U	19 U	19 U	380 U	190 U	4.8 U	23
ICS-K-SE-1	0.7	----	----	----	----	----	----	----	----	----
ICS-K-SE-2	2.2	----	----	----	----	----	----	----	----	----
ICS-DUP2-SE	dup. of K-SE-2	----	----	----	----	----	----	----	----	----
ICS-K-SE-3	3.8	19 U	19 U	19 U	19 U	24 U	190 U	94 U	3.8 J	19 U
ICS-K-SE-4	5.5	20 U	20 U	20 U	20 U	11 J	170 J	200 U	5.0 U	100
ICS-K-SE-5	7	20 U	20 U	20 U	20 U	20 U	390 U	200 U	4.9 U	83
ICS-L-SE-1	0.7	----	----	----	----	----	----	----	----	----
ICS-L-SE-2	1.9	----	----	----	----	----	----	----	----	----
ICS-L-SE-3	3.5	20 U	20 U	20 U	20 U	6.4 J	390 U	200 U	4.9 U	160

TABLE 5 - Results of Subsurface Sediment Sample Analyses-November 2012 (Revised)

Core Location	Mid-Point Depth (feet)	N-Nitrosodi-n-propylamine µg/kg, dry	Hexachloro-ethane µg/kg, dry	Nitrobenzene µg/kg, dry	Isophorone µg/kg, dry	2,4-Dimethyl-phenol µg/kg, dry	Benzoic acid µg/kg, dry	2,4-Dichloro-phenol µg/kg, dry	1,2,4-Trichloro-benzene µg/kg, dry	Naphthalene µg/kg, dry
Screening Levels	0 to 10 cm	na	na	na	na	29	650	na	(b)	(b)
ICS-L-SE-4	5	19 U	19 U	19 U	19 U	3.5 J	390 U	190 U	4.8 U	71
ICS-L-SE-5	6.7	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-2	1.6	20 U	20 U	20 U	20 U	20 U	390 U	200 U	4.9 U	20 U
ICS-M-SE-3	2.7	19 U	19 U	19 U	19 U	19 U	380 U	190 U	4.7 U	19 U

Notes: *U = nondetected at the associated lower reporting limit.*
J = estimate associated with value less than the verifiable lower quantitation limit.
J_R = estimate; due to low matrix spike recovery. Value likely biased low.
J_Q = estimate; due to noncompliant CCV check.
J_B = associated value may be biased high due to contribution from laboratory background or method blank.
J_P = estimated value due to high variability exhibited between dual column responses on GC/ECD (M.8081).
(a) - SMS-SQS - Sediment Management Standards - Sediment Quality Standard (for those with dry weight criteria)
(b) - SMS-SQS - Criteria carbon-normalized (see Table XX).
 - Value exceeds SMS-SQS (based on dry weight criteria)

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	4-Chloro-3-methylphenol µg/kg, dry	2-Methyl-naphthalene µg/kg, dry	2,4,6-Trichloro-phenol µg/kg, dry	2,4,5-Trichloro-phenol µg/kg, dry	2-Chloro-naphthalene µg/kg, dry	Dimethyl-phthalate µg/kg, dry	Acenaphthylene µg/kg, dry	Acenaphthene µg/kg, dry	Dibenzofuran µg/kg, dry
Screening Levels	0 to 10 cm	na	(b)	na	na	na	(b)	(b)	(b)	(b)
ICS-A-SE-1	0.4	----	----	----	----	----	----	----	----	----
ICS-A-SE-2	1.3	----	----	----	----	----	----	----	----	----
ICS-A-SE-3	2.7	----	----	----	----	----	----	----	----	----
ICS-A-SE-4	3.9	98 U	41	98 U	98 U	20 U	20 U	20 U	46	43
ICS-A-SE-5	5.1	95 U	34	95 U	95 U	19 U	19 U	19 U	21	30
ICS-A-SE-6	6.3	99 U	44	----	99 U	20 U	20 U	19 J	27	39
ICS-A-SE-7	7.2	95 U	39	----	95 U	19 U	19 U	19 U	25	37
ICS-B-SE-1	1.1	----	----	----	----	----	----	----	----	----
ICS-B-SE-2	2.2	----	----	----	----	----	----	----	----	----
ICS-B-SE-3	3.3	280 U	260	280 U	280 U	57 U	57 U	57 U	910	57 U
ICS-B-SE-4	4.4	260 U	180	----	260 U	52 U	52 U	99	220	100
ICS-B-SE-5	5.5	97 U	44	97 U	97 U	20 U	20 U	20 U	29	39
ICS-B-SE-6	6.6	98 U	48	----	98 U	20 U	20 U	20 U	32	45
ICS-C-SE-1	0.5	----	----	----	----	----	----	----	----	----
ICS-C-SE-2	2.3	----	----	----	----	----	----	----	----	----
ICS-C-SE-3	3.3	92 U	13 J	92 U	92 U	18 U	18 U	18 U	21	20
ICS-C-SE-4	4.4	98 U	20 U	98 U	98 U	20 U	20 U	20 U	23	20 U
ICS-D-SE-1	0.7	----	----	----	----	----	----	----	----	----
ICS-D-SE-2	2.1	----	----	----	----	----	----	----	----	----
ICS-D-SE-3	3.8	96 U	520	96 U	96 U	19 U	19 U	19	34	33
ICS-D-SE-4	5.3	100 U	45	100 U	100 U	20 U	20 U	12 J	31	42
ICS-D-SE-5	6.7	96 U	63	----	96 U	19 U	19 U	19 U	23	47
ICS-F-SE-1	0.5	----	----	----	----	----	----	----	----	----
ICS-F-SE-2	1.7	1500 U	62,000	----	1500 U	300 U	300 U	900	980	1600
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----
ICS-F-SE-4	4.5	98 U	120	----	98 U	20 U	20 U	20 U	22	38
ICS-F-SE-5	5.8	----	----	----	----	----	----	----	----	----
ICS-F-SE-6	7	----	----	----	----	----	----	----	----	----
ICS-F-SE-7	8.3	97 U	20	97 U	97 U	20 U	20 U	20 U	20 U	14 J
ICS-F-SE-8	9.7	92 U	18 U	92 U	92 U	18 U	18 U	18 U	18 U	18 U
ICS-F-SE-9	10.9	----	----	----	----	----	----	----	----	----

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	4-Chloro-3-methylphenol µg/kg, dry	2-Methyl-naphthalene µg/kg, dry	2,4,6-Trichloro-phenol µg/kg, dry	2,4,5-Trichloro-phenol µg/kg, dry	2-Chloro-naphthalene µg/kg, dry	Dimethyl-phthalate µg/kg, dry	Acenaph-thylene µg/kg, dry	Acenaphthene µg/kg, dry	Dibenzofuran µg/kg, dry
Screening Levels	0 to 10 cm	na	(b)	na	na	na	(b)	(b)	(b)	(b)
ICS-G-SE-1	0.6	----	----	----	----	----	----	----	----	----
ICS-G-SE-2	1.8	----	----	----	----	----	----	----	----	----
ICS-G-SE-3	3	----	----	----	----	----	----	----	----	----
ICS-DUP1-SE	dup. of G-SE-3	----	----	----	----	----	----	----	----	----
ICS-G-SE-4	4.1	----	----	----	----	----	----	----	----	----
ICS-G-SE-5	5.1	570 U	220	570 U	570 U	110 U	110 U	110 U	330	91 J
ICS-G-SE-6	6.8	96 U	40	96 U	96 U	19 U	19 U	34	34	35
ICS-H-SE-1	0.4	----	----	----	----	----	----	----	----	----
ICS-H-SE-2	1.7	----	----	----	----	----	----	----	----	----
ICS-H-SE-3	3.3	130 U	91	130 U	130 U	26 U	26 U	26 U	240	86
ICS-H-SE-4	4.7	97 U	19 U	97 U	97 U	19 U	19 U	19 U	19 U	19 U
ICS-I-SE-1	0.9	----	----	----	----	----	----	----	----	----
ICS-I-SE-2	2.6	----	----	----	----	----	----	----	----	----
ICS-I-SE-3	4.2	290 U	29 J	290 U	290 U	57 U	57 U	37 J	77	29 J
ICS-I-SE-4	5.9	97 U	19	----	97 U	19 U	19 U	19 U	290	40
ICS-I-SE-5	7.8	92 U	11 J	92 U	92 U	18 U	18 U	18 U	520	23
ICS-I-SE-6	9.5	----	----	----	----	----	----	----	----	----
ICS-J-SE-1	0.8	----	----	----	----	----	----	----	----	----
ICS-J-SE-2	2.6	----	----	----	----	----	----	----	----	----
ICS-J-SE-3	4.9	----	----	----	----	----	----	----	----	----
ICS-J-SE-4	6.8	95 U	43	----	95 U	19 U	19 U	24	19	24
ICS-J-SE-5	8.5	94 U	17 J	94 U	94 U	19 U	19 U	22	44	25
ICS-J-SE-6	10.4	96 U	36	96 U	96 U	19 U	19 U	19 U	23	15 J
ICS-K-SE-1	0.7	----	----	----	----	----	----	----	----	----
ICS-K-SE-2	2.2	----	----	----	----	----	----	----	----	----
ICS-DUP2-SE	dup. of K-SE-2	----	----	----	----	----	----	----	----	----
ICS-K-SE-3	3.8	94 U	13 J	----	94 U	19 U	19 U	19 U	18 J	17 J
ICS-K-SE-4	5.5	100 U	140	100 U	100 U	20 U	20 U	20 U	62	34
ICS-K-SE-5	7	98 U	21	98 U	98 U	20 U	20 U	28	80	28
ICS-L-SE-1	0.7	----	----	----	----	----	----	----	----	----
ICS-L-SE-2	1.9	----	----	----	----	----	----	----	----	----
ICS-L-SE-3	3.5	98 U	39	98 U	98 U	20 U	20 U	51	66	48

TABLE 5 - Results of Subsurface Sediment Sample Analyses-November 2012 (Revised)

Core Location	Mid-Point Depth (feet)	4-Chloro-3-methylphenol µg/kg, dry	2-Methylnaphthalene µg/kg, dry	2,4,6-Trichlorophenol µg/kg, dry	2,4,5-Trichlorophenol µg/kg, dry	2-Chloronaphthalene µg/kg, dry	Dimethylphthalate µg/kg, dry	Acenaphthylene µg/kg, dry	Acenaphthene µg/kg, dry	Dibenzofuran µg/kg, dry
Screening Levels	0 to 10 cm	na	(b)	na	na	na	(b)	(b)	(b)	(b)
ICS-L-SE-4	5	97 U	38	97 U	97 U	19 U	19 U	22	23	32
ICS-L-SE-5	6.7	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-2	1.6	98 U	20 U	98 U	98 U	20 U	20 U	20 U	20 U	20 U
ICS-M-SE-3	2.7	94 U	19 U	94 U	94 U	19 U	19 U	19 U	19 U	19 U

Notes: *U* = nondetected at the associated lower reporting limit.
J = estimate associated with value less than the verifiable lower quantitation limit.
J_R = estimate; due to low matrix spike recovery. Value likely biased low.
J_Q = estimate; due to noncompliant CCV check.
J_B = associated value may be biased high due to contribution from laboratory background or method blank.
J_P = estimated value due to high variability exhibited between dual column responses on GC/ECD (M.8081).
 (a) - SMS-SQS - Sediment Management Standards - Sediment Quality Standard (for those with dry weight criteria)
 (b) - SMS-SQS - Criteria carbon-normalized (see Table XX).
 - Value exceeds SMS-SQS (based on dry weight criteria)

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	2,6-Dinitro-toluene µg/kg, dry	2,4-Dinitro-toluene µg/kg, dry	Diethyl-phthalate µg/kg, dry	4-Chlorophenyl-phenylether µg/kg, dry	Fluorene µg/kg, dry	N-Nitrosodi-phenylamine µg/kg, dry	Pentachloro-phenol µg/kg, dry	Phenanthrene µg/kg, dry
Screening Levels	0 to 10 cm	na	na	(b)	na	(b)	(b)	360	(b)
ICS-A-SE-1	0.4	----	----	----	----	----	----	----	----
ICS-A-SE-2	1.3	----	----	----	----	----	----	----	----
ICS-A-SE-3	2.7	----	----	----	----	----	----	----	----
ICS-A-SE-4	3.9	98 U	98 U	49 U	20 U	51	20 U	18 J	180
ICS-A-SE-5	5.1	95 U	95 U	37 J	19 U	33	11 J	48 U	110
ICS-A-SE-6	6.3	99 U	99 U	27 J	20 U	44	5.0 U	20 U	150
ICS-A-SE-7	7.2	95 U	95 U	24 J	19 U	39	4.8 U	19 U	130
ICS-B-SE-1	1.1	----	----	----	----	----	----	----	----
ICS-B-SE-2	2.2	----	----	----	----	----	----	----	----
ICS-B-SE-3	3.3	280 U	280 U	140 U	57 U	450	57 U	800	400
ICS-B-SE-4	4.4	260 U	260 U	220	52 U	260	13 U	52 U	630
ICS-B-SE-5	5.5	97 U	97 U	60	20 U	45	6.6 J	49 U	140
ICS-B-SE-6	6.6	98 U	98 U	20 J	20 U	54	4.9 U	20 U	170
ICS-C-SE-1	0.5	----	----	----	----	----	----	----	----
ICS-C-SE-2	2.3	----	----	----	----	----	----	----	----
ICS-C-SE-3	3.3	92 U	92 U	46 U	18 U	22	2.4 J	46 U	53
ICS-C-SE-4	4.4	98 U	98 U	51	20 U	13 J	20 U	49 U	49
ICS-D-SE-1	0.7	----	----	----	----	----	----	----	----
ICS-D-SE-2	2.1	----	----	----	----	----	----	----	----
ICS-D-SE-3	3.8	96 U	96 U	48 U	19 U	51	6.1 J	48 U	130
ICS-D-SE-4	5.3	100 U	100 U	50 U	20 U	51	3.5 J	50 U	160
ICS-D-SE-5	6.7	96 U	96 U	19 U	19 U	40	4.8 U	19 U	140
ICS-F-SE-1	0.5	----	----	----	----	----	----	----	----
ICS-F-SE-2	1.7	1500 U	1500 U	300 U	300 U	5000	15 U	59 U	6800
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----
ICS-F-SE-4	4.5	98 U	98 U	35 J	20 U	42	4.9 U	20 U	130
ICS-F-SE-5	5.8	----	----	----	----	----	----	----	----
ICS-F-SE-6	7	----	----	----	----	----	----	----	----
ICS-F-SE-7	8.3	97 U	97 U	49 U	20 U	20	20 U	49 U	54
ICS-F-SE-8	9.7	92 U	92 U	220	18 U	18 U	18 U	46 U	12 J
ICS-F-SE-9	10.9	----	----	----	----	----	----	----	----


**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	2,6-Dinitro-toluene µg/kg, dry	2,4-Dinitro-toluene µg/kg, dry	Diethyl-phthalate µg/kg, dry	4-Chlorophenyl-phenylether µg/kg, dry	Fluorene µg/kg, dry	N-Nitrosodi-phenylamine µg/kg, dry	Pentachloro-phenol µg/kg, dry	Phenanthrene µg/kg, dry
Screening Levels	0 to 10 cm	na	na	(b)	na	(b)	(b)	360	(b)
ICS-G-SE-1	0.6	----	----	----	----	----	----	----	----
ICS-G-SE-2	1.8	----	----	----	----	----	----	----	----
ICS-G-SE-3	3	----	----	----	----	----	----	----	----
ICS-DUP1-SE	dup. of G-SE-3	----	----	----	----	----	----	----	----
ICS-G-SE-4	4.1	----	----	----	----	----	----	----	----
ICS-G-SE-5	5.1	570 U	570 U	290 U	110 U	1200	1800	880 J	940
ICS-G-SE-6	6.8	96 U	96 U	48 U	19 U	52	9.6 J	48 U	170
ICS-H-SE-1	0.4	----	----	----	----	----	----	----	----
ICS-H-SE-2	1.7	----	----	----	----	----	----	----	----
ICS-H-SE-3	3.3	130 U	130 U	64 U	26 U	490	260	190 J	800
ICS-H-SE-4	4.7	97 U	97 U	49	19 U	16 J	3.3 J	49 U	35
ICS-I-SE-1	0.9	----	----	----	----	----	----	----	----
ICS-I-SE-2	2.6	----	----	----	----	----	----	----	----
ICS-I-SE-3	4.2	290 U	290 U	140 U	57 U	52 J	8.9 J	140 U	150
ICS-I-SE-4	5.9	97 U	97 U	80	19 U	59	4.8 U	19 U	67
ICS-I-SE-5	7.8	92 U	92 U	46 U	18 U	41	2.8 J	46 U	500
ICS-I-SE-6	9.5	----	----	----	----	----	----	----	----
ICS-J-SE-1	0.8	----	----	----	----	----	----	----	----
ICS-J-SE-2	2.6	----	----	----	----	----	----	----	----
ICS-J-SE-3	4.9	----	----	----	----	----	----	----	----
ICS-J-SE-4	6.8	95 U	95 U	42 J	19 U	21	4.7 U	19 U	90
ICS-J-SE-5	8.5	94 U	94 U	47 U	19 U	35	19 U	47 U	120
ICS-J-SE-6	10.4	96 U	96 U	48 U	19 U	21	19 U	48 U	84
ICS-K-SE-1	0.7	----	----	----	----	----	----	----	----
ICS-K-SE-2	2.2	----	----	----	----	----	----	----	----
ICS-DUP2-SE	dup. of K-SE-2	----	----	----	----	----	----	----	----
ICS-K-SE-3	3.8	94 U	94 U	86	19 U	12 J	4.7 U	19 U	34
ICS-K-SE-4	5.5	100 U	100 U	50 U	20 U	49	20 U	59 J	100
ICS-K-SE-5	7	98 U	98 U	49 U	20 U	39	20 U	49 U	110
ICS-L-SE-1	0.7	----	----	----	----	----	----	----	----
ICS-L-SE-2	1.9	----	----	----	----	----	----	----	----
ICS-L-SE-3	3.5	98 U	98 U	49 U	20 U	59	4.0 J	49 U	200

TABLE 5 - Results of Subsurface Sediment Sample Analyses-November 2012 (Revised)

Core Location	Mid-Point Depth (feet)	2,6-Dinitro-toluene µg/kg, dry	2,4-Dinitro-toluene µg/kg, dry	Diethyl-phthalate µg/kg, dry	4-Chlorophenyl-phenylether µg/kg, dry	Fluorene µg/kg, dry	N-Nitrosodi-phenylamine µg/kg, dry	Pentachloro-phenol µg/kg, dry	Phenanthrene µg/kg, dry
Screening Levels	0 to 10 cm	na	na	(b)	na	(b)	(b)	360	(b)
ICS-L-SE-4	5	97 U	97 U	48 U	19 U	45	2.6 J	48 U	130
ICS-L-SE-5	6.7	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-2	1.6	98 U	98 U	40 J	20 U	20 U	20 U	49 U	20 U
ICS-M-SE-3	2.7	94 U	94 U	47 U	19 U	19 U	19 U	47 U	19 U

Notes: *U = nondetected at the associated lower reporting limit.*
J = estimate associated with value less than the verifiable lower quantitation limit.
J_R = estimate; due to low matrix spike recovery. Value likely biased low.
J_Q = estimate; due to noncompliant CCV check.
J_B = associated value may be biased high due to contribution from laboratory background or method blank.
J_P = estimated value due to high variability exhibited between dual column responses on GC/ECD (M.8081).
(a) - SMS-SQS - Sediment Management Standards - Sediment Quality Standard (for those with dry weight criteria)
(b) - SMS-SQS - Criteria carbon-normalized (see Table XX).
 - Value exceeds SMS-SQS (based on dry weight criteria)

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Carbazole µg/kg, dry	Anthracene µg/kg, dry	Di-n-butyl- phthalate µg/kg, dry	Fluoranthene µg/kg, dry	Pyrene µg/kg, dry	Butylbenzyl- phthalate µg/kg, dry	Benzo(a)- anthracene µg/kg, dry	bis (2-Ethylhexyl)- phthalate µg/kg, dry
Screening Levels	0 to 10 cm	na	(b)	(b)	(b)	(b)	(b)	(b)	(b)
ICS-A-SE-1	0.4	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-2	1.3	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-3	2.7	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-4	3.9	13 J	45	20 U	200	160	4.9 U	53	40 J
ICS-A-SE-5	5.1	19 U	22	19 U	92	78	4.8 U	26	40 J
ICS-A-SE-6	6.3	20 U	29	20 U	110	100	8.2	30	50 U
ICS-A-SE-7	7.2	19 U	33	19 U	130	110	6.6	35	48 U
ICS-B-SE-1	1.1	-----	-----	-----	-----	-----	-----	-----	-----
ICS-B-SE-2	2.2	-----	-----	-----	-----	-----	-----	-----	-----
ICS-B-SE-3	3.3	57 U	600	57 U	2200	2000	47	640	5600
ICS-B-SE-4	4.4	52 U	160	52 U	1700	980	13 U	280	2900
ICS-B-SE-5	5.5	20 U	26	20 U	120	95	4.9 U	29	66
ICS-B-SE-6	6.6	20 U	28	20 U	130	110	5.2	33	37 J
ICS-C-SE-1	0.5	-----	-----	-----	-----	-----	-----	-----	-----
ICS-C-SE-2	2.3	-----	-----	-----	-----	-----	-----	-----	-----
ICS-C-SE-3	3.3	18 U	15 J	18 U	71	58	3.2 J	19	92
ICS-C-SE-4	4.4	20 U	14 J	20 U	83	86	4.9 U	35	28 J
ICS-D-SE-1	0.7	-----	-----	-----	-----	-----	-----	-----	-----
ICS-D-SE-2	2.1	-----	-----	-----	-----	-----	-----	-----	-----
ICS-D-SE-3	3.8	17 J	39	19 U	240	200	4.8 U	59	37 J
ICS-D-SE-4	5.3	20 U	30	20 U	140	100	5.0 U	34	32 J
ICS-D-SE-5	6.7	19 U	34	19 U	140	120	5.0	39	48 U
ICS-F-SE-1	0.5	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-2	1.7	300 U	440	300 U	860	740	15 U	280 J	740 U
ICS-F-SE-3	3.1	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-3	3.1	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-4	4.5	20 U	24	20 U	100	93	4.9 U	29	49 U
ICS-F-SE-5	5.8	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-6	7	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-7	8.3	20 U	16 J	20 U	74	62	4.9 U	18 J	32 J
ICS-F-SE-8	9.7	18 U	18 U	18 U	12 J	11 J	4.6 U	18 U	29 J
ICS-F-SE-9	10.9	-----	-----	-----	-----	-----	-----	-----	-----

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Carbazole µg/kg, dry	Anthracene µg/kg, dry	Di-n-butyl- phthalate µg/kg, dry	Fluoranthene µg/kg, dry	Pyrene µg/kg, dry	Butylbenzyl- phthalate µg/kg, dry	Benzo(a)- anthracene µg/kg, dry	<i>bis</i> (2-Ethylhexyl)- phthalate µg/kg, dry
Screening Levels	0 to 10 cm	na	(b)	(b)	(b)	(b)	(b)	(b)	(b)
ICS-G-SE-1	0.6	----	----	----	----	----	----	----	----
ICS-G-SE-2	1.8	----	----	----	----	----	----	----	----
ICS-G-SE-3	3	----	----	----	----	----	----	----	----
ICS-DUP1-SE	dup. of G-SE-3	----	----	----	----	----	----	----	----
ICS-G-SE-4	4.1	----	----	----	----	----	----	----	----
ICS-G-SE-5	5.1	110 U	730	110 U	1600	4200	170	740	2800
ICS-G-SE-6	6.8	13 J	59	19 U	250	330	4.8 U	110	37 J
ICS-H-SE-1	0.4	----	----	----	----	----	----	----	----
ICS-H-SE-2	1.7	----	----	----	----	----	----	----	----
ICS-H-SE-3	3.3	26 U	300	120	910	920	51	350	1400
ICS-H-SE-4	4.7	19 U	19 U	19 U	41	41	4.9 U	14 J	32 J
ICS-I-SE-1	0.9	----	----	----	----	----	----	----	----
ICS-I-SE-2	2.6	----	----	----	----	----	----	----	----
ICS-I-SE-3	4.2	29 J	97	57 U	460	360	14 U	300	72 U
ICS-I-SE-4	5.9	19 U	25	19 U	130	130	9.5	42	48 U
ICS-I-SE-5	7.8	87	150	18 U	770	840	4.6 U	310	37 J
ICS-I-SE-6	9.5	----	----	----	----	----	----	----	----
ICS-J-SE-1	0.8	----	----	----	----	----	----	----	----
ICS-J-SE-2	2.6	----	----	----	----	----	----	----	----
ICS-J-SE-3	4.9	----	----	----	----	----	----	----	----
ICS-J-SE-4	6.8	19 U	20	19 U	87	89	48	19	47 U
ICS-J-SE-5	8.5	12 J	57	19 U	380	270	4.7 U	94	25 J
ICS-J-SE-6	10.4	10 J	33	19 U	260	220	4.8 U	80	24 U
ICS-K-SE-1	0.7	----	----	----	----	----	----	----	----
ICS-K-SE-2	2.2	----	----	----	----	----	----	----	----
ICS-DUP2-SE	dup. of K-SE-2	----	----	----	----	----	----	----	----
ICS-K-SE-3	3.8	19 U	15 J	19 U	36	76	5.1	31	120
ICS-K-SE-4	5.5	20 U	44	20 U	180	200	5.0 U	54	46 J
ICS-K-SE-5	7	20 U	71	16 J	280	230	4.9 U	120	24 J
ICS-L-SE-1	0.7	----	----	----	----	----	----	----	----
ICS-L-SE-2	1.9	----	----	----	----	----	----	----	----
ICS-L-SE-3	3.5	17 J	65	20 U	400	320	4.9 U	91	25 U

TABLE 5 - Results of Subsurface Sediment Sample Analyses-November 2012 (Revised)

Core Location	Mid-Point Depth (feet)	Carbazole µg/kg, dry	Anthracene µg/kg, dry	Di-n-butyl-phthalate µg/kg, dry	Fluoranthene µg/kg, dry	Pyrene µg/kg, dry	Butylbenzyl-phthalate µg/kg, dry	Benzo(a)-anthracene µg/kg, dry	bis (2-Ethylhexyl)-phthalate µg/kg, dry
Screening Levels	0 to 10 cm	na	(b)	(b)	(b)	(b)	(b)	(b)	(b)
ICS-L-SE-4	5	11 J	37	19 U	180	150	4.8 U	40	24 U
ICS-L-SE-5	6.7	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-2	1.6	20 U	20 U	20 U	26	26	4.9 U	20 U	41 J
ICS-M-SE-3	2.7	19 U	19 U	19 U	19 U	19 U	4.7 U	19 U	24 J

Notes: *U = nondetected at the associated lower reporting limit.*
J = estimate associated with value less than the verifiable lower quantitation limit.
J_R = estimate; due to low matrix spike recovery. Value likely biased low.
J_Q = estimate; due to noncompliant CCV check.
J_B = associated value may be biased high due to contribution from laboratory background or method blank.
J_P = estimated value due to high variability exhibited between dual column responses on GC/ECD (M.8081).
(a) - SMS-SQS - Sediment Management Standards - Sediment Quality Standard (for those with dry weight criteria)
(b) - SMS-SQS - Criteria carbon-normalized (see Table XX).
 - Value exceeds SMS-SQS (based on dry weight criteria)

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Chrysene µg/kg, dry	Di-n-octyl-phthalate µg/kg, dry	total Benzo-fluoranthenes µg/kg, dry	Benzo(a)-pyrene µg/kg, dry	Indeno(1,2,3-cd)pyrene µg/kg, dry	Dibenz(a,h)-anthracene µg/kg, dry	Benzo(g,h,i)-perylene µg/kg, dry	LPAH µg/kg, dry	HPAH µg/kg, dry
Screening Levels	0 to 10 cm	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
ICS-A-SE-1	0.4	----	----	----	----	----	----	----	----	----
ICS-A-SE-2	1.3	----	----	----	----	----	----	----	----	----
ICS-A-SE-3	2.7	----	----	----	----	----	----	----	----	----
ICS-A-SE-4	3.9	65	20 U	78	53	23	20 U	30	388	662
ICS-A-SE-5	5.1	38	19 U	43	19 U	12 J	19 U	19	236	308
ICS-A-SE-6	6.3	47	20 U	56	20 U	20	20 U	31	321	394
ICS-A-SE-7	7.2	47	19 U	59	19 U	18 J	19 U	24	279	423
ICS-B-SE-1	1.1	----	----	----	----	----	----	----	----	----
ICS-B-SE-2	2.2	----	----	----	----	----	----	----	----	----
ICS-B-SE-3	3.3	1100	57 U	930	480	120	57	140	2720	7667
ICS-B-SE-4	4.4	480	52 U	460	200	83	52 U	83	1390	4266
ICS-B-SE-5	5.5	43	20 U	48	20 U	20 U	20 U	20	297	355
ICS-B-SE-6	6.6	45	20 U	56	20 U	17 J	20 U	25	357	416
ICS-C-SE-1	0.5	----	----	----	----	----	----	----	----	----
ICS-C-SE-2	2.3	----	----	----	----	----	----	----	----	----
ICS-C-SE-3	3.3	22	18 U	30 J	18 U	18 U	18 U	12 J	135	212
ICS-C-SE-4	4.4	36	20 U	48	31	14 J	20 U	18 J	117	351
ICS-D-SE-1	0.7	----	----	----	----	----	----	----	----	----
ICS-D-SE-2	2.1	----	----	----	----	----	----	----	----	----
ICS-D-SE-3	3.8	75	19 U	100	48	27	10 J	34	893	793
ICS-D-SE-4	5.3	44	20 U	48	20 U	13 J	20 U	18 J	322	397
ICS-D-SE-5	6.7	50	19 U	66	19 U	18 J	19 U	23	314	456
ICS-F-SE-1	0.5	----	----	----	----	----	----	----	----	----
ICS-F-SE-2	1.7	410	300 U	410 J	220 J	300 U	300 U	300 U	30220	2920
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----
ICS-F-SE-4	4.5	37	20 U	51	20 U	15 J	20 U	20	290	345
ICS-F-SE-5	5.8	----	----	----	----	----	----	----	----	----
ICS-F-SE-6	7	----	----	----	----	----	----	----	----	----
ICS-F-SE-7	8.3	26	20 U	16 J	20 U	14 J	20 U	16 J	112	226
ICS-F-SE-8	9.7	18 U	18 U	37 U	18 U	18 U	18 U	18 U	18 U	23
ICS-F-SE-9	10.9	----	----	----	----	----	----	----	----	----

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Chrysene µg/kg, dry	Di-n-octyl-phthalate µg/kg, dry	total Benzo-fluoranthenes µg/kg, dry	Benzo(a)-pyrene µg/kg, dry	Indeno(1,2,3-cd)pyrene µg/kg, dry	Dibenz(a,h)-anthracene µg/kg, dry	Benzo(g,h,i)-perylene µg/kg, dry	LPAH µg/kg, dry	HPAH µg/kg, dry
Screening Levels	0 to 10 cm	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
ICS-G-SE-1	0.6	----	----	----	----	----	----	----	----	----
ICS-G-SE-2	1.8	----	----	----	----	----	----	----	----	----
ICS-G-SE-3	3	----	----	----	----	----	----	----	----	----
ICS-DUP1-SE	dup. of G-SE-3	----	----	----	----	----	----	----	----	----
ICS-G-SE-4	4.1	----	----	----	----	----	----	----	----	----
ICS-G-SE-5	5.1	1800	110 U	890	110 U	140	110 U	180	3580	9550
ICS-G-SE-6	6.8	130	19 U	180	110	45	16 J	56	433	1227
ICS-H-SE-1	0.4	----	----	----	----	----	----	----	----	----
ICS-H-SE-2	1.7	----	----	----	----	----	----	----	----	----
ICS-H-SE-3	3.3	490	26 U	490	260	68	26	67	2020	3581
ICS-H-SE-4	4.7	15 J	19 U	20 J	19 U	19 U	19 U	19 U	71	131
ICS-I-SE-1	0.9	----	----	----	----	----	----	----	----	----
ICS-I-SE-2	2.6	----	----	----	----	----	----	----	----	----
ICS-I-SE-3	4.2	540	57 U	780	360	180	63	210	499	3253
ICS-I-SE-4	5.9	45	19 U	80	19 U	18 J	19 U	22	497	467
ICS-I-SE-5	7.8	350	18 U	470	360	170	73	220	1234	3563
ICS-I-SE-6	9.5	----	----	----	----	----	----	----	----	----
ICS-J-SE-1	0.8	----	----	----	----	----	----	----	----	----
ICS-J-SE-2	2.6	----	----	----	----	----	----	----	----	----
ICS-J-SE-3	4.9	----	----	----	----	----	----	----	----	----
ICS-J-SE-4	6.8	23	19 U	34 J	19 U	19 U	19 U	10 J	227	262
ICS-J-SE-5	8.5	160	19 U	140	72	36	11 J	34	342	1197
ICS-J-SE-6	10.4	78	19 U	120	64	34	16 J	42	184	914
ICS-K-SE-1	0.7	----	----	----	----	----	----	----	----	----
ICS-K-SE-2	2.2	----	----	----	----	----	----	----	----	----
ICS-DUP2-SE	dup. of K-SE-2	----	----	----	----	----	----	----	----	----
ICS-K-SE-3	3.8	67	19 U	56	22	19 U	19 U	19 U	79	288
ICS-K-SE-4	5.5	79	20 U	90	38	28	20 U	32	355	701
ICS-K-SE-5	7	170	20 U	210	110	49	17 J	65	411	1251
ICS-L-SE-1	0.7	----	----	----	----	----	----	----	----	----
ICS-L-SE-2	1.9	----	----	----	----	----	----	----	----	----
ICS-L-SE-3	3.5	120	20 U	160	93	50	21	56	601	1311

TABLE 5 - Results of Subsurface Sediment Sample Analyses-November 2012 (Revised)

Core Location	Mid-Point Depth (feet)	Chrysene µg/kg, dry	Di-n-octyl-phthalate µg/kg, dry	total Benzo-fluoranthenes µg/kg, dry	Benzo(a)-pyrene µg/kg, dry	Indeno(1,2,3-cd)pyrene µg/kg, dry	Dibenz(a,h)-anthracene µg/kg, dry	Benzo(g,h,i)-perylene µg/kg, dry	LPAH µg/kg, dry	HPAH µg/kg, dry
Screening Levels	0 to 10 cm	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
ICS-L-SE-4	5	50	19 U	67	19 U	21	19 U	32	328	540
ICS-L-SE-5	6.7	----	----	----	----	----	----	----	----	----
ICS-M-SE-1	0.6	----	----	----	----	----	----	----	----	----
ICS-M-SE-2	1.6	14 J	20 U	25 J	9.8 J	20 U	20 U	20 U	20 U	101
ICS-M-SE-3	2.7	19 U	19 U	38 U	19 U	19 U	19 U	19 U	19 U	19 U

Notes: *U = nondetected at the associated lower reporting limit.*
J = estimate associated with value less than the verifiable lower quantitation limit.
J_R = estimate; due to low matrix spike recovery. Value likely biased low.
J_Q = estimate; due to noncompliant CCV check.
J_B = associated value may be biased high due to contribution from laboratory background or method blank.
J_P = estimated value due to high variability exhibited between dual column responses on GC/ECD (M.8081).
(a) - SMS-SQS - Sediment Management Standards - Sediment Quality Standard (for those with dry weight criteria)
(b) - SMS-SQS - Criteria carbon-normalized (see Table XX).
 - Value exceeds SMS-SQS (based on dry weight criteria)

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Tributyltin ion µg/kg, dry	alpha-BHC µg/kg, dry	beta-BHC µg/kg, dry	delta-BHC µg/kg, dry	gamma-BHC (Lindane) µg/kg, dry	Heptachlor µg/kg, dry	Aldrin µg/kg, dry	Heptachlor epoxide µg/kg, dry	Endosulfan I µg/kg, dry
Screening Levels	0 to 10 cm	na	na	na	na	na	na	na	na	na
ICS-A-SE-1	0.4	----	----	----	----	----	----	----	----	----
ICS-A-SE-2	1.3	----	----	----	----	----	----	----	----	----
ICS-A-SE-3	2.7	----	----	----	----	----	----	----	----	----
ICS-A-SE-4	3.9	----	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.7 U	2.4 U
ICS-A-SE-5	5.1	----	0.48 U	1.2 U	1.4 U	0.48 U	0.48 U	0.62 U	0.96 U	0.48 U
ICS-A-SE-6	6.3	----	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.96 U	0.48 U
ICS-A-SE-7	7.2	----	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.77 U	0.96 U	0.48 U
ICS-B-SE-1	1.1	----	----	----	----	----	----	----	----	----
ICS-B-SE-2	2.2	----	----	----	----	----	----	----	----	----
ICS-B-SE-3	3.3	----	25 U	120 U	25 U	25 U	100 U	190 U	340 U	25 U
ICS-B-SE-4	4.4	----	39 U	250 U	39 U	110 U	110 U	39 U	110 U	39 U
ICS-B-SE-5	5.5	----	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	4.9 U	2.5 U
ICS-B-SE-6	6.6	----	0.50 U	1.1 U	1.3 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U
ICS-C-SE-1	0.5	----	----	----	----	----	----	----	----	----
ICS-C-SE-2	2.3	----	----	----	----	----	----	----	----	----
ICS-C-SE-3	3.3	----	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.7 U	2.4 U
ICS-C-SE-4	4.4	----	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.94 U	0.47 U
ICS-D-SE-1	0.7	----	----	----	----	----	----	----	----	----
ICS-D-SE-2	2.1	----	----	----	----	----	----	----	----	----
ICS-D-SE-3	3.8	----	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.9 U	2.4 U
ICS-D-SE-4	5.3	----	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.8 U	2.4 U
ICS-D-SE-5	6.7	----	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.97 U	0.49 U
ICS-F-SE-1	0.5	----	----	----	----	----	----	----	----	----
ICS-F-SE-2	1.7	----	5.1 U	14 U	7.4 U	5.9 U	7.2 U	4.1 U	12 U	6.6 U
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----
ICS-F-SE-4	4.5	----	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.99 U	0.50 U
ICS-F-SE-5	5.8	----	----	----	----	----	----	----	----	----
ICS-F-SE-6	7	----	----	----	----	----	----	----	----	----
ICS-F-SE-7	8.3	----	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.7 U	2.4 U
ICS-F-SE-8	9.7	----	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.92 U	0.46 U
ICS-F-SE-9	10.9	----	----	----	----	----	----	----	----	----

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Tributyltin ion µg/kg, dry	alpha-BHC µg/kg, dry	beta-BHC µg/kg, dry	delta-BHC µg/kg, dry	gamma-BHC (Lindane) µg/kg, dry	Heptachlor µg/kg, dry	Aldrin µg/kg, dry	Heptachlor epoxide µg/kg, dry	Endosulfan I µg/kg, dry
Screening Levels	0 to 10 cm	na	na	na	na	na	na	na	na	na
ICS-G-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-2	1.8	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-3	3	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DUP1-SE	dup. of G-SE-3	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-4	4.1	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-5	5.1	-----	24 U	24 U	24 U	24 U	36 U	24 U	120 U	24 U
ICS-G-SE-6	6.8	-----	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.9 U	2.4 U
ICS-H-SE-1	0.4	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-H-SE-2	1.7	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-H-SE-3	3.3	-----	36 U	36 U	36 U	36 U	100 U	340 U	390 U	36 U
ICS-H-SE-4	4.7	-----	0.47 U	0.47 U	0.47 U	1.5 U	4.2 U	8.9 U	4.8 U	0.47 U
ICS-I-SE-1	0.9	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-I-SE-2	2.6	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-I-SE-3	4.2	-----	2.4 U	3.7 U	2.4 U	2.4 U	2.4 U	2.4 U	4.9 U	2.4 U
ICS-I-SE-4	5.9	-----	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	6.3 U	11 U	2.4 U
ICS-I-SE-5	7.8	-----	0.48 U	1.0 U	0.48 U	0.48 U	0.98 U	1.1 U	2.2 U	0.48 U
ICS-I-SE-6	9.5	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-1	0.8	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-2	2.6	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-3	4.9	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-4	6.8	-----	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.3 U	1.0 U	0.50 U
ICS-J-SE-5	8.5	-----	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	5.0 U	2.5 U
ICS-J-SE-6	10.4	-----	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.9 U	2.4 U
ICS-K-SE-1	0.7	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-K-SE-2	2.2	59	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DUP2-SE	dup. of K-SE-2	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-K-SE-3	3.8	-----	2.4 U	4.4 U	2.4 U	2.4 U	4.1 U	2.4 U	25 U	2.4 U
ICS-K-SE-4	5.5	-----	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.8 U	2.4 U
ICS-K-SE-5	7	-----	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.7 U	2.4 U
ICS-L-SE-1	0.7	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-L-SE-2	1.9	3.7 U	-----	-----	-----	-----	-----	-----	-----	-----
ICS-L-SE-3	3.5	-----	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	5.0 U	2.5 U

TABLE 5 - Results of Subsurface Sediment Sample Analyses-November 2012 (Revised)

Core Location	Mid-Point Depth (feet)	Tributyltin ion µg/kg, dry	alpha-BHC µg/kg, dry	beta-BHC µg/kg, dry	delta-BHC µg/kg, dry	gamma-BHC (Lindane) µg/kg, dry	Heptachlor µg/kg, dry	Aldrin µg/kg, dry	Heptachlor epoxide µg/kg, dry	Endosulfan I µg/kg, dry
Screening Levels	0 to 10 cm	na	na	na	na	na	na	na	na	na
ICS-L-SE-4	5	-----	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.8 U	2.4 U
ICS-L-SE-5	6.7	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-2	1.6	-----	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	7.9 U	2.5 U
ICS-M-SE-3	2.7	-----	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.95 U	0.48 U

Notes: *U* = nondetected at the associated lower reporting limit.
J = estimate associated with value less than the verifiable lower quantitation limit.
J_R = estimate; due to low matrix spike recovery. Value likely biased low.
J_Q = estimate; due to noncompliant CCV check.
J_B = associated value may be biased high due to contribution from laboratory background or method blank.
J_P = estimated value due to high variability exhibited between dual column responses on GC/ECD (M.8081).
 (a) - SMS-SQS - Sediment Management Standards - Sediment Quality Standard (for those with dry weight criteria)
 (b) - SMS-SQS - Criteria carbon-normalized (see Table XX).
 - Value exceeds SMS-SQS (based on dry weight criteria)

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Dieldrin µg/kg, dry	4,4'-DDE µg/kg, dry	Endrin µg/kg, dry	Endosulfan II µg/kg, dry	4,4'-DDD µg/kg, dry	Endosulfan sulfate µg/kg, dry	4,4'-DDT µg/kg, dry	Methoxychlor µg/kg, dry	Endrin ketone µg/kg, dry
Screening Levels	0 to 10 cm	na	na	na	na	na	na	na	na	na
ICS-A-SE-1	0.4	----	----	----	----	----	----	----	----	----
ICS-A-SE-2	1.3	----	----	----	----	----	----	----	----	----
ICS-A-SE-3	2.7	----	----	----	----	----	----	----	----	----
ICS-A-SE-4	3.9	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	5.8 U	24 U	4.7 U
ICS-A-SE-5	5.1	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	4.8 U	0.96 U
ICS-A-SE-6	6.3	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	1.3 U	4.8 U	0.96 U
ICS-A-SE-7	7.2	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	4.8 U	0.96 U
ICS-B-SE-1	1.1	----	----	----	----	----	----	----	----	----
ICS-B-SE-2	2.2	----	----	----	----	----	----	----	----	----
ICS-B-SE-3	3.3	430 U	870 J	120 U	210 U	640 U	140 U	990 U	250 U	50 U
ICS-B-SE-4	4.4	78 U	52 U	550 U	78 U	52 U	78 U	52 U	390 U	510 U
ICS-B-SE-5	5.5	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	25 U	4.9 U
ICS-B-SE-6	6.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.6 U	5.0 U	1.0 U
ICS-C-SE-1	0.5	----	----	----	----	----	----	----	----	----
ICS-C-SE-2	2.3	----	----	----	----	----	----	----	----	----
ICS-C-SE-3	3.3	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	24 U	4.7 U
ICS-C-SE-4	4.4	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	4.7 U	0.94 U
ICS-D-SE-1	0.7	----	----	----	----	----	----	----	----	----
ICS-D-SE-2	2.1	----	----	----	----	----	----	----	----	----
ICS-D-SE-3	3.8	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	24 U	4.9 U
ICS-D-SE-4	5.3	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	24 U	4.8 U
ICS-D-SE-5	6.7	0.97 U	0.97 U	0.97 U	0.97 U	0.97 U	0.97 U	0.97 U	4.9 U	0.97 U
ICS-F-SE-1	0.5	----	----	----	----	----	----	----	----	----
ICS-F-SE-2	1.7	6.7 U	13 U	4.8 U	4.8 U	4.8 U	4.8 U	6.4 U	24 U	4.8 U
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----
ICS-F-SE-4	4.5	0.99 U	0.99 U	0.99 U	0.99 U	0.99 U	0.99 U	0.99 U	5.0 U	0.99 U
ICS-F-SE-5	5.8	----	----	----	----	----	----	----	----	----
ICS-F-SE-6	7	----	----	----	----	----	----	----	----	----
ICS-F-SE-7	8.3	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	24 U	4.7 U
ICS-F-SE-8	9.7	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	4.6 U	0.92 U
ICS-F-SE-9	10.9	----	----	----	----	----	----	----	----	----

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Dieldrin µg/kg, dry	4,4'-DDE µg/kg, dry	Endrin µg/kg, dry	Endosulfan II µg/kg, dry	4,4'-DDD µg/kg, dry	Endosulfan sulfate µg/kg, dry	4,4'-DDT µg/kg, dry	Methoxychlor µg/kg, dry	Endrin ketone µg/kg, dry
Screening Levels	0 to 10 cm	na	na	na	na	na	na	na	na	na
ICS-G-SE-1	0.6	----	----	----	----	----	----	----	----	----
ICS-G-SE-2	1.8	----	----	----	----	----	----	----	----	----
ICS-G-SE-3	3	----	----	----	----	----	----	----	----	----
ICS-DUP1-SE	dup. of G-SE-3	----	----	----	----	----	----	----	----	----
ICS-G-SE-4	4.1	----	----	----	----	----	----	----	----	----
ICS-G-SE-5	5.1	48 U	480	48 U	48 U	870	48 U	290 U	240 U	79 U
ICS-G-SE-6	6.8	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	24 U	4.9 U
ICS-H-SE-1	0.4	----	----	----	----	----	----	----	----	----
ICS-H-SE-2	1.7	----	----	----	----	----	----	----	----	----
ICS-H-SE-3	3.3	410 U	650 J	210 U	71 U	640 U	71 U	1100 U	360 U	220 U
ICS-H-SE-4	4.7	2.2 U	24	0.94 U	1.3 U	16	0.94 U	3.6 U	4.7 U	0.94 U
ICS-I-SE-1	0.9	----	----	----	----	----	----	----	----	----
ICS-I-SE-2	2.6	----	----	----	----	----	----	----	----	----
ICS-I-SE-3	4.2	4.9 U	29	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	24 U	4.9 U
ICS-I-SE-4	5.9	4.9 U	53 J	4.9 U	4.9 U	6.8	4.9 U	9.7 U	24 U	4.9 U
ICS-I-SE-5	7.8	0.96 U	31 J	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	4.8 U	0.96 U
ICS-I-SE-6	9.5	----	----	----	----	----	----	----	----	----
ICS-J-SE-1	0.8	----	----	----	----	----	----	----	----	----
ICS-J-SE-2	2.6	----	----	----	----	----	----	----	----	----
ICS-J-SE-3	4.9	----	----	----	----	----	----	----	----	----
ICS-J-SE-4	6.8	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	4.1 U
ICS-J-SE-5	8.5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U
ICS-J-SE-6	10.4	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	24 U	4.9 U
ICS-K-SE-1	0.7	----	----	----	----	----	----	----	----	----
ICS-K-SE-2	2.2	----	----	----	----	----	----	----	----	----
ICS-DUP2-SE	dup. of K-SE-2	----	----	----	----	----	----	----	----	----
ICS-K-SE-3	3.8	4.7 U	56 J	4.7 U	4.7 U	29 J	4.7 U	33 U	24 U	25 U
ICS-K-SE-4	5.5	4.8 U	41	4.8 U	4.8 U	27	4.8 U	4.8 U	24 U	4.8 U
ICS-K-SE-5	7	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	24 U	4.7 U
ICS-L-SE-1	0.7	----	----	----	----	----	----	----	----	----
ICS-L-SE-2	1.9	----	----	----	----	----	----	----	----	----
ICS-L-SE-3	3.5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U

TABLE 5 - Results of Subsurface Sediment Sample Analyses-November 2012 (Revised)

Core Location	Mid-Point Depth (feet)	Dieldrin µg/kg, dry	4,4'-DDE µg/kg, dry	Endrin µg/kg, dry	Endosulfan II µg/kg, dry	4,4'-DDD µg/kg, dry	Endosulfan sulfate µg/kg, dry	4,4'-DDT µg/kg, dry	Methoxychlor µg/kg, dry	Endrin ketone µg/kg, dry
Screening Levels	0 to 10 cm	na	na	na	na	na	na	na	na	na
ICS-L-SE-4	5	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	24 U	4.8 U
ICS-L-SE-5	6.7	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-2	1.6	4.9 U	11 J	4.9 U	4.9 U	4.9 U	4.9 U	16 U	25 U	4.9 U
ICS-M-SE-3	2.7	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U	4.8 U	0.95 U

Notes: *U = nondetected at the associated lower reporting limit.*
J = estimate associated with value less than the verifiable lower quantitation limit.
J_R = estimate; due to low matrix spike recovery. Value likely biased low.
J_Q = estimate; due to noncompliant CCV check.
J_B = associated value may be biased high due to contribution from laboratory background or method blank.
J_P = estimated value due to high variability exhibited between dual column responses on GC/ECD (M.8081).
(a) - SMS-SQS - Sediment Management Standards - Sediment Quality Standard (for those with dry weight criteria)
(b) - SMS-SQS - Criteria carbon-normalized (see Table XX).
 - Value exceeds SMS-SQS (based on dry weight criteria)

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Endrin aldehyde µg/kg, dry	<i>trans</i> -Chlordane µg/kg, dry	<i>cis</i> -Chlordane µg/kg, dry	Toxaphene µg/kg, dry	Hexachloro-benzene µg/kg, dry	Hexachloro-butadiene µg/kg, dry	Aroclor 1016 µg/kg, dry	Aroclor 1242 µg/kg, dry	Aroclor 1248 µg/kg, dry	Aroclor 1254 µg/kg, dry	Aroclor 1260 µg/kg, dry
Screening Levels	0 to 10 cm	na	na	na	na	(b)	(b)	----	----	----	----	----
ICS-A-SE-1	0.4	----	----	----	----	----	----	----	----	----	----	----
ICS-A-SE-2	1.3	----	----	----	----	----	----	75 U	75 U	810	870	690
ICS-A-SE-3	2.7	----	----	----	----	----	----	----	----	----	----	----
ICS-A-SE-4	3.9	4.7 U	2.4 U	2.4 U	470 U	4.7 U	4.7 U	3.8 U	3.8 U	42	31	26
ICS-A-SE-5	5.1	0.96 U	0.48 U	0.48 U	96 U	0.96 U	0.96 U	3.8 U	3.8 U	12	7.8	7.3
ICS-A-SE-6	6.3	0.96 U	0.94 U	0.48 U	24 U	0.96 U	0.96 U	3.8 U	3.8 U	4.8 U	3.8 U	3.8 U
ICS-A-SE-7	7.2	0.96 U	0.48 U	0.48 U	24 U	0.96 U	0.96 U	3.8 U	3.8 U	6.3 U	3.8 U	3.8 U
ICS-B-SE-1	1.1	----	----	----	----	----	----	37 U	37 U	170	140	120
ICS-B-SE-2	2.2	----	----	----	----	----	----	----	----	----	----	----
ICS-B-SE-3	3.3	50 U	300 U	25 U	5000 U	57 U	50 U	400 U	400 U	9600	11,000	8600
ICS-B-SE-4	4.4	78 U	39 U	39 U	2700 U	130 U	78 U	1500 U	1500 U	23,000	12,000	9100
ICS-B-SE-5	5.5	4.9 U	2.5 U	2.5 U	490 U	4.9 U	4.9 U	3.9 U	50	3.9 U	24	23
ICS-B-SE-6	6.6	1.0 U	2.1 U	0.50 U	25 U	1.0 U	1.0 U	4.0 U	4.0 U	5.6 U	4.0 U	4.0 U
ICS-C-SE-1	0.5	----	----	----	----	----	----	----	----	----	----	----
ICS-C-SE-2	2.3	----	----	----	----	----	----	3.6 U	3.6 U	18	21	16
ICS-C-SE-3	3.3	4.7 U	2.4 U	2.4 U	470 U	4.7 U	4.7 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-C-SE-4	4.4	0.94 U	0.47 U	0.47 U	94 U	0.94 U	0.94 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U
ICS-D-SE-1	0.7	----	----	----	----	----	----	----	----	----	----	----
ICS-D-SE-2	2.1	----	----	----	----	----	----	200 U	200 U	6200	7700	3100
ICS-D-SE-3	3.8	4.9 U	2.4 U	2.4 U	490 U	4.9 U	4.9 U	3.9 U	3.9 U	27	30	10
ICS-D-SE-4	5.3	4.8 U	2.4 U	2.4 U	480 U	4.8 U	4.8 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
ICS-D-SE-5	6.7	0.97 U	0.88 U	0.49 U	24 U	0.97 U	0.97 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
ICS-F-SE-1	0.5	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-2	1.7	7.3 U	3.2 U	2.4 U	120 U	4.8 U	4.8 U	3.8 U	3.8 U	130 U	160	170
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-4	4.5	0.99 U	0.50 U	0.50 U	25 U	0.99 U	0.99 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
ICS-F-SE-5	5.8	----	----	----	----	----	----	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
ICS-F-SE-6	7	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-7	8.3	4.7 U	2.4 U	2.4 U	470 U	4.7 U	4.7 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
ICS-F-SE-8	9.7	0.92 U	0.46 U	0.46 U	92 U	0.92 U	0.92 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U
ICS-F-SE-9	10.9	----	----	----	----	----	----	----	----	----	----	----

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Endrin aldehyde µg/kg, dry	<i>trans</i> -Chlordane µg/kg, dry	<i>cis</i> -Chlordane µg/kg, dry	Toxaphene µg/kg, dry	Hexachloro-benzene µg/kg, dry	Hexachloro-butadiene µg/kg, dry	Aroclor 1016 µg/kg, dry	Aroclor 1242 µg/kg, dry	Aroclor 1248 µg/kg, dry	Aroclor 1254 µg/kg, dry	Aroclor 1260 µg/kg, dry
Screening Levels	0 to 10 cm	na	na	na	na	(b)	(b)	----	----	----	----	----
ICS-G-SE-1	0.6	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-2	1.8	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-3	3	----	----	----	----	----	----	39 U	39 U	610	670	270
ICS-DUP1-SE	dup. of G-SE-3	----	----	----	----	----	----	38 U	38 U	390	440	210
ICS-G-SE-4	4.1	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-5	5.1	48 U	92 U	24 U	4800 U	48 U	48 U	78 U	78 U	3600	3600	2800
ICS-G-SE-6	6.8	4.9 U	2.4 U	2.4 U	490 U	4.9 U	4.9 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
ICS-H-SE-1	0.4	----	----	----	----	----	----	----	----	----	----	----
ICS-H-SE-2	1.7	----	----	----	----	----	----	170 U	170 U	7400	4900	5800
ICS-H-SE-3	3.3	71 U	36 U	36 U	7100 U	71 U	71 U	580 U	580 U	13,000	16,000	9100
ICS-H-SE-4	4.7	0.94 U	2.5 U	0.47 U	94 U	0.94 U	0.94 U	18 U	260	18 U	93 U	18 U
ICS-I-SE-1	0.9	----	----	----	----	----	----	----	----	----	----	----
ICS-I-SE-2	2.6	----	----	----	----	----	----	140 U	140 U	5100	6000	1900
ICS-I-SE-3	4.2	4.9 U	2.4 U	2.4 U	490 U	4.9 U	4.9 U	3.9 U	3.9 U	170	160	65
ICS-I-SE-4	5.9	4.9 U	10 U	2.4 U	120 U	4.9 U	4.9 U	3.9 U	3.9 U	70	46	27
ICS-I-SE-5	7.8	0.96 U	0.48 U	0.48 U	96 U	0.96 U	0.96 U	3.8 U	36	3.8 U	19 U	5.6
ICS-I-SE-6	9.5	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-1	0.8	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-2	2.6	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-3	4.9	----	----	----	----	----	----	3.8 U	3.8 U	47	110	180
ICS-J-SE-4	6.8	1.0 U	1.5 U	0.50 U	25 U	1.0 U	1.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
ICS-J-SE-5	8.5	5.0 U	2.5 U	2.5 U	500 U	5.0 U	5.0 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-J-SE-6	10.4	4.9 U	2.4 U	2.4 U	490 U	4.9 U	4.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
ICS-K-SE-1	0.7	----	----	----	----	----	----	----	----	----	----	----
ICS-K-SE-2	2.2	----	----	----	----	----	----	170 U	170 U	5000	5100	2900
ICS-DUP2-SE	dup. of K-SE-2	----	----	----	----	----	----	220 U	220 U	6700	6500	3400
ICS-K-SE-3	3.8	4.7 U	14 U	2.4 U	120 U	4.7 U	4.7 U	38 U	38 U	760	590	260
ICS-K-SE-4	5.5	4.8 U	2.4 U	2.4 U	480 U	4.8 U	4.8 U	3.8 U	3.8 U	22	76 U	81
ICS-K-SE-5	7	4.7 U	2.4 U	2.4 U	470 U	4.7 U	4.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U
ICS-L-SE-1	0.7	----	----	----	----	----	----	----	----	----	----	----
ICS-L-SE-2	1.9	----	----	----	----	----	----	38 U	38 U	910	880	520
ICS-L-SE-3	3.5	5.0 U	2.5 U	2.5 U	500 U	5.0 U	5.0 U	4.0 U	4.0 U	8.0	9.2	6.0

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Endrin aldehyde µg/kg, dry	<i>trans</i> -Chlordane µg/kg, dry	<i>cis</i> -Chlordane µg/kg, dry	Toxaphene µg/kg, dry	Hexachloro-benzene µg/kg, dry	Hexachloro-butadiene µg/kg, dry	Aroclor 1016 µg/kg, dry	Aroclor 1242 µg/kg, dry	Aroclor 1248 µg/kg, dry	Aroclor 1254 µg/kg, dry	Aroclor 1260 µg/kg, dry
Screening Levels	0 to 10 cm	na	na	na	na	(b)	(b)	-----	-----	-----	-----	-----
ICS-L-SE-4	5	4.8 U	2.4 U	2.4 U	480 U	4.8 U	4.8 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
ICS-L-SE-5	6.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	-----	-----	-----	-----	-----	-----	37 U	37 U	370	360	380
ICS-M-SE-2	1.6	4.9 U	2.5 U	2.5 U	490 U	4.9 U	4.9 U	3.8 U	3.8 U	98	120	94
ICS-M-SE-3	2.7	0.95 U	0.48 U	0.48 U	95 U	0.95 U	0.95 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U

Notes: *U* = nondetected at the associated lower reporting limit.
J = estimate associated with value less than the verifiable lower quantitation limit.
J_R = estimate; due to low matrix spike recovery. Value likely biased low.
J_Q = estimate; due to noncompliant CCV check.
J_B = associated value may be biased high due to contribution from laboratory background or method blank.
J_P = estimated value due to high variability exhibited between dual column responses on GC/ECD (M.8081).
 (a) - SMS-SQS - Sediment Management Standards - Sediment Quality Standard (for those with dry weight criteria)
 (b) - SMS-SQS - Criteria carbon-normalized (see Table XX).
 - Value exceeds SMS-SQS (based on dry weight criteria)

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

Core Location	Mid-Point Depth (feet)	Aroclor 1221 µg/kg, dry	Aroclor 1232 µg/kg, dry	Detected total PCBs µg/kg, dry
Screening Levels	0 to 10 cm	-----	-----	2
ICS-A-SE-1	0.4	-----	-----	-----
ICS-A-SE-2	1.3	75 U	75 U	2370
ICS-A-SE-3	2.7	-----	-----	-----
ICS-A-SE-4	3.9	3.8 U	3.8 U	99
ICS-A-SE-5	5.1	3.8 U	3.8 U	27.1
ICS-A-SE-6	6.3	3.8 U	3.8 U	4.8 U
ICS-A-SE-7	7.2	3.8 U	3.8 U	6.3 U
ICS-B-SE-1	1.1	37 U	37 U	430
ICS-B-SE-2	2.2	-----	-----	-----
ICS-B-SE-3	3.3	400 U	400 U	29,200
ICS-B-SE-4	4.4	1500 U	1500 U	44,100
ICS-B-SE-5	5.5	3.9 U	3.9 U	97
ICS-B-SE-6	6.6	4.0 U	4.0 U	5.6 U
ICS-C-SE-1	0.5	-----	-----	-----
ICS-C-SE-2	2.3	3.6 U	3.6 U	55
ICS-C-SE-3	3.3	3.8 U	3.8 U	3.8 U
ICS-C-SE-4	4.4	3.6 U	3.6 U	3.6 U
ICS-D-SE-1	0.7	-----	-----	-----
ICS-D-SE-2	2.1	200 U	200 U	17,000
ICS-D-SE-3	3.8	3.9 U	3.9 U	67
ICS-D-SE-4	5.3	3.9 U	3.9 U	3.9 U
ICS-D-SE-5	6.7	3.9 U	3.9 U	3.9 U
ICS-F-SE-1	0.5	-----	-----	-----
ICS-F-SE-2	1.7	3.8 U	3.8 U	330
ICS-F-SE-3	3.1	-----	-----	-----
ICS-F-SE-3	3.1	-----	-----	-----
ICS-F-SE-4	4.5	4.0 U	4.0 U	4.0 U
ICS-F-SE-5	5.8	4.0 U	4.0 U	4.0 U
ICS-F-SE-6	7	-----	-----	-----
ICS-F-SE-7	8.3	3.9 U	3.9 U	3.9 U
ICS-F-SE-8	9.7	3.7 U	3.7 U	3.7 U
ICS-F-SE-9	10.9	-----	-----	-----

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

Core Location	Mid-Point Depth (feet)	Aroclor 1221 µg/kg, dry	Aroclor 1232 µg/kg, dry	Detected total PCBs µg/kg, dry
Screening Levels	0 to 10 cm	-----	-----	2
ICS-G-SE-1	0.6	-----	-----	-----
ICS-G-SE-2	1.8	-----	-----	-----
ICS-G-SE-3	3	39 U	39 U	1550
ICS-DUP1-SE	dup. of G-SE-3	38 U	38 U	1040
ICS-G-SE-4	4.1	-----	-----	-----
ICS-G-SE-5	5.1	78 U	78 U	10,000
ICS-G-SE-6	6.8	4.0 U	4.0 U	4.0 U
ICS-H-SE-1	0.4	-----	-----	-----
ICS-H-SE-2	1.7	170 U	170 U	18,100
ICS-H-SE-3	3.3	580 U	580 U	38,100
ICS-H-SE-4	4.7	18 U	18 U	260
ICS-I-SE-1	0.9	-----	-----	-----
ICS-I-SE-2	2.6	140 U	140 U	13,000
ICS-I-SE-3	4.2	3.9 U	3.9 U	395
ICS-I-SE-4	5.9	3.9 U	3.9 U	143
ICS-I-SE-5	7.8	3.8 U	3.8 U	42
ICS-I-SE-6	9.5	-----	-----	-----
ICS-J-SE-1	0.8	-----	-----	-----
ICS-J-SE-2	2.6	-----	-----	-----
ICS-J-SE-3	4.9	3.8 U	3.8 U	337
ICS-J-SE-4	6.8	4.0 U	4.0 U	4.0 U
ICS-J-SE-5	8.5	3.8 U	3.8 U	3.8 U
ICS-J-SE-6	10.4	3.9 U	3.9 U	3.9 U
ICS-K-SE-1	0.7	-----	-----	-----
ICS-K-SE-2	2.2	170 U	170 U	13,000
ICS-DUP2-SE	dup. of K-SE-2	220 U	220 U	16,600
ICS-K-SE-3	3.8	38 U	38 U	1610
ICS-K-SE-4	5.5	3.8 U	3.8 U	103
ICS-K-SE-5	7	3.7 U	3.7 U	3.7 U
ICS-L-SE-1	0.7	-----	-----	-----
ICS-L-SE-2	1.9	38 U	38 U	2310
ICS-L-SE-3	3.5	4.0 U	4.0 U	23

**TABLE 5 - Results of Subsurface Sediment
Sample Analyses-November 2012 (Revised)**

Core Location	Mid-Point Depth (feet)	Aroclor 1221	Aroclor 1232	Detected total PCBs
		µg/kg, dry	µg/kg, dry	
Screening Levels	0 to 10 cm	-----	-----	2
ICS-L-SE-4	5	3.9 U	3.9 U	3.9 U
ICS-L-SE-5	6.7	-----	-----	-----
ICS-M-SE-1	0.6	37 U	37 U	1110
ICS-M-SE-2	1.6	3.8 U	3.8 U	312
ICS-M-SE-3	2.7	3.7 U	3.7 U	3.7 U

Notes: *U = nondetected at the associated lower reporting limit.*
J = estimate associated with value less than the verifiable lower quantitation limit.
J_R = estimate; due to low matrix spike recovery. Value likely biased low.
J_Q = estimate; due to noncompliant CCV check.
J_B = associated value may be biased high due to contribution from laboratory background or method blank.
J_P = estimated value due to high variability exhibited between dual column responses on GC/ECD (M.8081).
grain size analyses: % retained in each size fraction
(a) - SMS-SQS - Sediment Management Standards - Sediment Quality Standard (for those with dry weight criteria)
(b) - SMS-SQS - Criteria carbon-normalized (see Table XX).
 - Value exceeds SMS-SQS (based on dry weight criteria)
grain size analyses: % retained in each size fraction

**TABLE 6 - Exceedance Factors - Constituents with Dry Weight Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	ARI Delivery Group	Arsenic	Arsenic	Cadmium	Cadmium	Chromium	Chromium	Copper	Copper	Lead	Lead
			mg/kg, dry	EF	mg/kg, dry	EF	mg/kg, dry	EF	mg/kg, dry	EF	mg/kg, dry	EF
Screening Levels	0 to 10 cm	----	7	1	5.1	1	260	1	390	1	450	1
ICS-A-SE-1	0.4	VV01	----	----	----	----	----	----	----	----	----	----
ICS-A-SE-2	1.3	VV01	11.5	1.6	0.3	0.1	19.5	0.0	427	1.1	86.7	0.2
ICS-A-SE-3	2.7	VV01	----	----	----	----	----	----	----	----	----	----
ICS-A-SE-4	3.9	VV01	9.7	1.4	0.2	0.0	21.5	0.0	42.8	0.1	10.3	0.0
ICS-A-SE-5	5.1	VV01	6.5	0.9	0.1 U	0.0	22	0.0	33.7	0.1	10.6	0.0
ICS-A-SE-6	6.3	XD56	9.5	1.4	0.2	0.0	25.7	0.0	49.3	0.1	12.4	0.0
ICS-A-SE-7	7.2	XD56	9.2	1.3	0.2	0.0	23.3	0.0	43.5	0.1	10.4	0.0
ICS-B-SE-1	1.1	VV01	19.8	2.8	0.2 U	0.0	22.7	0.0	34.8	0.1	14.9	0.0
ICS-B-SE-2	2.2	VV01	----	----	----	----	----	----	----	----	----	----
ICS-B-SE-3	3.3	VV01	31.1	4.4	5.4	1.1	153	0.0	169	0.4	796	1.8
ICS-B-SE-4	4.4	XD56	9.4	1.3	1.1	0.2	45.8	0.0	133	0.3	218	0.5
ICS-B-SE-5	5.5	VV01	7.7	1.1	0.2	0.0	24	0.0	43.1	0.1	12.4	0.0
ICS-B-SE-6	6.6	XD56	10.1	1.4	0.3	0.1	25.4	0.0	50.6	0.1	13.3	0.0
ICS-C-SE-1	0.5	VV01	----	----	----	----	----	----	----	----	----	----
ICS-C-SE-2	2.3	VV01	5.6	0.8	0.1 U	0.0	11.0	0.0	36.0	0.1	13.1	0.0
ICS-C-SE-3	3.3	VV01	7.3	1.0	0.1	0.0	18.9	0.0	34.0	0.1	7.9	0.0
ICS-C-SE-4	4.4	VV01	4.1	0.6	0.1 U	0.0	10.8	0.0	11.0	0.0	8.0	0.0
ICS-D-SE-1	0.7	VV01	----	----	----	----	----	----	----	----	----	----
ICS-D-SE-2	2.1	VV01	15.1	2.2	8.8	1.6	431	1.7	254	0.7	4430	9.8
ICS-D-SE-3	3.8	VV01	8.7	1.2	0.2	0.0	25	0.0	41.3	0.1	28.3	0.1
ICS-D-SE-4	5.3	VV01	8.8	1.3	0.2	0.0	27	0.0	47.7	0.1	10.6	0.0
ICS-D-SE-5	6.7	XD56	9.4	1.3	0.2	0.0	25.1	0.0	46.6	0.1	11.6	0.0
ICS-F-SE-1	0.5	VV01	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-2	1.7	XD56	12.7	1.8	3.4	0.7	114	0.0	56.6	0.1	4380	9.7
ICS-F-SE-3	3.1	VV01	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-3	3.1	VV01	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-4	4.5	XD56	8.7	1.2	0.2	0.0	24.7	0.0	46.1	0.1	11.5	0.0
ICS-F-SE-5	5.8	VV01	11.2	1.6	0.2	0.0	24.4	0.0	50.9	0.1	17.4	0.0
ICS-F-SE-6	7	VV01	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-7	8.3	VV01	5.8	0.8	0.1 U	0.0	18.4	0.0	33.7	0.1	11.5	0.0
ICS-F-SE-8	9.7	VV01	2.0	0.3	0.1 U	0.0	12.2	0.0	14.2	0.0	2.1	0.0
ICS-F-SE-9	10.9	VV01	----	----	----	----	----	----	----	----	----	----

**TABLE 6 - Exceedance Factors - Constituents with Dry Weight Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	ARI Delivery Group	Arsenic	Arsenic	Cadmium	Cadmium	Chromium	Chromium	Copper	Copper	Lead	Lead
			mg/kg, dry	EF	mg/kg, dry	EF	mg/kg, dry	EF	mg/kg, dry	EF	mg/kg, dry	EF
Screening Levels	0 to 10 cm	----	7	1	5.1	1	260	1	390	1	450	1
ICS-G-SE-1	0.6	VV01	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-2	1.8	VV01	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-3	3	VV01	11.9	1.7	0.5	0.1	23.7	0.0	41.7	0.1	22.5	0.1
ICS-G-SE-4	4.1	VV01	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-5	5.1	VV01	24.9	3.6	2.6	0.5	112	0.0	141	0.4	1340	3.0
ICS-G-SE-6	6.8	VV01	11.6	1.7	0.3	0.1	23.0	0.0	65.3	0.2	33.9	0.1
ICS-H-SE-1	0.4	VV01	----	----	----	----	----	----	----	----	----	----
ICS-H-SE-2	1.7	VV01	4.7	0.7	0.5	0.1	59.7	0.0	46.9	0.1	168	0.4
ICS-H-SE-3	3.3	VV01	7.2	1.0	1.3	0.3	96.4	0.0	61.3	0.2	936	2.1
ICS-H-SE-4	4.7	VV10	2.7	0.4	0.1 U	0.0	14.0	0.0	18.1	0.0	6.5	0.0
ICS-I-SE-1	0.9	VV10	----	----	----	----	----	----	----	----	----	----
ICS-I-SE-2	2.6	VV10	10.1	1.4	0.4	0.1	24.9	0.0	37.3	0.1	123	0.3
ICS-I-SE-3	4.2	VV10	6.6	0.9	0.2	0.0	18.4	0.0	41.4	0.1	25.4	0.1
ICS-I-SE-4	5.9	XD56	11.1	1.6	0.2	0.0	26.3	0.0	58.5	0.2	38.5	0.1
ICS-I-SE-5	7.8	VV10	5.1	0.7	0.1 U	0.0	14.4	0.0	34.7	0.1	18.8	0.0
ICS-I-SE-6	9.5	VV10	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-1	0.8	VV10	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-2	2.6	VV10	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-3	4.9	VV10	26.0	3.7	2.2	0.4	64.4	0.0	61.1	0.2	224	0.5
ICS-J-SE-4	6.8	XD56	6.1	0.9	0.1 U	0.0	16.0	0.0	22.3	0.1	11.4	0.0
ICS-J-SE-5	8.5	VV10	5.6	0.8	0.1 U	0.0	15.3	0.0	25.3	0.1	13.7	0.0
ICS-J-SE-6	10.4	VV10	7.2	1.0	0.1 U	0.0	17.8	0.0	43.6	0.1	22.4	0.0
ICS-K-SE-1	0.7	VV10	----	----	----	----	----	----	----	----	----	----
ICS-K-SE-2	2.2	VV10	11.3	1.6	2.5	0.5	52.4	0.0	129	0.3	310	0.7
ICS-K-SE-3	3.8	XD56	4.1	0.6	0.2	0.0	26.4	0.0	25.1	0.1	79.3	0.2
ICS-K-SE-4	5.5	VV10	21.0	3.0	1.6	0.3	45.2	0.0	46.3	0.1	241	0.5
ICS-K-SE-5	7	VV10	6.9	1.0	0.1 U	0.0	14.9	0.0	25.1	0.1	17.7	0.0
ICS-L-SE-1	0.7	VV10	----	----	----	----	----	----	----	----	----	----
ICS-L-SE-2	1.9	VV10	6.3	0.9	0.4	0.1	23.6	0.0	21.9	0.1	87.2	0.2
ICS-L-SE-3	3.5	VV10	7.1	1.0	0.3	0.1	17.9	0.0	44.3	0.1	62.0	0.1
ICS-L-SE-4	5	VV10	6.2	0.9	0.1 U	0.0	18.4	0.0	29.5	0.1	11.9	0.0
ICS-L-SE-5	6.7	VV10	----	----	----	----	----	----	----	----	----	----

**TABLE 6 - Exceedance Factors - Constituents with Dry Weight Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	ARI Delivery Group	Arsenic	Arsenic	Cadmium	Cadmium	Chromium	Chromium	Copper	Copper	Lead	Lead
			mg/kg, dry	EF	mg/kg, dry	EF	mg/kg, dry	EF	mg/kg, dry	EF	mg/kg, dry	EF
Screening Levels	0 to 10 cm	-----	7	1	5.1	1	260	1	390	1	450	1
ICS-M-SE-1	0.6	VV10	7.7	1.1	0.4	0.1	21.7	0.0	52.9	0.1	57.9	0.1
ICS-M-SE-2	1.6	VV10	2.9	0.4	0.1 U	0.0	13.0	0.0	16.8	0.0	23.7	0.1
ICS-M-SE-3	2.7	VV10	1.1	0.2	0.1 U	0.0	8.9	0.0	8.0	0.0	1.9	0.0
ICS-DUP	G-SE3	VV01	10.1	1.4	0.5	0.1	22.5	0.0	39.3	0.1	20.4	0.0
ICS-DUP	K-SE2	VV10	12.6	1.8	1.5	0.3	59.3	0.0	115	0.3	364	0.8
No. Spls.			46	46	46	46	46	46	46	46	46	46
No. Exceedances			25	25	2	2	1	1	1	1	5	5
% Exceed			54.3%	54.3%	4.3%	4.3%	2.2%	2.2%	2.2%	2.2%	10.9%	10.9%
Maximum			31	4.4	8.8	1.6	431	1.7	427	1.1	4430	9.8
Minimum			1.1	0.2	0.1	0.0	8.9	0.0	8.0	0.0	1.9	0.0

Notes: U = nondetected at the associated lower reporting limit.

J = estimate associated with value less than the verifiable lower quantitation limit.

- Value exceeds screening level based on dry wt. basis

**TABLE 6 - Exceedance Factors - Constituents with Dry Weight Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Mercury	Mercury	Zinc	Zinc	TPH D+ Lube Oil	TPH D+ Lube Oil	Benzyl alcohol	Benzyl alcohol	2,4-Dimethylphenol	2,4-Dimethylphenol
		mg/kg, dry	EF	mg/kg, dry	EF	mg/kg, dry	EF	µg/kg, dry	EF	µg/kg, dry	EF
Screening Levels	0 to 10 cm	0.41	1	410	1	2000	1	57	1	29	1
ICS-A-SE-1	0.4	----	----	----	----	----	----	----	----	----	----
ICS-A-SE-2	1.3	0.24	0.6	111	0.3	630	0.3	----	----	----	----
ICS-A-SE-3	2.7	----	----	----	----	----	----	----	----	----	----
ICS-A-SE-4	3.9	0.17	0.4	61	0.1	84	0.0	130	2.3	15 J	0.5
ICS-A-SE-5	5.1	0.12	0.3	52	0.1	72	0.0	130	2.3	4.6 J	0.2
ICS-A-SE-6	6.3	0.15	0.4	72	0.2	87	0.0	190	3.3	25 U	0.9 U
ICS-A-SE-7	7.2	0.14	0.34	63	0.2	121	0.1	140	2.5	24 U	0.8 U
ICS-B-SE-1	1.1	0.04	0.1	80	0.2	85	0.0	----	----	----	----
ICS-B-SE-2	2.2	----	----	----	----	----	----	----	----	----	----
ICS-B-SE-3	3.3	13.1 J	32.0	670	1.6	14300	7.2	57 U	1 U	58	2.0
ICS-B-SE-4	4.4	1.8 J	4.5	286	0.7	14200	7.1	52 U	1 U	120	4.1
ICS-B-SE-5	5.5	0.13	0.3	65	0.2	114	0.1	150	2.6	5.4 J	0.2
ICS-B-SE-6	6.6	0.19 J	0.5	74	0.2	147	0.1	160	2.8	25 U	0.9 U
ICS-C-SE-1	0.5	----	----	----	----	----	----	----	----	----	----
ICS-C-SE-2	2.3	0.04	0.1	31	0.1	91	0.0	----	----	----	----
ICS-C-SE-3	3.3	0.12	0.3	53	0.1	66	0.0	54	0.9	92	3.2
ICS-C-SE-4	4.4	0.03	0.07	26	0.1	61	0.0	20 U	0.4 U	22	0.8
ICS-D-SE-1	0.7	----	----	----	----	----	----	----	----	----	----
ICS-D-SE-2	2.1	38.8	94.6	3240	7.9	21900	11.0	----	----	----	----
ICS-D-SE-3	3.8	2.05	5.0	79	0.2	103	0.1	41	0.7	82	2.8
ICS-D-SE-4	5.3	0.14	0.3	68	0.2	71	0.0	100	1.8	4.3 J	0.1
ICS-D-SE-5	6.7	0.15 J	0.4	67	0.2	119	0.1	170	3.0	24 U	0.8 U
ICS-F-SE-1	0.5	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-2	1.7	0.29 J	0.7	1420	3.5	14100	7.1	59 U	1 U	890	31
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-4	4.5	0.16 J	0.4	70	0.2	115	0.1	120	2.1	24 U	0.8 U
ICS-F-SE-5	5.8	0.17	0.4	66	0.2	89	0.0	----	----	----	----
ICS-F-SE-6	7	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-7	8.3	0.09	0.2	54	0.1	43	0.0	42	0.7	20 U	0.7 U
ICS-F-SE-8	9.7	0.02	0.0	28	0.1	13 U	0.0	18 U	0.3 U	18 U	0.6 U
ICS-F-SE-9	10.9	----	----	----	----	----	----	----	----	----	----

**TABLE 6 - Exceedance Factors - Constituents with Dry Weight Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Mercury	Mercury	Zinc	Zinc	TPH D+ Lube Oil	TPH D+ Lube Oil	Benzyl alcohol	Benzyl alcohol	2,4-Dimethylphenol	2,4-Dimethylphenol
		mg/kg, dry	EF	mg/kg, dry	EF	mg/kg, dry	EF	µg/kg, dry	EF	µg/kg, dry	EF
Screening Levels	0 to 10 cm	0.41	1	410	1	2000	1	57	1	29	1
ICS-G-SE-1	0.6	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-2	1.8	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-3	3	0.20	0.5	91	0.2	225	0.1	----	----	----	----
ICS-G-SE-4	4.1	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-5	5.1	0.49	1.2	840	2.0	16300	8.2	110 U	2 U	58 J	2.0
ICS-G-SE-6	6.8	0.20	0.20	81	0.2	193	0.1	61	1.1	4.9 J	0.2
ICS-H-SE-1	0.4	----	----	----	----	----	----	----	----	----	----
ICS-H-SE-2	1.7	0.39	1.0	149	0.4	880	0.4	----	----	----	----
ICS-H-SE-3	3.3	4.85	11.8	377	0.9	3400	1.7	26 U	0.5 U	15 J	0.5
ICS-H-SE-4	4.7	0.04	0.10	37	0.1	78	0.0	19 U	0.3 U	6.4 J	0.2
ICS-I-SE-1	0.9	----	----	----	----	----	----	----	----	----	----
ICS-I-SE-2	2.6	1.77	4.3	109	0.3	850	0.4	----	----	----	----
ICS-I-SE-3	4.2	0.30	0.7	60	0.1	206	0.1	36 J	0.6	57 U	2.0 U
ICS-I-SE-4	5.9	0.24 J	0.6	91	0.2	181	0.1	72	1.3	24 U	0.8 U
ICS-I-SE-5	7.8	0.14	0.3	40	0.1	710	0.4	18 U	0.3 U	18 U	0.6 U
ICS-I-SE-6	9.5	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-1	0.8	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-2	2.6	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-3	4.9	0.29	0.7	201	0.5	3000	1.5	----	----	----	----
ICS-J-SE-4	6.8	0.08 J	0.2	51	0.1	112	0.1	37	0.6	24 U	0.8 U
ICS-J-SE-5	8.5	0.11	0.3	44	0.1	95	0.0	27	0.5	3 J	0.1
ICS-J-SE-6	10.4	0.11	0.27	56	0.1	99	0.0	44	0.8	19 U	0.7 U
ICS-K-SE-1	0.7	----	----	----	----	----	----	----	----	----	----
ICS-K-SE-2	2.2	1.95	4.8	213	0.5	1760	0.9	----	----	----	----
ICS-K-SE-3	3.8	0.38	0.9	70	0.2	250	0.1	19 U	0.3 U	24 U	0.8 U
ICS-K-SE-4	5.5	0.21	0.5	143	0.3	1060	0.5	57	1	11 J	0.4
ICS-K-SE-5	7	0.12	0.3	46	0.1	83	0.0	20 U	0.4 U	20 U	0.7 U
ICS-L-SE-1	0.7	----	----	----	----	----	----	----	----	----	----
ICS-L-SE-2	1.9	0.34	0.8	82	0.2	2600	1.3	----	----	----	----
ICS-L-SE-3	3.5	0.63	1.5	89	0.2	197	0.1	25	0.4	6.4 J	0.2
ICS-L-SE-4	5	0.31	0.8	52	0.1	66	0.0	27	0.5	3.5 J	0.1
ICS-L-SE-5	6.7	----	----	----	----	----	----	----	----	----	----

**TABLE 6 - Exceedance Factors - Constituents with Dry Weight Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Mercury	Mercury	Zinc	Zinc	TPH D+ Lube Oil	TPH D+ Lube Oil	Benzyl alcohol	Benzyl alcohol	2,4-Dimethylphenol	2,4-Dimethylphenol
		mg/kg, dry	EF	mg/kg, dry	EF	mg/kg, dry	EF	µg/kg, dry	EF	µg/kg, dry	EF
Screening Levels	0 to 10 cm	0.41	1	410	1	2000	1	57	1	29	1
ICS-M-SE-1	0.6	0.21	0.5	116	0.3	215	0.1	-----	-----	-----	-----
ICS-M-SE-2	1.6	0.04	0.1	48	0.1	45	0.0	20 U	0.4 U	20 U	0.7 U
ICS-M-SE-3	2.7	0.3 U	0.73	21	0.1	2 U	0.0	19 U	0.3 U	19 U	0.7 U
ICS-DUP	G-SE3	0.21	0.5	84	0.2	212	0.1	-----	-----	-----	-----
ICS-DUP	K-SE2	2.32	5.7	261	0.6	1730	0.9	-----	-----	-----	-----
No. Spl.		46	46	46	46	46	46	34	34	34	34
No. Exceedances		9	9	4	4	8	8	11	11	6	6
% Exceed		19.6%	19.6%	8.7%	8.7%	17.4%	17.4%	32.4%	32.4%	17.6%	17.6%
Maximum		39	94.6	3240	7.9	21900	11.0	190	3.3	890	31
Minimum		0.0	0.0	21.0	0.1	2.0	0.0	18.0	0.3	3.0	0.1

Notes: U = nondetected at the associated lower reporting limit.

J = estimate associated with value less than the verifiable lower quantitation limit.

- Value exceeds screening level based on dry wt. basis

**TABLE 6 - Exceedance Factors - Constituents with Dry Weight Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Pentachloro-phenol µg/kg, dry	Pentachloro-phenol EF	Benzo(a)-anthracene µg/kg, dry	Chrysene µg/kg, dry	total Benzo-fluoranthenes µg/kg, dry	Benzo(a)-pyrene µg/kg, dry	Indeno(1,2,3-cd)pyrene µg/kg, dry	Dibenz(a,h)-anthracene µg/kg, dry
Screening Levels	0 to 10 cm	360	1	TEQ	TEQ	TEQ	TEQ	TEQ	TEQ
ICS-A-SE-1	0.4	----	----	----	----	----	----	----	----
ICS-A-SE-2	1.3	----	----	----	----	----	----	----	----
ICS-A-SE-3	2.7	----	----	----	----	----	----	----	----
ICS-A-SE-4	3.9	18 J	0.1	53	65	78	53	23	20 U
ICS-A-SE-5	5.1	48 U	0.1 U	26	38	43	19 U	12 J	19 U
ICS-A-SE-6	6.3	20 U	0.1 U	30	47	56	20 U	20	20 U
ICS-A-SE-7	7.2	19 U	0.1 U	35	47	59	19 U	18 J	19 U
ICS-B-SE-1	1.1	----	----	----	----	----	----	----	----
ICS-B-SE-2	2.2	----	----	----	----	----	----	----	----
ICS-B-SE-3	3.3	800	2.2	640	1100	930	480	120	57
ICS-B-SE-4	4.4	52 U	0.1 U	280	480	460	200	83	52 U
ICS-B-SE-5	5.5	49 U	0.1 U	29	43	48	20 U	20 U	20 U
ICS-B-SE-6	6.6	20 U	0.1 U	33	45	56	20 U	17 J	20 U
ICS-C-SE-1	0.5	----	----	----	----	----	----	----	----
ICS-C-SE-2	2.3	----	----	----	----	----	----	----	----
ICS-C-SE-3	3.3	46 U	0.1 U	19	22	30 J	18 U	18 U	18 U
ICS-C-SE-4	4.4	49 U	0.1 U	35	36	48	31	14 J	20 U
ICS-D-SE-1	0.7	----	----	----	----	----	----	----	----
ICS-D-SE-2	2.1	----	----	----	----	----	----	----	----
ICS-D-SE-3	3.8	48 U	0.1 U	59	75	100	48	27	10 J
ICS-D-SE-4	5.3	50 U	0.1 U	34	44	48	20 U	13 J	20 U
ICS-D-SE-5	6.7	19 U	0.1 U	39	50	66	19 U	18 J	19 U
ICS-F-SE-1	0.5	----	----	----	----	----	----	----	----
ICS-F-SE-2	1.7	59 U	0.2 U	280 J	410	410 J	220 J	300 U	300 U
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----
ICS-F-SE-4	4.5	20 U	0.1 U	29	37	51	20 U	15 J	20 U
ICS-F-SE-5	5.8	----	----	----	----	----	----	----	----
ICS-F-SE-6	7	----	----	----	----	----	----	----	----
ICS-F-SE-7	8.3	49 U	0.1 U	18 J	26	16 J	20 U	14 J	20 U
ICS-F-SE-8	9.7	46 U	0.1 U	18 U	18 U	37 U	18 U	18 U	18 U
ICS-F-SE-9	10.9	----	----	----	----	----	----	----	----

**TABLE 6 - Exceedance Factors - Constituents with Dry Weight Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Pentachloro-phenol µg/kg, dry	Pentachloro-phenol EF	Benzo(a)-anthracene µg/kg, dry	Chrysene µg/kg, dry	total Benzo-fluoranthenes µg/kg, dry	Benzo(a)-pyrene µg/kg, dry	Indeno(1,2,3-cd)pyrene µg/kg, dry	Dibenz(a,h)-anthracene µg/kg, dry
Screening Levels	0 to 10 cm	360	1	TEQ	TEQ	TEQ	TEQ	TEQ	TEQ
ICS-G-SE-1	0.6	----	----	----	----	----	----	----	----
ICS-G-SE-2	1.8	----	----	----	----	----	----	----	----
ICS-G-SE-3	3	----	----	----	----	----	----	----	----
ICS-G-SE-4	4.1	----	----	----	----	----	----	----	----
ICS-G-SE-5	5.1	880 J	2.4	740	1800	890	110 U	140	110 U
ICS-G-SE-6	6.8	48 U	0.1 U	110	130	180	110	45	16 J
ICS-H-SE-1	0.4	----	----	----	----	----	----	----	----
ICS-H-SE-2	1.7	----	----	----	----	----	----	----	----
ICS-H-SE-3	3.3	190 J	0.5	350	490	490	260	68	26
ICS-H-SE-4	4.7	49 U	0.1 U	14 J	15 J	20 J	19 U	19 U	19 U
ICS-I-SE-1	0.9	----	----	----	----	----	----	----	----
ICS-I-SE-2	2.6	----	----	----	----	----	----	----	----
ICS-I-SE-3	4.2	140 U	0.4 U	300	540	780	360	180	63
ICS-I-SE-4	5.9	19 U	0.1 U	42	45	80	19 U	18 J	19 U
ICS-I-SE-5	7.8	46 U	0.1 U	310	350	470	360	170	73
ICS-I-SE-6	9.5	----	----	----	----	----	----	----	----
ICS-J-SE-1	0.8	----	----	----	----	----	----	----	----
ICS-J-SE-2	2.6	----	----	----	----	----	----	----	----
ICS-J-SE-3	4.9	----	----	----	----	----	----	----	----
ICS-J-SE-4	6.8	19 U	0.1 U	19	23	34 J	19 U	19 U	19 U
ICS-J-SE-5	8.5	47 U	0.1 U	94	160	140	72	36	11 J
ICS-J-SE-6	10.4	48 U	0.1 U	80	78	120	64	34	16 J
ICS-K-SE-1	0.7	----	----	----	----	----	----	----	----
ICS-K-SE-2	2.2	----	----	----	----	----	----	----	----
ICS-K-SE-3	3.8	19 U	0.1 U	31	67	56	22	19 U	19 U
ICS-K-SE-4	5.5	59 J	0.2	54	79	90	38	28	20 U
ICS-K-SE-5	7	49 U	0.1 U	120	170	210	110	49	17 J
ICS-L-SE-1	0.7	----	----	----	----	----	----	----	----
ICS-L-SE-2	1.9	----	----	----	----	----	----	----	----
ICS-L-SE-3	3.5	49 U	0.1 U	91	120	160	93	50	21
ICS-L-SE-4	5	48 U	0.1 U	40	50	67	19 U	21	19 U
ICS-L-SE-5	6.7	----	----	----	----	----	----	----	----


**TABLE 6 - Exceedance Factors - Constituents with Dry Weight Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Pentachloro-phenol µg/kg, dry	Pentachloro-phenol EF	Benzo(a)-anthracene µg/kg, dry	Chrysene µg/kg, dry	total Benzo-fluoranthenes µg/kg, dry	Benzo(a)-pyrene µg/kg, dry	Indeno(1,2,3-cd)pyrene µg/kg, dry	Dibenz(a,h)-anthracene µg/kg, dry
Screening Levels	0 to 10 cm	360	1	TEQ	TEQ	TEQ	TEQ	TEQ	TEQ
ICS-M-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-2	1.6	49 U	0.1 U	20 U	14 J	25 J	9.8 J	20 U	20 U
ICS-M-SE-3	2.7	47 U	0.1 U	19 U	19 U	38 U	19 U	19 U	19 U
ICS-DUP	G-SE3	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DUP	K-SE2	-----	-----	-----	-----	-----	-----	-----	-----
No. Spls.		34	34	34	34	34	34	34	34
No. Exceedances		2	2	-----	-----	-----	-----	-----	-----
% Exceed		5.9%	5.9%	-----	-----	-----	-----	-----	-----
Maximum		880	2.4	740	1800	930	480	300	300
Minimum		18.0	0.1	14.0	14.0	16.0	9.8	12.0	10.0

Notes: *U = nondetected at the associated lower reporting limit.*

J = estimate associated with value less than the verifiable lower quantitation limit.

 - Value exceeds screening level based on dry wt. basis

**TABLE 6 - Exceedance Factors - Constituents with Dry Weight Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	BaPEq. (TEQ)	BaPEq. (TEQ)	Aroclor 1016	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1221	Aroclor 1232	Detected total PCBs	Detected total PCBs
		µg/kg, dry	EF	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry
Screening Levels	0 to 10 cm	90		----	----	----	----	----	----	----	2	1
ICS-A-SE-1	0.4	----	----	----	----	----	----	----	----	----	----	----
ICS-A-SE-2	1.3	----	----	75 U	75 U	810	870	690	75 U	75 U	2370	1185
ICS-A-SE-3	2.7	----	----	----	----	----	----	----	----	----	----	----
ICS-A-SE-4	3.9	89.1	1.0	3.8 U	3.8 U	42	31	26	3.8 U	3.8 U	99	49.5
ICS-A-SE-5	5.1	46.5	0.5	3.8 U	3.8 U	12	7.8	7.3	3.8 U	3.8 U	27.1	13.55
ICS-A-SE-6	6.3	51.1	0.6	3.8 U	3.8 U	4.8 U	3.8 U	3.8 U	3.8 U	3.8 U	4.8 U	2.4 U
ICS-A-SE-7	7.2	49.7	0.6	3.8 U	3.8 U	6.3 U	3.8 U	3.8 U	3.8 U	3.8 U	6.3 U	3.2 U
ICS-B-SE-1	1.1	----	----	37 U	37 U	170	140	120	37 U	37 U	430	215
ICS-B-SE-2	2.2	----	----	----	----	----	----	----	----	----	----	----
ICS-B-SE-3	3.3	717	8.0	400 U	400 U	9600	11,000	8600	400 U	400 U	29,200	14600
ICS-B-SE-4	4.4	339	3.8	1500 U	1500 U	23,000	12,000	9100	1500 U	1500 U	44,100	22050
ICS-B-SE-5	5.5	50.1	0.6	3.9 U	50	3.9 U	24	23	3.9 U	3.9 U	97	48.5
ICS-B-SE-6	6.6	51.1	0.6	4.0 U	4.0 U	5.6 U	4.0 U	4.0 U	4.0 U	4.0 U	5.6 U	2.8 U
ICS-C-SE-1	0.5	----	----	----	----	----	----	----	----	----	----	----
ICS-C-SE-2	2.3	----	----	3.6 U	3.6 U	18	21	16	3.6 U	3.6 U	55	27.5
ICS-C-SE-3	3.3	42.9	0.5	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	1.9 U
ICS-C-SE-4	4.4	61.1	0.7	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	1.8 U
ICS-D-SE-1	0.7	----	----	----	----	----	----	----	----	----	----	----
ICS-D-SE-2	2.1	----	----	200 U	200 U	6200	7700	3100	200 U	200 U	17,000	8500
ICS-D-SE-3	3.8	77.4	0.9	3.9 U	3.9 U	27	30	10	3.9 U	3.9 U	67	33.5
ICS-D-SE-4	5.3	49.9	0.6	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	0.0 U
ICS-D-SE-5	6.7	50.8	0.6	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	2.0 U
ICS-F-SE-1	0.5	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-2	1.7	623.1	6.9	3.8 U	3.8 U	130 U	160	170	3.8 U	3.8 U	330	165
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-4	4.5	49.9	0.6	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	2.0 U
ICS-F-SE-5	5.8	----	----	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	2.0 U
ICS-F-SE-6	7	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-7	8.3	45.1	0.5	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	2.0 U
ICS-F-SE-8	9.7	43.5	0.5	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	1.9 U
ICS-F-SE-9	10.9	----	----	----	----	----	----	----	----	----	----	----

**TABLE 6 - Exceedance Factors - Constituents with Dry Weight Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	BaPEq. (TEQ)	BaPEq. (TEQ)	Aroclor 1016	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1221	Aroclor 1232	Detected total PCBs	Detected total PCBs
		µg/kg, dry	EF	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry
Screening Levels	0 to 10 cm	90		----	----	----	----	----	----	----	2	1
ICS-G-SE-1	0.6	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-2	1.8	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-3	3	----	----	39 U	39 U	610	670	270	39 U	39 U	1550	775
ICS-G-SE-4	4.1	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-5	5.1	415	4.6	78 U	78 U	3600	3600	2800	78 U	78 U	10,000	5000
ICS-G-SE-6	6.8	161	1.8	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	2.0 U
ICS-H-SE-1	0.4	----	----	----	----	----	----	----	----	----	----	----
ICS-H-SE-2	1.7	----	----	170 U	170 U	7400	4900	5800	170 U	170 U	18,100	9050
ICS-H-SE-3	3.3	382	4.2	580 U	580 U	13,000	16,000	9100	580 U	580 U	38,100	19050
ICS-H-SE-4	4.7	43.5	0.5	18 U	260	18 U	93 U	18 U	18 U	18 U	260	130
ICS-I-SE-1	0.9	----	----	----	----	----	----	----	----	----	----	----
ICS-I-SE-2	2.6	----	----	140 U	140 U	5100	6000	1900	140 U	140 U	13,000	6500
ICS-I-SE-3	4.2	554	6.2	3.9 U	3.9 U	170	160	65	3.9 U	3.9 U	395	197.5
ICS-I-SE-4	5.9	52.5	0.6	3.9 U	3.9 U	70	46	27	3.9 U	3.9 U	143	71.5
ICS-I-SE-5	7.8	532	5.9	3.8 U	36	3.8 U	19 U	5.6	3.8 U	3.8 U	42	20.8
ICS-I-SE-6	9.5	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-1	0.8	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-2	2.6	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-3	4.9	----	----	3.8 U	3.8 U	47	110	180	3.8 U	3.8 U	337	168.5
ICS-J-SE-4	6.8	45.4	0.5	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4 U	2.0 U
ICS-J-SE-5	8.5	112	1.2	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	4 U	1.9 U
ICS-J-SE-6	10.4	104	1.2	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	4 U	2.0 U
ICS-K-SE-1	0.7	----	----	----	----	----	----	----	----	----	----	----
ICS-K-SE-2	2.2	----	----	170 U	170 U	5000	5100	2900	170 U	170 U	13,000	6500
ICS-K-SE-3	3.8	52.3	0.6	38 U	38 U	760	590	260	38 U	38 U	1610	805
ICS-K-SE-4	5.5	76.0	0.8	3.8 U	3.8 U	22	76 U	81	3.8 U	3.8 U	103	51.5
ICS-K-SE-5	7	167	1.9	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	1.9 U
ICS-L-SE-1	0.7	----	----	----	----	----	----	----	----	----	----	----
ICS-L-SE-2	1.9	----	----	38 U	38 U	910	880	520	38 U	38 U	2310	1155
ICS-L-SE-3	3.5	145	1.6	4.0 U	4.0 U	8.0	9.2	6.0	4.0 U	4.0 U	23	11.6
ICS-L-SE-4	5	51.3	0.6	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	2.0 U
ICS-L-SE-5	6.7	----	----	----	----	----	----	----	----	----	----	----

**TABLE 6 - Exceedance Factors - Constituents with Dry Weight Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	BaPEq. (TEQ)	BaPEq. (TEQ)	Aroclor 1016	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1221	Aroclor 1232	Detected total PCBs	Detected total PCBs
		µg/kg, dry	EF	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry
Screening Levels	0 to 10 cm	90		-----	-----	-----	-----	-----	-----	-----	2	1
ICS-M-SE-1	0.6	-----	-----	37 U	37 U	370	360	380	37 U	37 U	1110	555
ICS-M-SE-2	1.6	36.4	0.4	3.8 U	3.8 U	98	120	94	3.8 U	3.8 U	312	156
ICS-M-SE-3	2.7	45.8	0.5	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	1.9 U
ICS-DUP	G-SE3	-----	-----	38 U	38 U	390	440	210	38 U	38 U	1040	520
ICS-DUP	K-SE2	-----	-----	220 U	220 U	6700	6500	3400	220 U	220 U	16,600	8300
No. Spl.		34	34	0	3	24	25	27	0	0	46	46
No. Exceedances		11	11	-----	-----	-----	-----	-----	-----	-----	28	28
% Exceed		32.4%	32.4%	-----	-----	-----	-----	-----	-----	-----	60.9%	60.9%
Maximum		717	8	0	260	23000	16000	9100	0	0	44100	22050
Minimum		36.4	0.4	0.0	36.0	8.0	7.8	5.6	0.0	0.0	3.6	0.0

Notes: *U = nondetected at the associated lower reporting limit.*

J = estimate associated with value less than the verifiable lower quantitation limit.

Value exceeds screening level based on dry wt. basis

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Collection Date	ARI Delivery Group	TOC %	1,4-Dichlorobenzene			1,2-Dichlorobenzene			1,2,4-Trichlorobenzene		
					µg/kg, dry (a)	µg/kg, OCN 3100	EF 1	µg/kg, dry (a)	µg/kg, OCN 2300	EF 1	µg/kg, dry (a)	µg/kg, OCN 810	EF 1
Screening Levels					(a)	3100	1	(a)	2300	1	(a)	810	1
ICS-A-SE-1	0.4	11/26/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-2	1.3	11/26/12	VV01	1.37	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-3	2.7	11/26/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-4	3.9	11/26/12	VV01	2.77	3	108	0.0	6.5	235	0.1	6.9	249	0.3
ICS-A-SE-5	5.1	11/26/12	VV01	1.61	2.9	180	0.1	10	621	0.3	<4.8	298	0.4
ICS-A-SE-6	6.3	11/26/12	XD56	3.22	<5.0	155	0.1	<5.0	155	0.1	<5.0	155	0.2
ICS-A-SE-7	7.2	11/26/12	XD56	4.22	<4.8	114	0.0	<4.8	114	0.0	<4.8	114	0.1
ICS-B-SE-1	1.1	11/27/12	VV01	0.78	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-B-SE-2	2.2	11/27/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-B-SE-3	3.3	11/27/12	VV01	3.96	300	7576	2.4	97	2449	1.1	66	1667	2.1
ICS-B-SE-4	4.4	11/27/12	XD56	3.37	370	10979	3.5	150	4451	1.9	52	1543	1.9
ICS-B-SE-5	5.5	11/27/12	VV01	3.64	22	604	0.2	22	604	0.3	<4.9	135	0.2
ICS-B-SE-6	6.6	11/27/12	XD56	2.66	<4.9	184	0.1	<4.9	184	0.1	<4.9	184	0.2
ICS-C-SE-1	0.5	11/27/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-C-SE-2	2.3	11/27/12	VV01	0.89	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-C-SE-3	3.3	11/27/12	VV01	2.29	<4.6	201	0.1	<4.6	201	0.1	<4.6	201	0.2
ICS-C-SE-4	4.4	11/27/12	VV01	1.57	33	2102	0.7	2.8	178	0.1	<4.9	312	0.4
ICS-D-SE-1	0.7	11/27/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-D-SE-2	2.1	11/27/12	VV01	6.91	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-D-SE-3	3.8	11/27/12	VV01	2.07	15	725	0.2	76	3671	1.6	<4.8	232	0.3
ICS-D-SE-4	5.3	11/27/12	VV01	2.70	<5.0	185	0.1	<5.0	185	0.1	<5.0	185	0.2
ICS-D-SE-5	6.7	11/27/12	XD56	2.26	<4.8	212	0.1	<4.8	212	0.1	<4.8	212	0.3
ICS-F-SE-1	0.5	11/27/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-2	1.7	11/27/12	XD56	3.15	11	349	0.1	9.5	302	0.1	<15.0	476	0.6
ICS-F-SE-3	3.1	12/10/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-4	4.5	11/27/12	XD56	2.22	<4.9	221	0.1	<4.9	221	0.1	<4.9	221	0.3
ICS-F-SE-5	5.8	11/27/12	VV01	2.67	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-6	7	11/27/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-7	8.3	11/27/12	VV01	1.26	<4.9	389	0.1	<4.9	389	0.2	<4.9	389	0.5
ICS-F-SE-8	9.7	11/27/12	VV01	0.436	<4.6	1055	0.3	<4.6	1055	0.5	<4.6	1055	1.3
ICS-F-SE-9	10.9	11/27/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**


ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Collection Date	ARI Delivery Group	TOC %	1,4-Dichlorobenzene			1,2-Dichlorobenzene			1,2,4-Trichlorobenzene		
					µg/kg, dry (a)	µg/kg, OCN 3100	EF 1	µg/kg, dry (a)	µg/kg, OCN 2300	EF 1	µg/kg, dry (a)	µg/kg, OCN 810	EF 1
Screening Levels					(a)	3100	1	(a)	2300	1	(a)	810	1
ICS-G-SE-1	0.6	11/28/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-2	1.8	11/28/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-3	3	11/28/12	VV01	1.78	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DUP1-SE	SE-3	11/28/12	VV01	1.32	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-4	4.1	11/28/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-5	5.1	11/28/12	VV01	1.85	140	7568	2.4	<29.0	1568	0.7	<29.0	1568	1.9
ICS-G-SE-6	6.8	11/28/12	VV01	1.60	<4.8	300	0.1	3.2	200	0.1	<4.8	300	0.4
ICS-H-SE-1	0.4	11/28/12	VV01	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-H-SE-2	1.7	11/28/12	VV01	2.00	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-H-SE-3	3.3	11/28/12	VV01	3.41	1000	29326	9.5	100	2933	1.3	36	1056	1.3
ICS-H-SE-4	4.7	11/28/12	VV10	0.856	24	2804	0.9	7.4	864	0.4	6.1	713	0.9
ICS-I-SE-1	0.9	11/28/12	VV10	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-I-SE-2	2.6	11/28/12	VV10	3.13	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-I-SE-3	4.2	11/28/12	VV10	2.28	<14.0	614	0.2	<14.0	614	0.3	<14.0	614	0.8
ICS-I-SE-4	5.9	11/28/12	XD56	2.84	<4.8	169	0.1	3.0	106	0.0	<4.8	169	0.2
ICS-I-SE-5	7.8	11/28/12	VV10	1.02	<4.6	451	0.1	<4.6	451	0.2	<4.6	451	0.6
ICS-I-SE-6	9.5	11/28/12	VV10	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-1	0.8	11/28/12	VV10	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-2	2.6	11/28/12	VV10	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-3	4.9	11/28/12	VV10	2.31	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-4	6.8	11/28/12	XD56	0.96	<4.7	489	0.2	<4.7	489	0.2	<4.7	489	0.6
ICS-J-SE-5	8.5	11/28/12	VV10	1.33	<4.7	353	0.1	<4.7	353	0.2	<4.7	353	0.4
ICS-J-SE-6	10.4	11/28/12	VV10	1.55	<4.8	310	0.1	<4.8	310	0.1	<4.8	310	0.4
ICS-K-SE-1	0.7	11/30/12	VV10	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-K-SE-2	2.2	11/30/12	VV10	2.37	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DUP2-SE	SE-2	11/30/12	VV10	2.03	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-K-SE-3	3.8	11/30/12	XD56	0.88	5.0	569	0.2	3.1	353	0.2	3.8	432	0.5
ICS-K-SE-4	5.5	11/30/12	VV10	2.31	2.7	117	0.0	<5.0	216	0.1	<5.0	216	0.3
ICS-K-SE-5	7	11/30/12	VV10	1.83	<4.9	268	0.1	<4.9	268	0.1	<4.9	268	0.3
ICS-L-SE-1	0.7	11/30/12	VV10	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-L-SE-2	1.9	11/30/12	VV10	1.66	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-L-SE-3	3.5	11/30/12	VV10	1.55	<4.9	316	0.1	<4.9	316	0.1	<4.9	316	0.4

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Collection Date	ARI Delivery Group	TOC %	1,4-Dichlorobenzene			1,2-Dichlorobenzene			1,2,4-Trichlorobenzene		
					µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF
Screening Levels					(a)	3100	1	(a)	2300	1	(a)	810	1
ICS-L-SE-4	5	11/30/12	VV10	1.44	<4.8	333	0.1	<4.8	333	0.1	<4.8	333	0.4
ICS-L-SE-5	6.7	11/30/12	VV10	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	11/30/12	VV10	2.55	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-2	1.6	11/30/12	VV10	2.95	<4.9	166	0.1	<4.9	166	0.1	<4.9	166	0.2
ICS-M-SE-3	2.7	11/30/12	VV10	0.283	<4.7	1661	0.5	<4.7	1661	0.7	<4.7	1661	2.1
Spl. Number					34	34	34	34	34	34	34	34	34
No. Exceed.					-----	4	4	-----	4	4	-----	3	3
% Exceed					-----	11.8%	11.8%	-----	11.8%	11.8%	-----	8.8%	8.8%
Maximum					3	29326	9.5	9	4451	1.9	1	1667	2.1
Minimum					0.3	108	0.0	0.0	106	0.0	0.0	114	0.1

Notes: *U* = nondetected at the associated lower reporting limit.
J = estimate associated with value less than the verifiable lower quantitation limit.
 < - Not detected at indicated reporting limit
 ----- - Not analyzed
 (a) - Constituent with carbon-normalized cleanup criteria (see Table 1).
 - Value exceeds screening level (based on carbon normalized value)

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Naphthalene			2-Methylnaphthalene			Dimethylphthalate			Acenaphthylene		
		µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF
Screening Levels		(a)	99000	1	(a)	38000	1	(a)	53000	1	(a)	66000	1
ICS-A-SE-1	0.4	----	----	----	----	----	----	----	----	----	----	----	----
ICS-A-SE-2	1.3	----	----	----	----	----	----	----	----	----	----	----	----
ICS-A-SE-3	2.7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-A-SE-4	3.9	66	2383	0.0	41	1480	0.0	<20	722	0.0	<20	722	0.0
ICS-A-SE-5	5.1	50	3106	0.0	34	2112	0.1	<19	1180	0.0	<19	1180	0.0
ICS-A-SE-6	6.3	71	2205	0.0	44	1366	0.0	<20	621	0.0	19	590	0.0
ICS-A-SE-7	7.2	52	1232	0.0	39	924	0.0	<19	450	0.0	<19	450	0.0
ICS-B-SE-1	1.1	----	----	----	----	----	----	----	----	----	----	----	----
ICS-B-SE-2	2.2	----	----	----	----	----	----	----	----	----	----	----	----
ICS-B-SE-3	3.3	360	9091	0.1	260	6566	0.2	<57	1439	0.0	<57	1439	0.0
ICS-B-SE-4	4.4	120	3561	0.0	180	5341	0.1	<52	1543	0.0	99	2938	0.0
ICS-B-SE-5	5.5	57	1566	0.0	44	1209	0.0	<20	549	0.0	<20	549	0.0
ICS-B-SE-6	6.6	73	2744	0.0	48	1805	0.0	<20	752	0.0	<20	752	0.0
ICS-C-SE-1	0.5	----	----	----	----	----	----	----	----	----	----	----	----
ICS-C-SE-2	2.3	----	----	----	----	----	----	----	----	----	----	----	----
ICS-C-SE-3	3.3	24	1048	0.0	13	568	0.0	<18	786	0.0	<18	786	0.0
ICS-C-SE-4	4.4	18	1146	0.0	<20.0	1274	0.0	<20	1274	0.0	<20	1274	0.0
ICS-D-SE-1	0.7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-D-SE-2	2.1	----	----	----	----	----	----	----	----	----	----	----	----
ICS-D-SE-3	3.8	620	29952	0.3	520	25121	0.7	<19	918	0.0	19	918	0.0
ICS-D-SE-4	5.3	69	2556	0.0	45	1667	0.0	<20	741	0.0	12	444	0.0
ICS-D-SE-5	6.7	77	3407	0.0	63	2788	0.1	<19	841	0.0	<19	841	0.0
ICS-F-SE-1	0.5	----	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-2	1.7	17000	539683	5.5	62000	1968254	51.8	<300	9524	0.2	900	28571	0.4
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-4	4.5	72	3243	0.0	120	5405	0.1	<20	901	0.0	<20	901	0.0
ICS-F-SE-5	5.8	----	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-6	7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-7	8.3	22	1746	0.0	20	1587	0.0	<20	1587	0.0	<20	1587	0.0
ICS-F-SE-8	9.7	18	4128	0.0	<18.0	4128	0.1	<18	4128	0.1	<18	4128	0.1
ICS-F-SE-9	10.9	----	----	----	----	----	----	----	----	----	----	----	----

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**


ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Naphthalene			2-Methylnaphthalene			Dimethylphthalate			Acenaphthylene		
		µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF
Screening Levels		(a)	99000	1	(a)	38000	1	(a)	53000	1	(a)	66000	1
ICS-G-SE-1	0.6	----	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-2	1.8	----	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-3	3	----	----	----	----	----	----	----	----	----	----	----	----
ICS-DUP1-SE	SE-3	----	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-4	4.1	----	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-5	5.1	380	20541	0.2	220	11892	0.3	<110	5946	0.1	<110	5946	0.1
ICS-G-SE-6	6.8	84	5250	0.1	40	2500	0.1	<19	1188	0.0	34	2125	0.0
ICS-H-SE-1	0.4	----	----	----	----	----	----	----	----	----	----	----	----
ICS-H-SE-2	1.7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-H-SE-3	3.3	190	5572	0.1	91	2669	0.1	<26	762	0.0	<26	762	0.0
ICS-H-SE-4	4.7	20	2336	0.0	<19.0	2220	0.1	<19	2220	0.0	<19	2220	0.0
ICS-I-SE-1	0.9	----	----	----	----	----	----	----	----	----	----	----	----
ICS-I-SE-2	2.6	----	----	----	----	----	----	----	----	----	----	----	----
ICS-I-SE-3	4.2	86	3772	0.0	29	1272	0.0	<57	2500	0.0	37	1623	0.0
ICS-I-SE-4	5.9	56	1972	0.0	19	669	0.0	<19	669	0.0	<19	669	0.0
ICS-I-SE-5	7.8	23	2255	0.0	11	1078	0.0	<18	1765	0.0	<18	1765	0.0
ICS-I-SE-6	9.5	----	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-1	0.8	----	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-2	2.6	----	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-3	4.9	----	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-4	6.8	53	5515	0.1	43	4475	0.1	<19	1977	0.0	24	2497	0.0
ICS-J-SE-5	8.5	64	4812	0.0	17	1278	0.0	<19	1429	0.0	22	1654	0.0
ICS-J-SE-6	10.4	23	1484	0.0	36	2323	0.1	<19	1226	0.0	<19	1226	0.0
ICS-K-SE-1	0.7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-K-SE-2	2.2	----	----	----	----	----	----	----	----	----	----	----	----
ICS-DUP2-SE	SE-2	----	----	----	----	----	----	----	----	----	----	----	----
ICS-K-SE-3	3.8	<19	2162	0.0	13	1479	0.0	<19	2162	0.0	<19	2162	0.0
ICS-K-SE-4	5.5	100	4329	0.0	140	6061	0.2	<20	866	0.0	<20	866	0.0
ICS-K-SE-5	7	83	4536	0.0	21	1148	0.0	<20	1093	0.0	28	1530	0.0
ICS-L-SE-1	0.7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-L-SE-2	1.9	----	----	----	----	----	----	----	----	----	----	----	----
ICS-L-SE-3	3.5	160	10323	0.1	39	2516	0.1	<20	1290	0.0	51	3290	0.0

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Naphthalene			2-Methylnaphthalene			Dimethylphthalate			Acenaphthylene		
		µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF
Screening Levels		(a)	99000	1	(a)	38000	1	(a)	53000	1	(a)	66000	1
ICS-L-SE-4	5	71	4931	0.0	38	2639	0.1	<19	1319	0.0	22	1528	0.0
ICS-L-SE-5	6.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-2	1.6	<20.0	678	0.0	<20.0	678	0.0	<20	678	0.0	<20	678	0.0
ICS-M-SE-3	2.7	<19.0	6714	0.1	<19.0	6714	0.2	<19	6714	0.1	<19	6714	0.1
Spl. Number		34	34	34	34	34	34	34	34	34	34	34	34
No. Exceed.		-----	1	1	-----	1	1	-----	0	0	-----	0	0
% Exceed		-----	2.9%	2.9%	-----	2.9%	2.9%	-----	0.0%	0.0%	-----	0.0%	0.0%
Maximum		2	539683	5.5	0	1968254	51.8	0	9524	0.2	0	28571	0.4
Minimum		0.2	678	0.0	0.0	568	0.0	0.0	450	0.0	0.0	444	0.0

Notes: *U* = nondetected at the associated lower reporting limit.
J = estimate associated with value less than the verifiable lower quantitation limit.
 < - Not detected at indicated reporting limit
 ----- - Not analyzed
 (a) - Constituent with carbon-normalized cleanup criteria (see Table 1).
 - Value exceeds screening level (based on carbon normalized value)

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Acenaphthene			Dibenzofuran			Diethylphthalate		
		µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF
Screening Levels		(a)	16000	1	(a)	15000	1	(a)	61000	1
ICS-A-SE-1	0.4	----	----	----	----	----	----	----	----	----
ICS-A-SE-2	1.3	----	----	----	----	----	----	----	----	----
ICS-A-SE-3	2.7	----	----	----	----	----	----	----	----	----
ICS-A-SE-4	3.9	46	1661	0.1	43	1552	0.1	<49	1769	0.0
ICS-A-SE-5	5.1	21	1304	0.1	30	1863	0.1	37	2298	0.0
ICS-A-SE-6	6.3	27	839	0.1	39	1211	0.1	27	839	0.0
ICS-A-SE-7	7.2	25	592	0.0	37	877	0.1	24	569	0.0
ICS-B-SE-1	1.1	----	----	----	----	----	----	----	----	----
ICS-B-SE-2	2.2	----	----	----	----	----	----	----	----	----
ICS-B-SE-3	3.3	910	22980	1.4	<57	1439	0.1	<140	3535	0.1
ICS-B-SE-4	4.4	220	6528	0.4	100	2967	0.2	220	6528	0.1
ICS-B-SE-5	5.5	29	797	0.0	39	1071	0.1	60	1648	0.0
ICS-B-SE-6	6.6	32	1203	0.1	45	1692	0.1	20	752	0.0
ICS-C-SE-1	0.5	----	----	----	----	----	----	----	----	----
ICS-C-SE-2	2.3	----	----	----	----	----	----	----	----	----
ICS-C-SE-3	3.3	21	917	0.1	20	873	0.1	<46	2009	0.0
ICS-C-SE-4	4.4	23	1465	0.1	<20	1274	0.1	51	3248	0.1
ICS-D-SE-1	0.7	----	----	----	----	----	----	----	----	----
ICS-D-SE-2	2.1	----	----	----	----	----	----	----	----	----
ICS-D-SE-3	3.8	34	1643	0.1	33	1594	0.1	<48	2319	0.0
ICS-D-SE-4	5.3	31	1148	0.1	42	1556	0.1	<50	1852	0.0
ICS-D-SE-5	6.7	23	1018	0.1	47	2080	0.1	<19	841	0.0
ICS-F-SE-1	0.5	----	----	----	----	----	----	----	----	----
ICS-F-SE-2	1.7	980	31111	1.9	1600	50794	3.4	<300	9524	0.2
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----
ICS-F-SE-4	4.5	22	991	0.1	38	1712	0.1	35	1577	0.0
ICS-F-SE-5	5.8	----	----	----	----	----	----	----	----	----
ICS-F-SE-6	7	----	----	----	----	----	----	----	----	----
ICS-F-SE-7	8.3	<20	1587	0.1	14	1111	0.1	<49	3889	0.1
ICS-F-SE-8	9.7	<18	4128	0.3	<18	4128	0.3	220	50459	0.8
ICS-F-SE-9	10.9	----	----	----	----	----	----	----	----	----

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Acenaphthene			Dibenzofuran			Diethylphthalate		
		µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF
Screening Levels		(a)	16000	1	(a)	15000	1	(a)	61000	1
ICS-G-SE-1	0.6	----	----	----	----	----	----	----	----	----
ICS-G-SE-2	1.8	----	----	----	----	----	----	----	----	----
ICS-G-SE-3	3	----	----	----	----	----	----	----	----	----
ICS-DUP1-SE	SE-3	----	----	----	----	----	----	----	----	----
ICS-G-SE-4	4.1	----	----	----	----	----	----	----	----	----
ICS-G-SE-5	5.1	330	17838	1.1	91	4919	0.3	<290	15676	0.3
ICS-G-SE-6	6.8	34	2125	0.1	35	2188	0.1	<48	3000	0.0
ICS-H-SE-1	0.4	----	----	----	----	----	----	----	----	----
ICS-H-SE-2	1.7	----	----	----	----	----	----	----	----	----
ICS-H-SE-3	3.3	240	7038	0.4	86	2522	0.2	<64	1877	0.0
ICS-H-SE-4	4.7	<19	2220	0.1	<19	2220	0.1	49	5724	0.1
ICS-I-SE-1	0.9	----	----	----	----	----	----	----	----	----
ICS-I-SE-2	2.6	----	----	----	----	----	----	----	----	----
ICS-I-SE-3	4.2	77	3377	0.2	29	1272	0.1	<140	6140	0.1
ICS-I-SE-4	5.9	290	10211	0.6	40	1408	0.1	80	2817	0.0
ICS-I-SE-5	7.8	520	50980	3.2	23	2255	0.2	<46	4510	0.1
ICS-I-SE-6	9.5	----	----	----	----	----	----	----	----	----
ICS-J-SE-1	0.8	----	----	----	----	----	----	----	----	----
ICS-J-SE-2	2.6	----	----	----	----	----	----	----	----	----
ICS-J-SE-3	4.9	----	----	----	----	----	----	----	----	----
ICS-J-SE-4	6.8	19	1977	0.1	24	2497	0.2	42	4370	0.1
ICS-J-SE-5	8.5	44	3308	0.2	25	1880	0.1	<47	3534	0.1
ICS-J-SE-6	10.4	23	1484	0.1	15	968	0.1	<48	3097	0.1
ICS-K-SE-1	0.7	----	----	----	----	----	----	----	----	----
ICS-K-SE-2	2.2	----	----	----	----	----	----	----	----	----
ICS-DUP2-SE	SE-2	----	----	----	----	----	----	----	----	----
ICS-K-SE-3	3.8	18	2048	0.1	17	1934	0.1	86	9784	0.2
ICS-K-SE-4	5.5	62	2684	0.2	34	1472	0.1	<50	2165	0.0
ICS-K-SE-5	7	80	4372	0.3	28	1530	0.1	<49	2678	0.0
ICS-L-SE-1	0.7	----	----	----	----	----	----	----	----	----
ICS-L-SE-2	1.9	----	----	----	----	----	----	----	----	----
ICS-L-SE-3	3.5	66	4258	0.3	48	3097	0.2	<49	3161	0.1

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

Core Location	Mid-Point Depth (feet)	Acenaphthene			Dibenzofuran			Diethylphthalate		
		µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF
Screening Levels		(a)	16000	1	(a)	15000	1	(a)	61000	1
ICS-L-SE-4	5	23	1597	0.1	32	2222	0.1	<48	3333	0.1
ICS-L-SE-5	6.7	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-2	1.6	<20	678	0.0	<20	678	0.0	40	1356	0.0
ICS-M-SE-3	2.7	<19	6714	0.4	<19	6714	0.4	<47	16608	0.3
Spl. Number		34	34	34	34	34	34	34	34	34
No. Exceed.		-----	4	4	-----	1	1	-----	0	0
% Exceed		-----	11.8%	11.8%	-----	2.9%	2.9%	-----	0.0%	0.0%
Maximum		0	50980	3.2	3	50794	3.4	0	50459	0.8
Minimum		0.0	592	0.0	0.0	678	0.0	0.0	569	0.0

Notes: *U* = nondetected at the associated lower reporting limit.
J = estimate associated with value less than the verifiable lower quantitation limit.
 < - Not detected at indicated reporting limit
 ----- - Not analyzed
 (a) - Constituent with carbon-normalized cleanup criteria (see Table 1).
 - Value exceeds screening level (based on carbon normalized value)

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Fluorene			N-Nitrosodiphenylamine			Phenanthrene			Anthracene		
		µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF
Screening Levels		(a)	23000	1	(a)	11000	1	(a)	100000	1	(a)	220000	1
ICS-A-SE-1	0.4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-2	1.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-3	2.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-4	3.9	51	1841	0.1	<20	722	0.1	180	6498	0.1	45	1625	0.0
ICS-A-SE-5	5.1	33	2050	0.1	11	683	0.1	110	6832	0.1	22	1366	0.0
ICS-A-SE-6	6.3	44	1366	0.1	<5.0	155	0.0	150	4658	0.0	29	901	0.0
ICS-A-SE-7	7.2	39	924	0.0	<4.8	114	0.0	130	3081	0.0	33	782	0.0
ICS-B-SE-1	1.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-B-SE-2	2.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-B-SE-3	3.3	450	11364	0.5	<57	1439	0.1	400	10101	0.1	600	15152	0.1
ICS-B-SE-4	4.4	260	7715	0.3	<13	386	0.0	630	18694	0.2	160	4748	0.0
ICS-B-SE-5	5.5	45	1236	0.1	6.6	181	0.0	140	3846	0.0	26	714	0.0
ICS-B-SE-6	6.6	54	2030	0.1	<4.9	184	0.0	170	6391	0.1	28	1053	0.0
ICS-C-SE-1	0.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-C-SE-2	2.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-C-SE-3	3.3	22	961	0.0	2.4	105	0.0	53	2314	0.0	15	655	0.0
ICS-C-SE-4	4.4	13	828	0.0	<20	1274	0.1	49	3121	0.0	14	892	0.0
ICS-D-SE-1	0.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-D-SE-2	2.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-D-SE-3	3.8	51	2464	0.1	6.1	295	0.0	130	6280	0.1	39	1884	0.0
ICS-D-SE-4	5.3	51	1889	0.1	3.5	130	0.0	160	5926	0.1	30	1111	0.0
ICS-D-SE-5	6.7	40	1770	0.1	<4.8	212	0.0	140	6195	0.1	34	1504	0.0
ICS-F-SE-1	0.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-2	1.7	5000	158730	6.9	<15	476	0.0	6800	215873	2.2	440	13968	0.1
ICS-F-SE-3	3.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-4	4.5	42	1892	0.1	<4.9	221	0.0	130	5856	0.1	24	1081	0.0
ICS-F-SE-5	5.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-6	7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-7	8.3	20	1587	0.1	<20	1587	0.1	54	4286	0.0	16	1270	0.0
ICS-F-SE-8	9.7	<18	4128	0.2	<18	4128	0.4	12	2752	0.0	<18	4128	0.0
ICS-F-SE-9	10.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**


ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Fluorene			N-Nitrosodiphenylamine			Phenanthrene			Anthracene		
		µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF
Screening Levels		(a)	23000	1	(a)	11000	1	(a)	100000	1	(a)	220000	1
ICS-G-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-2	1.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-3	3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DUP1-SE	SE-3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-4	4.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-5	5.1	1200	64865	2.8	1800	97297	8.8	940	50811	0.5	730	39459	0.2
ICS-G-SE-6	6.8	52	3250	0.1	9.6	600	0.1	170	10625	0.1	59	3688	0.0
ICS-H-SE-1	0.4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-H-SE-2	1.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-H-SE-3	3.3	490	14370	0.6	260	7625	0.7	800	23460	0.2	300	8798	0.0
ICS-H-SE-4	4.7	16	1869	0.1	3.3	386	0.0	35	4089	0.0	<19	2220	0.0
ICS-I-SE-1	0.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-I-SE-2	2.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-I-SE-3	4.2	52	2281	0.1	8.9	390	0.0	150	6579	0.1	97	4254	0.0
ICS-I-SE-4	5.9	59	2077	0.1	<4.8	169	0.0	67	2359	0.0	25	880	0.0
ICS-I-SE-5	7.8	41	4020	0.2	2.8	275	0.0	500	49020	0.5	150	14706	0.1
ICS-I-SE-6	9.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-1	0.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-2	2.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-3	4.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-4	6.8	21	2185	0.1	<4.7	489	0.0	90	9365	0.1	20	2081	0.0
ICS-J-SE-5	8.5	35	2632	0.1	<19	1429	0.1	120	9023	0.1	57	4286	0.0
ICS-J-SE-6	10.4	21	1355	0.1	<19	1226	0.1	84	5419	0.1	33	2129	0.0
ICS-K-SE-1	0.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-K-SE-2	2.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DUP2-SE	SE-2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-K-SE-3	3.8	12	1365	0.1	<4.7	535	0.0	34	3868	0.0	15	1706	0.0
ICS-K-SE-4	5.5	49	2121	0.1	<20	866	0.1	100	4329	0.0	44	1905	0.0
ICS-K-SE-5	7	39	2131	0.1	<20	1093	0.1	110	6011	0.1	71	3880	0.0
ICS-L-SE-1	0.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-L-SE-2	1.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-L-SE-3	3.5	59	3806	0.2	4	258	0.0	200	12903	0.1	65	4194	0.0

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Fluorene			N-Nitrosodiphenylamine			Phenanthrene			Anthracene		
		µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF	µg/kg, dry	µg/kg, OCN	EF
Screening Levels		(a)	23000	1	(a)	11000	1	(a)	100000	1	(a)	220000	1
ICS-L-SE-4	5	45	3125	0.1	2.6	181	0.0	130	9028	0.1	37	2569	0.0
ICS-L-SE-5	6.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-2	1.6	<20	678	0.0	<20	678	0.1	<20	678	0.0	<20	678	0.0
ICS-M-SE-3	2.7	<19	6714	0.3	<19	6714	0.6	<19	6714	0.1	<19	6714	0.0
Spl. Number		34	34	34	34	34	34	34	34	34	34	34	34
No. Exceed.		-----	2	2	-----	1	1	-----	1	1	-----	0	0
% Exceed		-----	5.9%	5.9%	-----	2.9%	2.9%	-----	2.9%	2.9%	-----	0.0%	0.0%
Maximum		0	158730	6.9	3	97297	8.8	9	215873	2.2	1	39459	0.2
Minimum		0.0	678	0.0	0.0	105	0.0	0.0	678	0.0	0.0	655	0.0

Notes: *U* = nondetected at the associated lower reporting limit.
J = estimate associated with value less than the verifiable lower quantitation limit.
 < - Not detected at indicated reporting limit
 ----- - Not analyzed
 (a) - Constituent with carbon-normalized cleanup criteria (see Table 1).
 - Value exceeds screening level (based on carbon normalized value)

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Di-n-butylphthalate			Fluoranthene			Pyrene			Butylbenzylphthalate		
		µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF
Screening Levels		(a)	220000	1	(a)	160000	1	(a)	1000000	1	(a)	4900	1
ICS-A-SE-1	0.4	----	----	----	----	----	----	----	----	----	----	----	----
ICS-A-SE-2	1.3	----	----	----	----	----	----	----	----	----	----	----	----
ICS-A-SE-3	2.7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-A-SE-4	3.9	<20	722	0.0	200	7220	0.0	160	5776	0.0	<4.9	177	0.0
ICS-A-SE-5	5.1	<19	1180	0.0	92	5714	0.0	78	4845	0.0	<4.8	298	0.1
ICS-A-SE-6	6.3	<20	621	0.0	110	3416	0.0	100	3106	0.0	8.2	255	0.1
ICS-A-SE-7	7.2	<19	450	0.0	130	3081	0.0	110	2607	0.0	6.6	156	0.0
ICS-B-SE-1	1.1	----	----	----	----	----	----	----	----	----	----	----	----
ICS-B-SE-2	2.2	----	----	----	----	----	----	----	----	----	----	----	----
ICS-B-SE-3	3.3	<57	1439	0.0	2200	55556	0.3	2000	50505	0.1	47	1187	0.2
ICS-B-SE-4	4.4	<52	1543	0.0	1700	50445	0.3	980	29080	0.0	<13	386	0.1
ICS-B-SE-5	5.5	<20	549	0.0	120	3297	0.0	95	2610	0.0	<4.9	135	0.0
ICS-B-SE-6	6.6	<20	752	0.0	130	4887	0.0	110	4135	0.0	5.2	195	0.0
ICS-C-SE-1	0.5	----	----	----	----	----	----	----	----	----	----	----	----
ICS-C-SE-2	2.3	----	----	----	----	----	----	----	----	----	----	----	----
ICS-C-SE-3	3.3	<18	786	0.0	71	3100	0.0	58	2533	0.0	3.2	140	0.0
ICS-C-SE-4	4.4	<20	1274	0.0	83	5287	0.0	86	5478	0.0	<4.9	312	0.1
ICS-D-SE-1	0.7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-D-SE-2	2.1	----	----	----	----	----	----	----	----	----	----	----	----
ICS-D-SE-3	3.8	<19	918	0.0	240	11594	0.1	200	9662	0.0	<4.8	232	0.0
ICS-D-SE-4	5.3	<20	741	0.0	140	5185	0.0	100	3704	0.0	<5.0	185	0.0
ICS-D-SE-5	6.7	<19	841	0.0	140	6195	0.0	120	5310	0.0	5.0	221	0.0
ICS-F-SE-1	0.5	----	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-2	1.7	<300	9524	0.0	860	27302	0.2	740	23492	0.0	<15	476	0.1
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-4	4.5	<20	901	0.0	100	4505	0.0	93	4189	0.0	<4.9	221	0.0
ICS-F-SE-5	5.8	----	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-6	7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-7	8.3	<20	1587	0.0	74	5873	0.0	62	4921	0.0	<4.9	389	0.1
ICS-F-SE-8	9.7	<18	4128	0.0	12	2752	0.0	11	2523	0.0	<4.6	1055	0.2
ICS-F-SE-9	10.9	----	----	----	----	----	----	----	----	----	----	----	----

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**


ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Di-n-butylphthalate			Fluoranthene			Pyrene			Butylbenzylphthalate		
		µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF
Screening Levels		(a)	220000	1	(a)	160000	1	(a)	1000000	1	(a)	4900	1
ICS-G-SE-1	0.6	----	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-2	1.8	----	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-3	3	----	----	----	----	----	----	----	----	----	----	----	----
ICS-DUP1-SE	SE-3	----	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-4	4.1	----	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-5	5.1	<110	5946	0.0	1600	86486	0.5	4200	227027	0.2	170	9189	1.9
ICS-G-SE-6	6.8	<19	1188	0.0	250	15625	0.1	330	20625	0.0	<4.8	300	0.1
ICS-H-SE-1	0.4	----	----	----	----	----	----	----	----	----	----	----	----
ICS-H-SE-2	1.7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-H-SE-3	3.3	120	3519	0.0	910	26686	0.2	920	26979	0.0	51	1496	0.3
ICS-H-SE-4	4.7	<19	2220	0.0	41	4790	0.0	41	4790	0.0	<4.9	572	0.1
ICS-I-SE-1	0.9	----	----	----	----	----	----	----	----	----	----	----	----
ICS-I-SE-2	2.6	----	----	----	----	----	----	----	----	----	----	----	----
ICS-I-SE-3	4.2	<57	2500	0.0	460	20175	0.1	360	15789	0.0	<14	614	0.1
ICS-I-SE-4	5.9	<19	669	0.0	130	4577	0.0	130	4577	0.0	9.5	335	0.1
ICS-I-SE-5	7.8	<18	1765	0.0	770	75490	0.5	840	82353	0.1	<4.6	451	0.1
ICS-I-SE-6	9.5	----	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-1	0.8	----	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-2	2.6	----	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-3	4.9	----	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-4	6.8	<19	1977	0.0	87	9053	0.1	89	9261	0.0	48	4995	1.0
ICS-J-SE-5	8.5	<19	1429	0.0	380	28571	0.2	270	20301	0.0	<4.7	353	0.1
ICS-J-SE-6	10.4	<19	1226	0.0	260	16774	0.1	220	14194	0.0	<4.8	310	0.1
ICS-K-SE-1	0.7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-K-SE-2	2.2	----	----	----	----	----	----	----	----	----	----	----	----
ICS-DUP2-SE	SE-2	----	----	----	----	----	----	----	----	----	----	----	----
ICS-K-SE-3	3.8	<19	2162	0.0	36	4096	0.0	76	8646	0.0	5.1	580	0.1
ICS-K-SE-4	5.5	<20	866	0.0	180	7792	0.0	200	8658	0.0	<5.0	216	0.0
ICS-K-SE-5	7	16	874	0.0	280	15301	0.1	230	12568	0.0	<4.9	268	0.1
ICS-L-SE-1	0.7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-L-SE-2	1.9	----	----	----	----	----	----	----	----	----	----	----	----
ICS-L-SE-3	3.5	<20	1290	0.0	400	25806	0.2	320	20645	0.0	<4.9	316	0.1

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Di-n-butylphthalate			Fluoranthene			Pyrene			Butylbenzylphthalate		
		µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF
Screening Levels		(a)	220000	1	(a)	160000	1	(a)	1000000	1	(a)	4900	1
ICS-L-SE-4	5	<19	1319	0.0	180	12500	0.1	150	10417	0.0	<4.8	333	0.1
ICS-L-SE-5	6.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-2	1.6	<20	678	0.0	26	881	0.0	26	881	0.0	<4.9	166	0.0
ICS-M-SE-3	2.7	<19	6714	0.0	<19	6714	0.0	<19	6714	0.0	<4.7	1661	0.3
Spl. Number		34	34	34	34	34	34	34	34	34	34	34	34
No. Exceed.		-----	0	0	-----	0	0	-----	0	0	-----	1	1
% Exceed		-----	0.0%	0.0%	-----	0.0%	0.0%	-----	0.0%	0.0%	-----	2.9%	2.9%
Maximum		0	9524	0.0	0	86486	0.5	1	227027	0.2	0	9189	1.9
Minimum		0.0	450	0.0	0.0	881	0.0	0.0	881	0.0	0.0	135	0.0

Notes: *U* = nondetected at the associated lower reporting limit.
J = estimate associated with value less than the verifiable lower quantitation limit.
 < - Not detected at indicated reporting limit
 ----- - Not analyzed
 (a) - Constituent with carbon-normalized cleanup criteria (see Table 1).
 - Value exceeds screening level (based on carbon normalized value)

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Benzo(a)anthracene			<i>bis</i> (2-Ethylhexyl)phthalate			Chrysene			Di-n-octylphthalate		
		µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF
Screening Levels		(a)	110000	1	(a)	47000	1	(a)	110000	1	(a)	58000	1
ICS-A-SE-1	0.4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-2	1.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-3	2.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-4	3.9	53	1913	0.0	40	1444	0.0	65	2347	0.0	<20	722	0.0
ICS-A-SE-5	5.1	26	1615	0.0	40	2484	0.1	38	2360	0.0	<19	1180	0.0
ICS-A-SE-6	6.3	30	932	0.0	<50	1553	0.0	47	1460	0.0	<20	621	0.0
ICS-A-SE-7	7.2	35	829	0.0	<48	1137	0.0	47	1114	0.0	<19	450	0.0
ICS-B-SE-1	1.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-B-SE-2	2.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-B-SE-3	3.3	640	16162	0.1	5600	141414	3.0	1100	27778	0.3	<57	1439	0.0
ICS-B-SE-4	4.4	280	8309	0.1	2900	86053	1.8	480	14243	0.1	<52	1543	0.0
ICS-B-SE-5	5.5	29	797	0.0	66	1813	0.0	43	1181	0.0	<20	549	0.0
ICS-B-SE-6	6.6	33	1241	0.0	37	1391	0.0	45	1692	0.0	<20	752	0.0
ICS-C-SE-1	0.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-C-SE-2	2.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-C-SE-3	3.3	19	830	0.0	92	4017	0.1	22	961	0.0	<18	786	0.0
ICS-C-SE-4	4.4	35	2229	0.0	28	1783	0.0	36	2293	0.0	<20	1274	0.0
ICS-D-SE-1	0.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-D-SE-2	2.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-D-SE-3	3.8	59	2850	0.0	37	1787	0.0	75	3623	0.0	<19	918	0.0
ICS-D-SE-4	5.3	34	1259	0.0	32	1185	0.0	44	1630	0.0	<20	741	0.0
ICS-D-SE-5	6.7	39	1726	0.0	<48	2124	0.0	50	2212	0.0	<19	841	0.0
ICS-F-SE-1	0.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-2	1.7	280	8889	0.1	<740	23492	0.5	410	13016	0.1	<300	9524	0.2
ICS-F-SE-3	3.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-4	4.5	29	1306	0.0	<49	2207	0.0	37	1667	0.0	<20	901	0.0
ICS-F-SE-5	5.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-6	7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-7	8.3	18	1429	0.0	32	2540	0.1	26	2063	0.0	<20	1587	0.0
ICS-F-SE-8	9.7	<18	4128	0.0	29	6651	0.1	<18	4128	0.0	<18	4128	0.1
ICS-F-SE-9	10.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**


ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Benzo(a)anthracene			<i>bis</i> (2-Ethylhexyl)phthalate			Chrysene			Di-n-octylphthalate		
		µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF
Screening Levels		(a)	110000	1	(a)	47000	1	(a)	110000	1	(a)	58000	1
ICS-G-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-2	1.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-3	3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DUP1-SE	SE-3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-4	4.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-G-SE-5	5.1	740	40000	0.4	2800	151351	3.2	1800	97297	0.9	<110	5946	0.1
ICS-G-SE-6	6.8	110	6875	0.1	37	2313	0.0	130	8125	0.1	<19	1188	0.0
ICS-H-SE-1	0.4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-H-SE-2	1.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-H-SE-3	3.3	350	10264	0.1	1400	41056	0.9	490	14370	0.1	<26	762	0.0
ICS-H-SE-4	4.7	14	1636	0.0	32	3738	0.1	15	1752	0.0	<19	2220	0.0
ICS-I-SE-1	0.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-I-SE-2	2.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-I-SE-3	4.2	300	13158	0.1	<72	3158	0.1	540	23684	0.2	<57	2500	0.0
ICS-I-SE-4	5.9	42	1479	0.0	<48	1690	0.0	45	1585	0.0	<19	669	0.0
ICS-I-SE-5	7.8	310	30392	0.3	37	3627	0.1	350	34314	0.3	<18	1765	0.0
ICS-I-SE-6	9.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-1	0.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-2	2.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-3	4.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-J-SE-4	6.8	19	1977	0.0	<47	4891	0.1	23	2393	0.0	<19	1977	0.0
ICS-J-SE-5	8.5	94	7068	0.1	25	1880	0.0	160	12030	0.1	<19	1429	0.0
ICS-J-SE-6	10.4	80	5161	0.0	<24	1548	0.0	78	5032	0.0	<19	1226	0.0
ICS-K-SE-1	0.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-K-SE-2	2.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DUP2-SE	SE-2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-K-SE-3	3.8	31	3527	0.0	120	13652	0.3	67	7622	0.1	<19	2162	0.0
ICS-K-SE-4	5.5	54	2338	0.0	46	1991	0.0	79	3420	0.0	<20	866	0.0
ICS-K-SE-5	7	120	6557	0.1	24	1311	0.0	170	9290	0.1	<20	1093	0.0
ICS-L-SE-1	0.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-L-SE-2	1.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-L-SE-3	3.5	91	5871	0.1	<25	1613	0.0	120	7742	0.1	<20	1290	0.0

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Benzo(a)anthracene			<i>bis</i> (2-Ethylhexyl)phthalate			Chrysene			Di-n-octylphthalate		
		µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF
Screening Levels		(a)	110000	1	(a)	47000	1	(a)	110000	1	(a)	58000	1
ICS-L-SE-4	5	40	2778	0.0	<24	1667	0.0	50	3472	0.0	<19	1319	0.0
ICS-L-SE-5	6.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-2	1.6	<20	678	0.0	41	1390	0.0	14	475	0.0	<20	678	0.0
ICS-M-SE-3	2.7	<19	6714	0.1	24	8481	0.2	<19	6714	0.1	<19	6714	0.1
Spl. Number		34	34	34	34	34	34	34	34	34	34	34	34
No. Exceed.		-----	0	0	-----	3	3	-----	0	0	-----	0	0
% Exceed		-----	0.0%	0.0%	-----	8.8%	8.8%	-----	0.0%	0.0%	-----	0.0%	0.0%
Maximum		2	40000	0.4	0	151351	3.2	3	97297	0.9	1	9524	0.2
Minimum		0.0	678	0.0	0.0	1137	0.0	0.0	475	0.0	0.0	450	0.0

Notes: *U* = nondetected at the associated lower reporting limit.
J = estimate associated with value less than the verifiable lower quantitation limit.
 < - Not detected at indicated reporting limit
 ----- - Not analyzed
 (a) - Constituent with carbon-normalized cleanup criteria (see Table 1).
 - Value exceeds screening level (based on carbon normalized value)

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	total Benzofluoranthenes			Benzo(a)pyrene			Indeno(1,2,3-cd)pyrene			Dibenz(a,h)anthracene		
		µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF
Screening Levels		(a)	230000	1	(a)	99000	1	(a)	34000	1	(a)	12000	1
ICS-A-SE-1	0.4	----	----	----	----	----	----	----	----	----	----	----	----
ICS-A-SE-2	1.3	----	----	----	----	----	----	----	----	----	----	----	----
ICS-A-SE-3	2.7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-A-SE-4	3.9	78	2816	0.0	53	1913	0.0	23	830	0.0	<20	722	0.1
ICS-A-SE-5	5.1	43	2671	0.0	<19	1180	0.0	12	745	0.0	<19	1180	0.1
ICS-A-SE-6	6.3	56	1739	0.0	<20	621	0.0	20	621	0.0	<20	621	0.1
ICS-A-SE-7	7.2	59	1398	0.0	<19	450	0.0	18	427	0.0	<19	450	0.0
ICS-B-SE-1	1.1	----	----	----	----	----	----	----	----	----	----	----	----
ICS-B-SE-2	2.2	----	----	----	----	----	----	----	----	----	----	----	----
ICS-B-SE-3	3.3	930	23485	0.1	480	12121	0.1	120	3030	0.1	57	1439	0.1
ICS-B-SE-4	4.4	460	13650	0.1	200	5935	0.1	83	2463	0.1	<52	1543	0.1
ICS-B-SE-5	5.5	48	1319	0.0	<20	549	0.0	<20	549	0.0	<20	549	0.0
ICS-B-SE-6	6.6	56	2105	0.0	<20	752	0.0	17	639	0.0	<20	752	0.1
ICS-C-SE-1	0.5	----	----	----	----	----	----	----	----	----	----	----	----
ICS-C-SE-2	2.3	----	----	----	----	----	----	----	----	----	----	----	----
ICS-C-SE-3	3.3	30	1310	0.0	<18	786	0.0	<18	786	0.0	<18	786	0.1
ICS-C-SE-4	4.4	48	3057	0.0	31	1975	0.0	14	892	0.0	<20	1274	0.1
ICS-D-SE-1	0.7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-D-SE-2	2.1	----	----	----	----	----	----	----	----	----	----	----	----
ICS-D-SE-3	3.8	100	4831	0.0	48	2319	0.0	27	1304	0.0	10	483	0.0
ICS-D-SE-4	5.3	48	1778	0.0	<20	741	0.0	13	481	0.0	<20	741	0.1
ICS-D-SE-5	6.7	66	2920	0.0	<19	841	0.0	18	796	0.0	<19	841	0.1
ICS-F-SE-1	0.5	----	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-2	1.7	410	13016	0.1	220	6984	0.1	<300	9524	0.3	<300	9524	0.8
ICS-F-SE-3	3.1	----	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-4	4.5	51	2297	0.0	<20	901	0.0	15	676	0.0	<20	901	0.1
ICS-F-SE-5	5.8	----	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-6	7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-F-SE-7	8.3	16	1270	0.0	<20	1587	0.0	14	1111	0.0	<20	1587	0.1
ICS-F-SE-8	9.7	<37	8486	0.0	<18	4128	0.0	<18	4128	0.1	<18	4128	0.3
ICS-F-SE-9	10.9	----	----	----	----	----	----	----	----	----	----	----	----

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	total Benzofluoranthenes			Benzo(a)pyrene			Indeno(1,2,3-cd)pyrene			Dibenz(a,h)anthracene		
		µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF
Screening Levels		(a)	230000	1	(a)	99000	1	(a)	34000	1	(a)	12000	1
ICS-G-SE-1	0.6	----	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-2	1.8	----	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-3	3	----	----	----	----	----	----	----	----	----	----	----	----
ICS-DUP1-SE	SE-3	----	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-4	4.1	----	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-5	5.1	890	48108	0.2	<110	5946	0.1	140	7568	0.2	<110	5946	0.5
ICS-G-SE-6	6.8	180	11250	0.0	110	6875	0.1	45	2813	0.1	16	1000	0.1
ICS-H-SE-1	0.4	----	----	----	----	----	----	----	----	----	----	----	----
ICS-H-SE-2	1.7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-H-SE-3	3.3	490	14370	0.1	260	7625	0.1	68	1994	0.1	26	762	0.1
ICS-H-SE-4	4.7	20	2336	0.0	<19	2220	0.0	<19	2220	0.1	<19	2220	0.2
ICS-I-SE-1	0.9	----	----	----	----	----	----	----	----	----	----	----	----
ICS-I-SE-2	2.6	----	----	----	----	----	----	----	----	----	----	----	----
ICS-I-SE-3	4.2	780	34211	0.1	360	15789	0.2	180	7895	0.2	63	2763	0.2
ICS-I-SE-4	5.9	80	2817	0.0	<19	669	0.0	18	634	0.0	<19	669	0.1
ICS-I-SE-5	7.8	470	46078	0.2	360	35294	0.4	170	16667	0.5	73	7157	0.6
ICS-I-SE-6	9.5	----	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-1	0.8	----	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-2	2.6	----	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-3	4.9	----	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-4	6.8	34	3538	0.0	<19	1977	0.0	<19	1977	0.1	<19	1977	0.2
ICS-J-SE-5	8.5	140	10526	0.0	72	5414	0.1	36	2707	0.1	11	827	0.1
ICS-J-SE-6	10.4	120	7742	0.0	64	4129	0.0	34	2194	0.1	16	1032	0.1
ICS-K-SE-1	0.7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-K-SE-2	2.2	----	----	----	----	----	----	----	----	----	----	----	----
ICS-DUP2-SE	SE-2	----	----	----	----	----	----	----	----	----	----	----	----
ICS-K-SE-3	3.8	56	6371	0.0	22	2503	0.0	<19	2162	0.1	<19	2162	0.2
ICS-K-SE-4	5.5	90	3896	0.0	38	1645	0.0	28	1212	0.0	<20	866	0.1
ICS-K-SE-5	7	210	11475	0.0	110	6011	0.1	49	2678	0.1	17	929	0.1
ICS-L-SE-1	0.7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-L-SE-2	1.9	----	----	----	----	----	----	----	----	----	----	----	----
ICS-L-SE-3	3.5	160	10323	0.0	93	6000	0.1	50	3226	0.1	21	1355	0.1

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	total Benzofluoranthenes			Benzo(a)pyrene			Indeno(1,2,3-cd)pyrene			Dibenz(a,h)anthracene		
		µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF
Screening Levels		(a)	230000	1	(a)	99000	1	(a)	34000	1	(a)	12000	1
ICS-L-SE-4	5	67	4653	0.0	<19	1319	0.0	21	1458	0.0	<19	1319	0.1
ICS-L-SE-5	6.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-2	1.6	25	847	0.0	9.8	332	0.0	<20	678	0.0	<20	678	0.1
ICS-M-SE-3	2.7	<38	13428	0.1	<19	6714	0.1	<19	6714	0.2	<19	6714	0.6
Spl. Number		34	34	34	34	34	34	34	34	34	34	34	34
No. Exceed.		-----	0	0	-----	0	0	-----	0	0	-----	0	0
% Exceed		-----	0.0%	0.0%	-----	0.0%	0.0%	-----	0.0%	0.0%	-----	0.0%	0.0%
Maximum		0	48108	0.2	0	35294	0.4	0	16667	0.5	0	9524	0.8
Minimum		0.0	847	0.0	0.0	332	0.0	0.0	427	0.0	0.0	450	0.0

Notes: *U = nondetected at the associated lower reporting limit.*
J = estimate associated with value less than the verifiable lower quantitation limit.
< - Not detected at indicated reporting limit
----- - Not analyzed
(a) - Constituent with carbon-normalized cleanup criteria (see Table 1).
 - Value exceeds screening level (based on carbon normalized value)

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Benzo(g,h,i)perylene			LPAH			HPAH			Hexachlorobenzene		
		µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF
Screening Levels		(a)	31000	1	(a)	370000	1	(a)	960000	1	(a)	380	1
ICS-A-SE-1	0.4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-2	1.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-3	2.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-A-SE-4	3.9	30	1083	0.0	388	14007	0.0	662	23899	0.0	<4.7	170	0.4
ICS-A-SE-5	5.1	19	1180	0.0	236	14658	0.0	308	19130	0.0	<0.96	60	0.2
ICS-A-SE-6	6.3	31	963	0.0	321	9969	0.0	394	12236	0.0	<0.96	30	0.1
ICS-A-SE-7	7.2	24	569	0.0	279	6611	0.0	423	10024	0.0	<0.96	23	0.1
ICS-B-SE-1	1.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-B-SE-2	2.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-B-SE-3	3.3	140	3535	0.1	2720	68687	0.2	7667	193611	0.2	<57	1439	3.8
ICS-B-SE-4	4.4	83	2463	0.1	1390	41246	0.1	4266	126588	0.1	<130	3858	10.2
ICS-B-SE-5	5.5	20	549	0.0	297	8159	0.0	355	9753	0.0	<4.9	135	0.4
ICS-B-SE-6	6.6	25	940	0.0	357	13421	0.0	416	15639	0.0	<1.0	38	0.1
ICS-C-SE-1	0.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-C-SE-2	2.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-C-SE-3	3.3	12	524	0.0	135	5895	0.0	212	9258	0.0	<4.7	205	0.5
ICS-C-SE-4	4.4	18	1146	0.0	117	7452	0.0	351	22357	0.0	<0.94	60	0.2
ICS-D-SE-1	0.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-D-SE-2	2.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-D-SE-3	3.8	34	1643	0.1	893	43140	0.1	793	38309	0.0	<4.9	237	0.6
ICS-D-SE-4	5.3	18	667	0.0	322	11926	0.0	397	14704	0.0	<4.8	178	0.5
ICS-D-SE-5	6.7	23	1018	0.0	314	13894	0.0	456	20177	0.0	<0.97	43	0.1
ICS-F-SE-1	0.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-2	1.7	<300	9524	0.3	30220	959365	2.6	2920	92698	0.1	<4.8	152	0.4
ICS-F-SE-3	3.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-4	4.5	20	901	0.0	290	13063	0.0	345	15541	0.0	<0.99	45	0.1
ICS-F-SE-5	5.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-6	7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-F-SE-7	8.3	16	1270	0.0	112	8889	0.0	226	17937	0.0	<4.7	373	1.0
ICS-F-SE-8	9.7	<18	4128	0.1	<18	4128	0.0	23	5275	0.0	<0.92	211	0.6
ICS-F-SE-9	10.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Benzo(g,h,i)perylene			LPAH			HPAH			Hexachlorobenzene		
		µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF
Screening Levels		(a)	31000	1	(a)	370000	1	(a)	960000	1	(a)	380	1
ICS-G-SE-1	0.6	----	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-2	1.8	----	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-3	3	----	----	----	----	----	----	----	----	----	----	----	----
ICS-DUP1-SE	SE-3	----	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-4	4.1	----	----	----	----	----	----	----	----	----	----	----	----
ICS-G-SE-5	5.1	180	9730	0.3	3580	193514	0.5	9550	516216	0.5	<48	2595	6.8
ICS-G-SE-6	6.8	56	3500	0.1	433	27063	0.1	1227	76688	0.1	<4.9	306	0.8
ICS-H-SE-1	0.4	----	----	----	----	----	----	----	----	----	----	----	----
ICS-H-SE-2	1.7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-H-SE-3	3.3	67	1965	0.1	2020	59238	0.2	3581	105015	0.1	<71	2082	5.5
ICS-H-SE-4	4.7	<19	2220	0.1	71	8294	0.0	131	15304	0.0	<0.94	110	0.3
ICS-I-SE-1	0.9	----	----	----	----	----	----	----	----	----	----	----	----
ICS-I-SE-2	2.6	----	----	----	----	----	----	----	----	----	----	----	----
ICS-I-SE-3	4.2	210	9211	0.3	499	21886	0.1	3253	142675	0.1	<4.9	215	0.6
ICS-I-SE-4	5.9	22	775	0.0	497	17500	0.0	467	16444	0.0	<4.9	173	0.5
ICS-I-SE-5	7.8	220	21569	0.7	1234	120980	0.3	3563	349314	0.4	<0.96	94	0.2
ICS-I-SE-6	9.5	----	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-1	0.8	----	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-2	2.6	----	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-3	4.9	----	----	----	----	----	----	----	----	----	----	----	----
ICS-J-SE-4	6.8	10	1041	0.0	227	23621	0.1	262	27263	0.0	<1.0	104	0.3
ICS-J-SE-5	8.5	34	2556	0.1	342	25714	0.1	1197	90000	0.1	<5.0	376	1.0
ICS-J-SE-6	10.4	42	2710	0.1	184	11871	0.0	914	58968	0.1	<4.9	316	0.8
ICS-K-SE-1	0.7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-K-SE-2	2.2	----	----	----	----	----	----	----	----	----	----	----	----
ICS-DUP2-SE	SE-2	----	----	----	----	----	----	----	----	----	----	----	----
ICS-K-SE-3	3.8	<19	2162	0.1	79	8987	0.0	288	32765	0.0	<4.7	535	1.4
ICS-K-SE-4	5.5	32	1385	0.0	355	15368	0.0	701	30346	0.0	<4.8	208	0.5
ICS-K-SE-5	7	65	3552	0.1	411	22459	0.1	1251	68361	0.1	<4.7	257	0.7
ICS-L-SE-1	0.7	----	----	----	----	----	----	----	----	----	----	----	----
ICS-L-SE-2	1.9	----	----	----	----	----	----	----	----	----	----	----	----
ICS-L-SE-3	3.5	56	3613	0.1	601	38774	0.1	1311	84581	0.1	<5.0	323	0.8

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

ICS/NW Cooperage Site
Seattle, Washington

Core Location	Mid-Point Depth (feet)	Benzo(g,h,i)perylene			LPAH			HPAH			Hexachlorobenzene		
		µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF
Screening Levels		(a)	31000	1	(a)	370000	1	(a)	960000	1	(a)	380	1
ICS-L-SE-4	5	32	2222	0.1	328	22778	0.1	540	37500	0.0	<4.8	333	0.9
ICS-L-SE-5	6.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-M-SE-2	1.6	<20	678	0.0	<20	678	0.0	101	3417	0.0	<4.9	166	0.4
ICS-M-SE-3	2.7	<19	6714	0.2	<19	6714	0.0	<19	6714	0.0	<0.95	336	0.9
Spl. Number		34	34	34	34	34	34	34	34	34	34	34	34
No. Exceed.		-----	0	0	-----	1	1	-----	0	0	-----	0	0
% Exceed		-----	0.0%	0.0%	-----	2.9%	2.9%	-----	0.0%	0.0%	-----	0.0%	0.0%
Maximum		1	21569	0.7	1	959365	2.6	1	516216	0.5	1	3858	10.2
Minimum		0.1	524	0.0	0.0	678	0.0	0.0	3417	0.0	0.0	23	0.1

Notes: *U = nondetected at the associated lower reporting limit.*
J = estimate associated with value less than the verifiable lower quantitation limit.
< - Not detected at indicated reporting limit
----- - Not analyzed
(a) - Constituent with carbon-normalized cleanup criteria (see Table 1).
 - Value exceeds screening level (based on carbon normalized value)

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

Core Location	Mid-Point Depth (feet)	Hexachlorobutadiene			Detected PCBs		
		µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF
Screening Levels		(a)	3900	1	(a)	12000	1
ICS-A-SE-1	0.4	-----	-----	-----	-----	-----	-----
ICS-A-SE-2	1.3	-----	-----	-----	2370	172993	14.4
ICS-A-SE-3	2.7	-----	-----	-----	-----	-----	-----
ICS-A-SE-4	3.9	<4.7	170	0.0	99	3574	0.3
ICS-A-SE-5	5.1	<0.96	60	0.0	27.1	1683	0.1
ICS-A-SE-6	6.3	<0.96	30	0.0	<4.8	149	0.0
ICS-A-SE-7	7.2	<0.96	23	0.0	<6.3	149	0.0
ICS-B-SE-1	1.1	-----	-----	-----	430	55484	4.6
ICS-B-SE-2	2.2	-----	-----	-----	-----	-----	-----
ICS-B-SE-3	3.3	<50	1263	0.3	29,200	737374	61.4
ICS-B-SE-4	4.4	<78	2315	0.6	44100	1308605	109
ICS-B-SE-5	5.5	<4.9	135	0.0	97	2665	0.2
ICS-B-SE-6	6.6	<1.0	38	0.0	<5.6	211	0.0
ICS-C-SE-1	0.5	-----	-----	-----	-----	-----	-----
ICS-C-SE-2	2.3	-----	-----	-----	55	6152	0.5
ICS-C-SE-3	3.3	<4.7	205	0.1	<3.8	166	0.0
ICS-C-SE-4	4.4	<0.94	60	0.0	<3.6	229	0.0
ICS-D-SE-1	0.7	-----	-----	-----	-----	-----	-----
ICS-D-SE-2	2.1	-----	-----	-----	17,000	246020	20.5
ICS-D-SE-3	3.8	<4.9	237	0.1	67	3237	0.3
ICS-D-SE-4	5.3	<4.8	178	0.0	<3.9	144	0.0
ICS-D-SE-5	6.7	<0.97	43	0.0	<3.9	173	0.0
ICS-F-SE-1	0.5	-----	-----	-----	-----	-----	-----
ICS-F-SE-2	1.7	<4.8	152	0.0	330	10476	0.9
ICS-F-SE-3	3.1	-----	-----	-----	-----	-----	-----
ICS-F-SE-4	4.5	<0.99	45	0.0	<4.0	180	0.0
ICS-F-SE-5	5.8	-----	-----	-----	<4.0	150	0.0
ICS-F-SE-6	7	-----	-----	-----	-----	-----	-----
ICS-F-SE-7	8.3	<4.7	373	0.1	<3.9	310	0.0
ICS-F-SE-8	9.7	<0.92	211	0.1	<3.7	849	0.1
ICS-F-SE-9	10.9	-----	-----	-----	-----	-----	-----

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

Core Location	Mid-Point Depth (feet)	Hexachlorobutadiene			Detected PCBs		
		µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF
Screening Levels		(a)	3900	1	(a)	12000	1
ICS-G-SE-1	0.6	-----	-----	-----	-----	-----	-----
ICS-G-SE-2	1.8	-----	-----	-----	-----	-----	-----
ICS-G-SE-3	3	-----	-----	-----	1550	87079	7.3
ICS-DUP1-SE	SE-3	-----	-----	-----	1040	78788	6.6
ICS-G-SE-4	4.1	-----	-----	-----	-----	-----	-----
ICS-G-SE-5	5.1	<48	2595	0.7	10,000	540541	45.0
ICS-G-SE-6	6.8	<4.9	306	0.1	<4.0	250	0.0
ICS-H-SE-1	0.4	-----	-----	-----	-----	-----	-----
ICS-H-SE-2	1.7	-----	-----	-----	18,100	905000	75.4
ICS-H-SE-3	3.3	<71	2082	0.5	38,100	1117302	93.1
ICS-H-SE-4	4.7	<0.94	110	0.0	260	30374	2.5
ICS-I-SE-1	0.9	-----	-----	-----	-----	-----	-----
ICS-I-SE-2	2.6	-----	-----	-----	13,000	415335	34.6
ICS-I-SE-3	4.2	<4.9	215	0.1	395	17325	1.4
ICS-I-SE-4	5.9	<4.9	173	0.0	143	5035	0.4
ICS-I-SE-5	7.8	<0.96	94	0.0	42	4078	0.3
ICS-I-SE-6	9.5	-----	-----	-----	-----	-----	-----
ICS-J-SE-1	0.8	-----	-----	-----	-----	-----	-----
ICS-J-SE-2	2.6	-----	-----	-----	-----	-----	-----
ICS-J-SE-3	4.9	-----	-----	-----	337	14589	1.2
ICS-J-SE-4	6.8	<1.0	104	0.0	<4.0	416	0.0
ICS-J-SE-5	8.5	<5.0	376	0.1	<3.8	286	0.0
ICS-J-SE-6	10.4	<4.9	316	0.1	<3.9	252	0.0
ICS-K-SE-1	0.7	-----	-----	-----	-----	-----	-----
ICS-K-SE-2	2.2	-----	-----	-----	13,000	548523	45.7
ICS-DUP2-SE	SE-2	-----	-----	-----	16,600	817734	68.1
ICS-K-SE-3	3.8	<4.7	535	0.1	1610	183163	15.3
ICS-K-SE-4	5.5	<4.8	208	0.1	103	4459	0.4
ICS-K-SE-5	7	<4.7	257	0.1	<3.7	202	0.0
ICS-L-SE-1	0.7	-----	-----	-----	-----	-----	-----
ICS-L-SE-2	1.9	-----	-----	-----	2310	139157	11.6
ICS-L-SE-3	3.5	<5.0	323	0.1	23	1497	0.1

**TABLE 7 - Exceedance Factors - Constituents with OCN Screening Levels
Embayment Subsurface Sediments**

Core Location	Mid-Point Depth (feet)	Hexachlorobutadiene			Detected PCBs		
		µg/kg, dry	µg/kg,OCN	EF	µg/kg, dry	µg/kg,OCN	EF
Screening Levels		(a)	3900	1	(a)	12000	1
ICS-L-SE-4	5	<4.8	333	0.1	<3.9	271	0.0
ICS-L-SE-5	6.7	-----	-----	-----	-----	-----	-----
ICS-M-SE-1	0.6	-----	-----	-----	1110	43529	3.6
ICS-M-SE-2	1.6	<4.9	166	0.0	312	10576	0.9
ICS-M-SE-3	2.7	<0.95	336	0.1	<3.7	1307	0.1
Spl. Number		34	34	34	48	48	48
No. Exceed.		-----	0	0	-----	19	19
% Exceed		-----	0.0%	0.0%	-----	39.6%	39.6%
Maximum		7	2595	0.7	1	1308605	109.1
Minimum		0.2	23	0.0	0.0	144	0.0

Notes: *U* = nondetected at the associated lower reporting limit.
J = estimate associated with value less than the verifiable lower quantitation limit.
 < - Not detected at indicated reporting limit
 ----- - Not analyzed
 (a) - Constituent with carbon-normalized cleanup criteria (see Table 1).
 - Value exceeds screening level (based on carbon normalized value)

TABLE 8 - Summary of Surface Sediment Constituent Exceedances

Constituent (a)	Basis	Surface Sediment					Basis for Inclusion or Elimination as COPC
		Number Spis.	Max. EF	Location	% EF>1	COPC	
Arsenic	Dry-Wt.	30	8.7	DSS-01	83	Yes	High frequency of exceedance
Cadmium	Dry-Wt.	30	1.6	DSS-09	6.7	No	Low frequency exceedance; co-located with COPCs
Chromium (Total)	Dry-Wt.	30	4.3	DSS-12	13	No	Low EFs; co-located with COPCs
Lead	Dry-Wt.	30	13	DSS-09	23	Yes	Moderate frequency of exceedance
Mercury	Dry-Wt.	30	35	DSS-09	33	Yes	Moderate frequency of exceedance
Zinc	Dry-Wt.	30	9.3	DSS-12	13	No	Moderate EF and frequency exceedance
Total Petroleum Hydrocarbons	Dry-Wt.	30	27	DSS-12	13	Yes	High EF and moderate frequency of exceedance
Phenol	Dry-Wt.	30	14	DSS-12	6.7	No	Low frequency exceedance; co-located with COPCs
1,4-Dichlorobenzene	OCN	30	14	DSS-09	3.3	No	Low frequency exceedance; co-located with COPCs
Benzyl alcohol	Dry-Wt.	30	351	DSS-12	20	Yes	High frequency of exceedance
1,2-Dichlorobenzene	OCN	30	29	DSS-09	6.7	No	Low frequency exceedance; co-located with COPCs
2-Methylphenol	Dry-Wt.	30	9.8	DSS-09	3.3	No	Low frequency exceedance; co-located with COPCs
4-Methylphenol	Dry-Wt.	30	2.8	DSS-09	3.3	No	Low frequency exceedance; co-located with COPCs
2,4-Dimethylphenol	Dry-Wt.	30	152	DSS-12	10	No	High EF
Benzoic acid	Dry-Wt.	30	1.8	DSS-20	6.7	No	Low frequency exceedance; co-located with COPCs
1,2,4-Trichlorobenzene	OCN	30	10	DSS-09	10	No	Moderate EF and frequency exceedance
Naphthalene	OCN	30	3.9	DSS-12	3.3	No	Low frequency exceedance; co-located with COPCs
2-Methylnaphthalene	OCN	30	4.3	DSS-12	6.7	No	Low frequency exceedance; co-located with COPCs
Dimethylphthalate	OCN	30	3.6	DSS-20	3.3	No	Low frequency exceedance; co-located with COPCs
Acenaphthene	OCN	30	6.7	DSS-12	6.7	No	Low frequency exceedance; co-located with COPCs
Dibenzofuran	OCN	30	5.6	DSS-12	6.7	No	Low frequency exceedance; co-located with COPCs
Fluorene	OCN	30	8.1	DSS-12	10	No	Moderate EF and frequency exceedance
N-Nitrosodiphenylamine	OCN	30	2	DSS-09	6.7	No	Low frequency exceedance; co-located with COPCs
Pentachlorophenol	Dry-Wt.	30	18	DSS-09	23	Yes	Moderate EF and frequency of exceedance
Phenanthrene	OCN	30	12.3	DSS-12	6.7	No	Low frequency exceedance; co-located with COPCs
Anthracene	OCN	30	1.1	DSS-12	3.3	No	Low frequency exceedance; co-located with COPCs
Fluoranthene	OCN	30	7.9	DSS-12	6.7	No	Low frequency exceedance; co-located with COPCs
Butylbenzylphthalate	OCN	30	29	DSS-12	17	Yes	High EF and moderate frequency of exceedance
bis(2-Ethylhexyl)phthalate	OCN	30	12.4	DSS-12	6.7	No	Low frequency exceedance; co-located with COPCs
B(a)Peq. (TEQ)	Dry-Wt.	30	1254	DSS-12	63	Yes	High EF and frequency of exceedance
Benzo(a)anthracene (cPAH)	OCN	30	3.8	DSS-12	6.7	No	Low frequency exceedance; co-located with COPCs
Chrysene (cPAH)	OCN	30	5.3	DSS-12	6.7	No	Low frequency exceedance; co-located with COPCs
total Benzofluoranthenes (cPAH)	OCN	30	1.7	DSS-12	3.3	No	Low frequency exceedance; co-located with COPCs
Benzo(a)pyrene (cPAH)	OCN	30	2.3	DSS-12	6.7	No	Low frequency exceedance; co-located with COPCs
Indeno(1,2,3-cd)pyrene (cPAH)	OCN	30	2	DSS-12	6.7	No	Low frequency exceedance; co-located with COPCs
Dibenz(a,h)anthracene (cPAH)	OCN	30	3.5	DSS-12	6.7	No	Low frequency exceedance; co-located with COPCs
Benzo(g,h,i)perylene	OCN	30	2	DSS-12	6.7	No	Low frequency exceedance; co-located with COPCs

TABLE 8 - Summary of Surface Sediment Constituent Exceedances

Constituent (a)	Basis	Surface Sediment					Basis for Inclusion or Elimination as COPC
		Number Spis.	Max. EF	Location	% EF>1	COPC	
LPAH	OCN	30	6	DSS-12	3.3	No	Low frequency exceedance; co-located with COPCs
HPAH	OCN	30	4.2	DSS-12	6.7	No	Low frequency exceedance; co-located with COPCs
Total PCBs	OCN	30	89	DSS-09	90	Yes	High EFs and frequency of exceedance
Total PCBs	Dry Wt.	30	97000	DSS-9	100	Yes	High EFs and frequency of exceedance
2,3,7,8-TCDD (TEQ)	Dry Wt.	3	396	DSS-19	100	Yes	High EFs and frequency of exceedance

Notes: OCN - Organic carbon normalized
 EF - Exceedance Factor
 COPC - Constituent of Potential Concern
 B(a)P_{eq} - Benzo(a)pyrene equivalent concentration
 - Constituent Identified as a COPC
 (a) - Constituent detected in one or more samples above screening level

TABLE 9 - Summary of Subsurface Sediment Constituent Exceedances

Constituent (a)	Basis	Subsurface Sediment					Basis for Inclusion or Elimination as COPC
		Number Spis.	Max. EF	Location	% EF>1	COPC	
Arsenic	Dry-Wt.	46	4.4	B-SE-3	54	Yes	High frequency of exceedance
Cadmium	Dry-Wt.	46	1.6	D-SE-2	4.3	No	Low frequency exceedance; Co-located with COPCs
Chromium (Total)	Dry-Wt.	46	1.7	D-SE-2	2.2	No	Low frequency exceedance; Co-located with COPCs
Copper	Dry-Wt.	46	1.1	A-SE-2	2.2	No	Low frequency exceedance; Co-located with COPCs
Lead	Dry-Wt.	46	9.8	D-SE-2	11	Yes	Moderate EF and frequency exceedance
Mercury	Dry-Wt.	46	95	D-SE-2	20	Yes	High EF and frequency exceedance
Zinc	Dry-Wt.	46	7.9	D-SE-2	8.7	Yes	Moderate EF and frequency exceedance
Total Petroleum Hydrocarbons	Dry-Wt.	46	11	D-SE-2	17	Yes	Moderate EF and frequency exceedance
1,4-Dichlorobenzene	OCN	34	9.5	H-SE-3	12	Yes	Moderate EF and frequency exceedance
Benzyl alcohol	Dry-Wt.	34	3.3	A-SE-6	32	Yes	High frequency of exceedance
1,2-Dichlorobenzene	OCN	34	1.9	B-SE-4	12	Yes	Low EF; Co-located with COPCs
2,4-Dimethylphenol	Dry-Wt.	34	31	F-SE-2	18	Yes	High EF and moderate frequency exceedance
1,2,4-Trichlorobenzene	OCN	34	2.1	B-SE-3	8.8	No	Low frequency exceedance; Co-located with COPCs
Naphthalene	OCN	34	5.5	F-SE-2	2.9	No	Low frequency exceedance; Co-located with COPCs
2-Methylnaphthalene	OCN	34	51.8	F-SE-2	2.9	No	Low frequency exceedance; Co-located with COPCs
Acenaphthene	OCN	34	3.2	I-SE-5	11.8	Yes	Low frequency exceedance; Co-located with COPCs
Dibenzofuran	OCN	34	3.4	F-SE-2	2.9	No	Low frequency exceedance; Co-located with COPCs
Fluorene	OCN	34	6.9	F-SE-2	5.9	No	Low frequency exceedance; Co-located with COPCs
N-Nitrosodiphenylamine	OCN	34	8.8	G-SE-5	2.9	No	Low frequency exceedance; Co-located with COPCs
Pentachlorophenol	Dry-Wt.	34	2.4	G-SE-5	5.9	No	Low EF, frequency exceedance; Co-located with COPCs
Phenanthrene	OCN	34	2.2	F-SE-2	2.2	No	Low EF, frequency exceedance; Co-located with COPCs
Butylbenzylphthalate	OCN	34	1.9	G-SE-5	2.9	No	Low EF, frequency exceedance; Co-located with COPCs
bis(2-Ethylhexyl)phthalate	OCN	34	3.2	G-SE-5	8.8	No	Low EF, frequency exceedance; Co-located with COPCs
B(a)Peq. (TEQ)	Dry. Wt.	34	8	B-SE-3	32	Yes	Moderate EF and frequency exceedance
LPAH	OCN	34	2.6	F-SE-2	2.9	No	Low EF, frequency exceedance; Co-located with COPCs
Total PCBs	OCN	48	109	B-SE-4	40	Yes	High EF and frequency exceedance
Total PCBs	Dry Wt.	46	22055	B-SE-4	61	Yes	High EF and frequency exceedance

Notes: OCN - Organic carbon normalized
 EF - Exceedance Factor
 COPC - Constituent of Potential Concern
 B(a)Peq. - Benzo(a)pyrene equivalent concentration
 - Constituent Identified as a COPC
 (a) - Constituent detected in one or more samples above screening level

**TABLE 10 - Detected Groundwater Constituents -
Douglas Property South Shoreline**

ICS/NW Cooperage Site
Seattle, Washington

Detected Constituent	Sediment COPC	SW SL	Source	MW-8 8-14-13	MW-8 12-19-13	MW-8 3-19-14
Turbidity (NTUs)	-----	na	na	13.6	2.0	-----
Chloride (mg/l)	-----	na	na	2490	3160	2130
Total Dissolved Solids (mg/l)	-----	na	na	4320	5350	3740
VOCs (ug/l)						
Benzene	No	2	(a)	<0.2	<0.2	<0.2
Toluene	No	1294	(a)	<0.2	<0.2	<0.2
Chloroform	No	9.3	(a)	<0.2	<0.2	<0.2
Cis-1,2-Dichloroethene	No	130	(a)	<0.2	<0.2	<0.2
m,p-Xylene	No	1300	(a)	<0.4	<0.4	<0.4
o-Xylene	No	1600	(a)	<0.2	<0.2	<0.2
Petroleum Hydrocarbons (mg/l)						
Diesel Range Organics	Yes	0.5	(a)	<0.1	<0.1	<0.1
Lube-Oil Range Organics	Yes	0.5	(a)	<0.2	<0.2	<0.2
PAHs (ug/l)						
1-Methylnaphthalene	No	na	(a)(b)	0.019	<0.003 J	<0.003 J
2-Methylnaphthalene	No	64	(a)	0.022	<0.004 J	<0.004 J
Acenaphthene	No	115	(a)	0.032	<0.003 J	0.02
Acenaphthylene	No	10.8	(a)	<0.001 J	<0.003 J	<0.003 J
Anthracene	No	199	(a)	<0.001 J	<0.003 J	<0.003 J
Benzo(a)anthracene	Yes	0.001(PQL)	(a)	<0.002 J	<0.004 J	<0.004 J
Benzo(a)pyrene	Yes	0.001(PQL)	(a)	<0.001 J	<0.002 J	<0.002 J
Benzo(g,h,i)perylene	Yes	0.0115	(a)	<0.002 J	<0.003 J	<0.003 J
Total Benzofluoranthenes	Yes	0.001(PQL)	(a)	<0.003 J	<0.003 J	<0.003 J
Chrysene	Yes	0.001(PQL)	(a)	<0.002 J	<0.003 J	<0.003 J
Dibenzofuran	No	1.3	(a)	<0.001 J	<0.004 J	<0.004 J
Fluoranthene	No	11	(a)	<0.001 J	0.021	<0.003 J
Fluorene	Yes	45.2	(a)	0.016	<0.003 J	<0.003 J
Naphthalene	No	26	(a)	0.021	0.014	<0.007 J
Phenanthrene	No	4.8	(a)	0.04	0.016	<0.003 J
Pyrene	No	9.8	(a)	0.011	0.012 J	<0.004 J
PCBs (ug/l)						
Aroclor 1016	-----	0.001(PQL)	(a)	<0.003 J	<0.003 J	<0.003 J
Aroclor 1221	-----	0.014	(a)	<0.003 J	<0.003 J	<0.003 J
Aroclor 1232	-----	0.014	(a)	<0.003 J	<0.003 J	<0.003 J
Aroclor 1242	-----	0.001(PQL)	(a)	<0.003 J	<0.003 J	<0.003 J
Aroclor 1248	-----	0.001(PQL)	(a)	<0.003 J	<0.003 J	<0.003 J
Aroclor 1254	-----	0.001(PQL)	(a)	<0.003 J	<0.003 J	<0.003 J
Aroclor 1260	-----	0.001(PQL)	(a)	<0.003 J	<0.003 J	<0.003 J
Total PCBs	Yes	0.001(PQL)	(a)	nd	nd	nd
Pesticides (ng/l)						
2,4'-DDD	na	na	(a)(b)	<0.11 J	<0.11 J	<0.11 J
2,4'-DDE	na	na	(a)(b)	<0.11 J	<0.11 J	<0.11 J
2,4'-DDT	na	na	(a)(b)	<0.09 J	<0.09 J	<0.09 J
4,4'-DDD	No (d)	0.1(PQL)	(b)	0.27 J	<0.13 J	0.16 J
4,4'-DDE	No (d)	0.1(PQL)	(b)	0.13 J	<0.08 J	<0.09 J
4,4'-DDT	No (d)	0.1(PQL)	(b)	0.14 J	<0.09 J	<0.09 J
Aldrin	No (c)	0.05(PQL)	(b)	<0.46 J	<0.46 J	<0.46 J
alpha-BHC	No (c)	0.05(PQL)	(b)	<0.15 J	<0.15 J	<0.15 J
alpha-Chlordane (cis)	No (e)	na	(a)(b)	<0.13 J	<0.13 J	<0.13 J
beta-BHC	No (c)	0.05(PQL)	(b)	<0.13 J	<0.13 J	<0.13 J
Endrin	No (c)	0.1(PQL)	(b)	<0.63 J	<0.63 J	<0.63 J
gamma-Chlordane	No (na)	na	(b)	<0.17 J	<0.17 J	<0.17 J

**TABLE 10 - Detected Groundwater Constituents -
Douglas Property South Shoreline**

Detected Constituent	Sediment COPC	SW SL	Source	MW-8	MW-8	MW-8
				8-14-13	12-19-13	3-19-14
Chlorpyrifos	na	na	(b)	<0.14 J	<0.14 J	<0.14 J
Heptachlor	No (c)	0.05(PQL)	(b)	0.23 J	<0.13 J	<0.12 J
Heptachlor Epoxide	No (c)	0.05(PQL)	(b)	<0.16 J	<0.16 J	<0.16 J
Hexachlorobenzene	No (c)	0.29	(a)	<0.27 J	<0.27 J	<0.27 J
Methoxychlor	No (c)	na	(a)(b)	0.15 J	<0.1 J	<0.1 J
Mirex	na	na	(a)(b)	0.17 J	<0.09 J	<0.09 J
trans-Nonachlor	na	na	(a)(b)	<0.12 J	<0.12 J	<0.12 J
Dissolved Metals (ug/l)						
Arsenic	Yes	5	(a)	2	<2	<2
Copper	No	2.4	(a)	1	<2	<2
Mercury	Yes	0.012	(a)	0.00136	0.00011 J	0.00023 J
Nickel	No	8.2	(a)	3	5	5
Zinc	Yes	56	(a)	<10	6	<20

Notes:

(a) - LDW Site Surface Water CULs - Draft Final
(Ecology 2014)

(b) - Table SAP-5 (DOF 2012 Work Plan)

(c) - Not detected in sediment

(d) - Detected; sediment criteria not available

(e) - Detected in surface sediment; not detected in
subsurface sediment; no sediment criteria available

na - not analyzed or not available

< - Not detected at indicated reporting level

nd - Not detected

J - Estimated concentration

PQL - Practical Quantitation Limit

Exceeds screening level

SL - Screening Level

**TABLE 10 - Detected Groundwater Constituents -
Douglas Property South Shoreline**

ICS/NW Cooperage Site
Seattle, Washington

Detected Constituent	Sediment COPC	SW SL	MW-9 8-15-13	MW-9 12-16-13	MW-9 3-19-14
Turbidity (NTUs)	-----	na	0.7	5.2	-----
Chloride (mg/l)	-----	na	8090	4160	333
Total Dissolved Solids (mg/l)	-----	na	14000	6980	879
VOCs (ug/l)					
Benzene	No	2	<0.2	<0.2	<0.2
Toluene	No	1294	<0.2	<0.2	<0.2
Chloroform	No	9.3	<0.2	<0.2	<0.2
Cis-1,2-Dichloroethene	No	130	<0.2	<0.2	<0.2
m,p-Xylene	No	1300	<0.4	<0.4	<0.4
o-Xylene	No	1600	<0.2	<0.2	<0.2
Petroleum Hydrocarbons (mg/l)					
Diesel Range Organics	Yes	0.5	<0.1	<0.1	<0.1
Lube-Oil Range Organics	Yes	0.5	<0.2	<0.2	<0.2
PAHs (ug/l)					
1-Methylnaphthalene	No	na	0.064	<0.003 J	<0.003 J
2-Methylnaphthalene	No	64	0.1	<0.004 J	<0.004 J
Acenaphthene	No	115	0.045	<0.003 J	0.045
Acenaphthylene	No	10.8	<0.001 J	<0.003 J	<0.003 J
Anthracene	No	199	<0.001 J	<0.003 J	<0.003 J
Benzo(a)anthracene	Yes	0.001(PQL)	<0.001 J	<0.004 J	<0.004 J
Benzo(a)pyrene	Yes	0.001(PQL)	<0.001 J	<0.002 J	<0.002 J
Benzo(g,h,i)perylene	Yes	0.0115	<0.002 J	<0.003 J	<0.003 J
Total Benzofluoranthenes	Yes	0.001(PQL)	<0.003 J	<0.003 J	<0.003 J
Chrysene	Yes	0.001(PQL)	<0.002 J	<0.003 J	<0.003 J
Dibenzofuran	No	1.3	<0.001 J	<0.004 J	<0.004 J
Fluoranthene	No	11	0.012	<0.003 J	0.012
Fluorene	Yes	45.2	0.011	<0.003 J	<0.003 J
Naphthalene	No	26	0.26	0.012	0.014
Phenanthrene	No	4.8	0.022	<0.003 J	<0.003 J
Pyrene	No	9.8	0.011	<0.004 J	0.012
PCBs (ug/l)					
Aroclor 1016	-----	0.001(PQL)	<0.003 J	<0.003 J	<0.003 J
Aroclor 1221	-----	0.014	<0.003 J	<0.003 J	<0.003 J
Aroclor 1232	-----	0.014	<0.003 J	<0.003 J	<0.003 J
Aroclor 1242	-----	0.001(PQL)	<0.003 J	<0.003 J	<0.003 J
Aroclor 1248	-----	0.001(PQL)	0.01 J	<0.015 J	0.016
Aroclor 1254	-----	0.001(PQL)	0.008 J	0.037 J	0.032
Aroclor 1260	-----	0.001(PQL)	<0.003 J	0.021	0.016
Total PCBs	Yes	0.001(PQL)	0.018	0.058	0.064
Pesticides (ng/l)					
2,4'-DDD	na	na	<0.11 J	0.16 J	<0.11 J
2,4'-DDE	na	na	<0.11 J	<0.11 J	0.11 J
2,4'-DDT	na	na	<0.09 J	<0.09 J	<0.09 J
4,4'-DDD	No (d)	0.1(PQL)	0.19 J	0.29 J	0.25 J
4,4'-DDE	No (d)	0.1(PQL)	0.58 J	1.6	1.1
4,4'-DDT	No (d)	0.1(PQL)	<0.09 J	<0.09 J	<0.59 J
Aldrin	No (c)	0.05(PQL)	<0.46 J	<0.46 J	<0.46 J
alpha-BHC	No (c)	0.05(PQL)	<0.15 J	<0.15 J	<0.15 J
alpha-Chlordane (cis)	No (e)	na	<0.13 J	<0.13 J	<0.13 J
beta-BHC	No (c)	0.05(PQL)	<0.13 J	<0.13 J	<0.13 J
Endrin	No (c)	0.1(PQL)	<0.63 J	<0.63 J	<1.2 J
gamma-Chlordane	No (na)	na	<0.17 J	<0.18 J	0.47

**TABLE 10 - Detected Groundwater Constituents -
Douglas Property South Shoreline**

Detected Constituent	Sediment COPC	SW SL	MW-9 8-15-13	MW-9 12-16-13	MW-9 3-19-14
Chlorpyrifos	na	na	1.4	<0.14 J	<0.14 J
Heptachlor	No (c)	0.05(PQL)	0.17 J	<0.19 J	0.12 J
Heptachlor Epoxide	No (c)	0.05(PQL)	<0.16 J	<0.16 J	0.63
Hexachlorobenzene	No (c)	0.29	<0.27 J	<0.27 J	<0.27 J
Methoxychlor	No (c)	na	<0.1 J	<0.1 J	<0.1 J
Mirex	na	na	<0.08 J	<0.1 J	<0.08 J
trans-Nonachlor	na	na	<0.12 J	<0.12 J	<0.12 J
Dissolved Metals (ug/l)					
Arsenic	Yes	5	3	1	5.3
Copper	No	2.4	4	2	0.6
Mercury	Yes	0.012	0.00031 J	0.00015 J	0.00025 J
Nickel	No	8.2	8	3.2	2.7
Zinc	Yes	56	<20	6	<4

Notes:

(a) - LDW Site Surface Water CULs - Draft Final
(Ecology 2014)

(b) - Table SAP-5 (DOF 2012 Work Plan)

(c) - Not detected in sediment

(d) - Detected; sediment criteria not available

(e) - Detected in surface sediment; not detected in
subsurface sediment; no sediment criteria available

na - not analyzed or not available

< - Not detected at indicated reporting level

nd - Not detected

J - Estimated concentration

PQL - Practical Quantitation Limit

Exceeds screening level

SL - Screening Level

**TABLE 10 - Detected Groundwater Constituents -
Douglas Property South Shoreline**

ICS/NW Cooperage Site
Seattle, Washington

Detected Constituent	Sediment COPC	SW SL	MW-10 8-16-13	MW-10 12-16-13	MW-10 3-19-14
Turbidity (NTUs)	-----	na	-----	-----	-----
Chloride (mg/l)	-----	na	2830	1990	898
Total Dissolved Solids (mg/l)	-----	na	4950	3550	2060
VOCs (ug/l)					
Benzene	No	2	<0.2	<0.2	0.3
Toluene	No	1294	<0.2	<0.2	<0.2
Chloroform	No	9.3	<0.2	<0.2	<0.2
Cis-1,2-Dichloroethene	No	130	<0.2	<0.2	0.11 J
m,p-Xylene	No	1300	<0.4	<0.4	0.38 J
o-Xylene	No	1600	<0.2	<0.2	0.14 J
Petroleum Hydrocarbons (mg/l)					
Diesel Range Organics	Yes	0.5	0.15	0.36	<0.1
Lube-Oil Range Organics	Yes	0.5	<0.2	<0.2	0.24
PAHs (ug/l)					
1-Methylnaphthalene	No	na	0.045	<0.003 J	0.33
2-Methylnaphthalene	No	64	0.011	<0.004 J	0.025
Acenaphthene	No	115	4.8	1.8	7
Acenaphthylene	No	10.8	<0.001 J	<0.003 J	0.02
Anthracene	No	199	0.02	0.011	0.02
Benzo(a)anthracene	Yes	0.001(PQL)	<0.001 J	<0.003 J	<0.003 J
Benzo(a)pyrene	Yes	0.001(PQL)	<0.001 J	<0.002 J	<0.002 J
Benzo(g,h,i)perylene	Yes	0.0115	<0.002 J	<0.003 J	<0.003 J
Total Benzofluoranthenes	Yes	0.001(PQL)	<0.003 J	<0.003 J	<0.003 J
Chrysene	Yes	0.001(PQL)	<0.002 J	<0.003 J	<0.003 J
Dibenzofuran	No	1.3	0.048	<0.003 J	0.17
Fluoranthene	No	11	0.044	0.068	0.06
Fluorene	Yes	45.2	0.087	<0.003 J	0.66
Naphthalene	No	26	0.024	0.053	0.14
Phenanthrene	No	4.8	0.037	<0.003 J	0.15
Pyrene	No	9.8	0.029	0.032 J	0.027
PCBs (ug/l)					
Aroclor 1016	-----	0.001(PQL)	<0.003 J	<0.003 J	<0.003 J
Aroclor 1221	-----	0.014	<0.003 J	<0.003 J	<0.003 J
Aroclor 1232	-----	0.014	<0.003 J	<0.003 J	<0.003 J
Aroclor 1242	-----	0.001(PQL)	<0.003 J	<0.003 J	<0.003 J
Aroclor 1248	-----	0.001(PQL)	0.021	<0.003 J	0.011
Aroclor 1254	-----	0.001(PQL)	<0.003 J	0.026	0.009 J
Aroclor 1260	-----	0.001(PQL)	<0.003 J	0.011	<0.003 J
Total PCBs	Yes	0.001(PQL)	0.021	0.037	0.020
Pesticides (ng/l)					
2,4'-DDD	na	na	0.3 J	0.27 J	<0.11 J
2,4'-DDE	na	na	0.23 J	0.25 J	0.12 J
2,4'-DDT	na	na	<0.09 J	<0.09 J	<0.09 J
4,4'-DDD	No (d)	0.1(PQL)	0.32 J	<0.33 J	0.25 J
4,4'-DDE	No (d)	0.1(PQL)	1.1	<0.79 J	0.4 J
4,4'-DDT	No (d)	0.1(PQL)	<0.09 J	<0.09 J	<0.25 J
Aldrin	No (c)	0.05(PQL)	<0.46 J	<0.46 J	<0.46 J
alpha-BHC	No (c)	0.05(PQL)	<0.15 J	<0.15 J	<0.15 J
alpha-Chlordane (cis)	No (e)	na	<0.13 J	<0.16 J	<0.13 J
beta-BHC	No (c)	0.05(PQL)	<0.13 J	<0.13 J	<0.13 J
Endrin	No (c)	0.1(PQL)	<0.63 J	<0.63 J	<1.7 J
gamma-Chlordane	No (na)	na	<0.17 J	<0.17 J	<0.17 J

**TABLE 10 - Detected Groundwater Constituents -
Douglas Property South Shoreline**

Detected Constituent	Sediment COPC	SW SL	MW-10 8-16-13	MW-10 12-16-13	MW-10 3-19-14
Chlorpyrifos	na	na	<0.14 J	<0.14 J	<0.14 J
Heptachlor	No (c)	0.05(PQL)	<0.12 J	<0.12 J	0.17 J
Heptachlor Epoxide	No (c)	0.05(PQL)	<0.16 J	<0.16 J	<0.16 J
Hexachlorobenzene	No (c)	0.29	<0.27 J	<0.27 J	<0.27 J
Methoxychlor	No (c)	na	<0.1 J	<0.1 J	<0.1 J
Mirex	na	na	0.13 J	<0.12 J	<0.08 J
trans-Nonachlor	na	na	<0.12 J	<0.12 J	<0.12 J
Dissolved Metals (ug/l)					
Arsenic	Yes	5	<1	<1	2
Copper	No	2.4	<1	1.1	<2
Mercury	Yes	0.012	0.00028 J	0.00034 J	0.00028 J
Nickel	No	8.2	5	2.5	4
Zinc	Yes	56	<10	4	<20

Notes:

- (a) - LDW Site Surface Water CULs - Draft Final (Ecology 2014)
- (b) - Table SAP-5 (DOF 2012 Work Plan)
- (c) - Not detected in sediment
- (d) - Detected; sediment criteria not available
- (e) - Detected in surface sediment; not detected in subsurface sediment; no sediment criteria available
- na - not analyzed or not available
- < - Not detected at indicated reporting level
- nd - Not detected
- J - Estimated concentration
- PQL - Practical Quantitation Limit
- Exceeds screening level
- SL - Screening Level

**TABLE 10 - Detected Groundwater Constituents -
Douglas Property South Shoreline**

ICS/NW Cooperage Site
Seattle, Washington

Detected Constituent	Sediment COPC	SW SL	MW-11 8-15-13	MW-11 12-26-13	MW-11 3-19-14
Turbidity (NTUs)	-----	na	5.7	-----	-----
Chloride (mg/l)	-----	na	9340	1380	431
Total Dissolved Solids (mg/l)	-----	na	16400	2620	729
VOCs (ug/l)					
Benzene	No	2	<0.2	<0.2	<0.2
Toluene	No	1294	<0.2	0.15 J	<0.2
Chloroform	No	9.3	<0.2	0.43	<0.2
Cis-1,2-Dichloroethene	No	130	<0.2	<0.2	<0.2
m,p-Xylene	No	1300	<0.4	0.11 J	<0.4
o-Xylene	No	1600	<0.2	<0.2	<0.2
Petroleum Hydrocarbons (mg/l)					
Diesel Range Organics	Yes	0.5	<0.1	<0.1	<0.1
Lube-Oil Range Organics	Yes	0.5	<0.2	<0.2	<0.2
PAHs (ug/l)					
1-Methylnaphthalene	No	na	0.017	<0.003 J	<0.003 J
2-Methylnaphthalene	No	64	0.034	<0.004 J	<0.004 J
Acenaphthene	No	115	<0.001 J	<0.003 J	<0.003 J
Acenaphthylene	No	10.8	<0.001 J	<0.003 J	<0.003 J
Anthracene	No	199	<0.001 J	<0.003 J	<0.003 J
Benzo(a)anthracene	Yes	0.001(PQL)	<0.001 J	<0.004 J	<0.004 J
Benzo(a)pyrene	Yes	0.001(PQL)	<0.001 J	<0.002 J	<0.002 J
Benzo(g,h,i)perylene	Yes	0.0115	<0.002 J	<0.003 J	<0.003 J
Total Benzofluoranthenes	Yes	0.001(PQL)	<0.003 J	<0.003 J	<0.003 J
Chrysene	Yes	0.001(PQL)	<0.002 J	<0.003 J	<0.003 J
Dibenzofuran	No	1.3	<0.001 J	<0.004 J	<0.004 J
Fluoranthene	No	11	<0.001 J	<0.003 J	<0.003 J
Fluorene	Yes	45.2	<0.001 J	<0.003 J	<0.003 J
Naphthalene	No	26	0.096	0.046	<0.007 J
Phenanthrene	No	4.8	<0.001 J	<0.003 J	<0.003 J
Pyrene	No	9.8	<0.001 J	<0.004 J	<0.004 J
PCBs (ug/l)					
Aroclor 1016	-----	0.001(PQL)	<0.003 J	<0.003 J	<0.003 J
Aroclor 1221	-----	0.014	<0.003 J	<0.003 J	<0.003 J
Aroclor 1232	-----	0.014	<0.003 J	<0.003 J	<0.003 J
Aroclor 1242	-----	0.001(PQL)	<0.003 J	<0.003 J	<0.003 J
Aroclor 1248	-----	0.001(PQL)	<0.003 J	<0.003 J	<0.003 J
Aroclor 1254	-----	0.001(PQL)	<0.003 J	<0.003 J	<0.003 J
Aroclor 1260	-----	0.001(PQL)	<0.003 J	<0.003 J	<0.003 J
Total PCBs	Yes	0.001(PQL)	nd	nd	nd
Pesticides (ng/l)					
2,4'-DDD	na	na	<0.11 J	<0.11 J	<0.11 J
2,4'-DDE	na	na	0.13 J	<0.11 J	<0.11 J
2,4'-DDT	na	na	<0.09 J	<0.09 J	<0.09 J
4,4'-DDD	No (d)	0.1(PQL)	<0.16 J	<0.1 J	<0.1 J
4,4'-DDE	No (d)	0.1(PQL)	0.16 J	0.12 J	0.081 J
4,4'-DDT	No (d)	0.1(PQL)	<0.09 J	<0.09 J	<0.12 J
Aldrin	No (c)	0.05(PQL)	<0.57 J	<0.46 J	<0.46 J
alpha-BHC	No (c)	0.05(PQL)	0.21 J	<0.15 J	<0.15 J
alpha-Chlordane (cis)	No (e)	na	0.20 J	<0.13 J	<0.13 J
beta-BHC	No (c)	0.05(PQL)	<0.13 J	<0.13 J	<0.13 J
Endrin	No (c)	0.1(PQL)	<0.63 J	<0.63 J	<0.63 J
gamma-Chlordane	No (na)	na	0.22 J	<0.17 J	<0.17 J

**TABLE 10 - Detected Groundwater Constituents -
Douglas Property South Shoreline**

Detected Constituent	Sediment COPC	SW SL	MW-11 8-15-13	MW-11 12-26-13	MW-11 3-19-14
Chlorpyrifos	na	na	<0.19 J	<0.14 J	<0.14 J
Heptachlor	No (c)	0.05(PQL)	0.36 J	<0.12 J	0.17 J
Heptachlor Epoxide	No (c)	0.05(PQL)	0.25 J	<0.16 J	<0.16 J
Hexachlorobenzene	No (c)	0.29	<0.27 J	<0.27 J	<0.27 J
Methoxychlor	No (c)	na	<0.1 J	<0.1 J	<0.1 J
Mirex	na	na	<0.13 J	<0.08 J	<0.08 J
trans-Nonachlor	na	na	0.17 J	<0.12 J	<0.12 J
Dissolved Metals (ug/l)					
Arsenic	Yes	5	<1	1.6	1.5
Copper	No	2.4	7	3.7	5.9
Mercury	Yes	0.012	0.00135	0.00152	0.00376
Nickel	No	8.2	6	2.3	0.6
Zinc	Yes	56	20 J	7	<4

Notes:

(a) - LDW Site Surface Water CULs - Draft Final
(Ecology 2014)

(b) - Table SAP-5 (DOF 2012 Work Plan)

(c) - Not detected in sediment

(d) - Detected; sediment criteria not available

(e) - Detected in surface sediment; not detected in
subsurface sediment; no sediment criteria available

na - not analyzed or not available

< - Not detected at indicated reporting level

nd - Not detected

J - Estimated concentration

PQL - Practical Quantitation Limit

Exceeds screening level

SL - Screening Level

**TABLE 10 - Detected Groundwater Constituents -
Douglas Property South Shoreline**

ICS/NW Cooperage Site
Seattle, Washington

Detected Constituent	Sediment COPC	SW SL	MW-13 8-14-13	MW-13 12-17-13	MW-13 3-19-14
Turbidity (NTUs)	-----	na	11	58.4	
Chloride (mg/l)	-----	na	8190	1630	698
Total Dissolved Solids (mg/l)	-----	na	13800	2960	1390
VOCs (ug/l)					
Benzene	No	2	<0.2	<0.2	<0.2
Toluene	No	1294	0.11 J	<0.2	<0.2
Chloroform	No	9.3	<0.2	<0.2	<0.2
Cis-1,2-Dichloroethene	No	130	<0.2	<0.2	<0.2
m,p-Xylene	No	1300	<0.4	<0.4	<0.4
o-Xylene	No	1600	<0.2	<0.2	<0.2
Petroleum Hydrocarbons (mg/l)					
Diesel Range Organics	Yes	0.5	<0.1	<0.1	<0.1
Lube-Oil Range Organics	Yes	0.5	<0.2	<0.2	<0.2
PAHs (ug/l)					
1-Methylnaphthalene	No	na	0.13	0.016	<0.003 J
2-Methylnaphthalene	No	64	0.14	0.018	<0.004 J
Acenaphthene	No	115	0.081	0.026	<0.003 J
Acenaphthylene	No	10.8	0.034	<0.003 J	<0.003 J
Anthracene	No	199	0.038	<0.003 J	<0.003 J
Benzo(a)anthracene	Yes	0.001(PQL)	0.029	<0.004 J	<0.004 J
Benzo(a)pyrene	Yes	0.001(PQL)	0.021	<0.002 J	<0.002 J
Benzo(g,h,i)perylene	Yes	0.0115	0.012	<0.003 J	<0.003 J
Total Benzofluoranthenes	Yes	0.001(PQL)	0.035	<0.002 J	<0.002 J
Chrysene	Yes	0.001(PQL)	0.044	<0.003 J	<0.003 J
Dibenzofuran	No	1.3	0.014	<0.004 J	<0.004 J
Fluoranthene	No	11	0.11	0.024	<0.004 J
Fluorene	Yes	45.2	0.087	<0.003 J	<0.003 J
Naphthalene	No	26	0.16	0.014	<0.007 J
Phenanthrene	No	4.8	0.22	0.019	<0.003 J
Pyrene	No	9.8	0.14	0.023 J	<0.004 J
PCBs (ug/l)					
Aroclor 1016	-----	0.001(PQL)	<0.003 J	<0.003 J	<0.003 J
Aroclor 1221	-----	0.014	<0.003 J	<0.003 J	<0.003 J
Aroclor 1232	-----	0.014	<0.003 J	<0.003 J	<0.003 J
Aroclor 1242	-----	0.001(PQL)	<0.003 J	<0.003 J	<0.003 J
Aroclor 1248	-----	0.001(PQL)	0.034	0.13	0.014
Aroclor 1254	-----	0.001(PQL)	0.037	0.2	0.015
Aroclor 1260	-----	0.001(PQL)	0.015	0.088	0.009
Total PCBs	Yes	0.001(PQL)	0.086	0.418	0.038
Pesticides (ng/l)					
2,4'-DDD	na	na	1.5	6	0.54
2,4'-DDE	na	na	0.4 J	0.93	<0.11 J
2,4'-DDT	na	na	<0.09 J	<0.09 J	<0.09 J
4,4'-DDD	No (d)	0.1(PQL)	5.8	27	2.3
4,4'-DDE	No (d)	0.1(PQL)	3	12	0.83
4,4'-DDT	No (d)	0.1(PQL)	0.25 J	<0.09 J	<0.09 J
Aldrin	No (c)	0.05(PQL)	0.67 J	<0.46 J	<0.46 J
alpha-BHC	No (c)	0.05(PQL)	0.19 J	<0.15 J	<0.15 J
alpha-Chlordane (cis)	No (e)	na	0.25 J	0.8	0.32 J
beta-BHC	No (c)	0.05(PQL)	0.21 J	<0.13 J	<0.13 J
Endrin	No (c)	0.1(PQL)	0.67 J	<0.63 J	<0.63 J
gamma-Chlordane	No (na)	na	0.29 J	1.2	0.37

**TABLE 10 - Detected Groundwater Constituents -
Douglas Property South Shoreline**

Detected Constituent	Sediment COPC	SW SL	MW-13 8-14-13	MW-13 12-17-13	MW-13 3-19-14
Chlorpyrifos	na	na	<0.20 J	<0.31 J	<0.14 J
Heptachlor	No (c)	0.05(PQL)	0.30 J	0.44 J	0.16 J
Heptachlor Epoxide	No (c)	0.05(PQL)	0.25 J	<0.16 J	0.67 J
Hexachlorobenzene	No (c)	0.29	<0.27 J	0.27 J	<0.27 J
Methoxychlor	No (c)	na	0.16 J	<0.1 J	<0.1 J
Mirex	na	na	<0.18 J	0.12 J	<0.08 J
trans-Nonachlor	na	na	0.17 J	0.29 J	<0.12 J
Dissolved Metals (ug/l)					
Arsenic	Yes	5	<1.0	1.8	2.3
Copper	No	2.4	5	0.8	0.8
Mercury	Yes	0.012	0.00036 J	0.00015 J	0.00223
Nickel	No	8.2	15	1.3	1.4
Zinc	Yes	56	30	4	<4

Notes:

(a) - LDW Site Surface Water CULs - Draft Final
(Ecology 2014)

(b) - Table SAP-5 (DOF 2012 Work Plan)

(c) - Not detected in sediment

(d) - Detected; sediment criteria not available

(e) - Detected in surface sediment; not detected in
subsurface sediment; no sediment criteria available

na - not analyzed or not available

< - Not detected at indicated reporting level

nd - Not detected

J - Estimated concentration

PQL - Practical Quantitation Limit

Exceeds screening level

SL - Screening Level

TABLE 11 - Groundwater Level Elevations - December 2012**Groundwater Elevations Near High Tide - December 10, 2012**

Well	Northing	Easting	TOC elev. (ft)*	Ground Surface Elev. (ft)	Depth to Water (ft. below TOC)	Time	Water Level Elevation (ft)	Notes
DOF-MW1	199991	1270150	16.17	16.5	6.55	1334	9.62	
DOF-MW2	199928	1269979	19.29	19.5	10.48	1333	8.81	
DOF-MW3	199878	1269775	19.34	19.6	10.75	1323	8.59	
DOF-MW4	199986	1269797	18.08	18.4	9.32	1331	8.76	
DOF-MW5	200065	1269721	17.69	18.0	8.85	1330	8.84	
DOF-MW6	200249	1269827	14.06	14.3	4.85	1327	9.21	
DOF-MW7	200185	1269970	15.18	15.5	6.09	1325	9.09	
DOF-MW8	200097	1270036	15.89	16.2	6.92	1336	8.97	
SA-MW1	200269	1269944	15.10	15.4	6.30	1345	8.80	NAPL @ 6.28'
SA-MW2	200311	1270090	14.61	14.9	5.00	1322	9.61	
SA-MW3	200249	1270174	16.01	16.3	4.55	1323	11.46	
HC-B1	200304	1270043	16.39	15.4	6.43	1320	9.96	

Groundwater Elevations Near Low Tide - December 10, 2012

Well	Northing	Easting	TOC elev. (ft)*	Ground Surface Elev. (ft)	Depth to Water (ft. below TOC)	Time	Water Level Elevation (ft)	Notes
DOF-MW1	199991	1270150	16.17	16.5	8.78	2044	7.39	
DOF-MW2	199928	1269979	19.29	19.5	11.34	2045	7.95	
DOF-MW3	199878	1269775	19.34	19.6	11.33	2035	8.01	
DOF-MW4	199986	1269797	18.08	18.4	10.31	2055	7.77	
DOF-MW5	200065	1269721	17.69	18.0	10.15	2057	7.54	
DOF-MW6	200249	1269827	14.06	14.3	6.93	2026	7.13	
DOF-MW7	200185	1269970	15.18	15.5	7.98	2038	7.20	
DOF-MW8	200097	1270036	15.89	16.2	8.25	2041	7.64	
SA-MW1	200269	1269944	15.10	15.4	6.16	2025	8.94	NAPL @ 6.10'
SA-MW2	200311	1270090	14.61	14.9	6.50	2031	8.11	
SA-MW3	200249	1270174	16.01	16.3	11.59	2035	4.42	
HC-B1	200304	1270043	16.39	15.4	10.22	2030	6.17	

Horizontal coordinates - US State Plane NAD 1983 (conus) CORS96

* TOC elevation referenced to estimated elevation of lid top of manhole MH1 (15.00 feet MLLW [navd88 plus 2.435 feet] from elevations by

David Smith Associates (flown 3-18-10 to prepare topographic base map)

High Tide +11.8' at 1319 on 12-10-12 (Duwamish Waterway 8th Ave S - predicted)

Low Tide -1.5' at 2034 on 12-10-12 (Duwamish Waterway 8th Ave S - predicted)

TABLE 12 - Results of Groundwater and Seep Sample Analyses - 2012

Well No.	Collection Date	Field Parameters							Chloride mg/L	Sulfate mg/L	Antimony		Arsenic		Beryllium		Cadmium		Calcium		Chromium	
		pH	Conductivity	Temp.	DO	ORP (1)	Ferrous Fe	Turbidity			diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L
		Std. Units	uS	C	mg/l	mV	mg/l	NTU														
MW-1	11/8/2012	7.0	6551	12.9	0.28	-84.6	10	13.4	2210	323	2 U	2 U	2	2	2 U	2 U	1 U	1 U	-----	130,000	5 U	5 U
MW-2	11/8/2012	6.5	1940	15.7	0.06	-34.4	6	9.8	179	1.0	0.2 U	0.2 U	2.6	4.3	0.3	0.3	0.1 U	0.1 U	-----	15,300	47.2	68.3
MW-3	11/8/2012	6.5	1623	14.5	0.01	-35.2	4.6	10.5	217	0.8	0.2 U	0.2 U	2.0	3.1	0.2 U	0.2	0.1 U	0.1 U	-----	16,700	28.3	37.1
MW-4	11/8/2012	6.3	1455	15	0	-39.9	5.8	10.3	103	1.1	0.2 U	0.2 U	2	3.6	1 U	0.3	0.1 U	0.1 U	-----	16,000	46.0	55.5
MW-5	11/8/2012	6.5	828	13.4	0.03	-48.3	3.2	11.2	61.9	1.0	0.2 U	0.2 U	0.5 U	0.7	0.5 U	0.2 U	0.1 U	0.1 U	-----	7070	10.9	13.6
MW-6	11/9/2012	6.9	1255	14	0.12	-48.5	5	22.3	356	0.1 U	0.2 U	0.2 U	0.8	1.3	0.2 U	0.2 U	0.1 U	0.1 U	-----	31,400	7.7	17
MW-6(dup)	11/9/2012	-----	-----	-----	-----	-----	-----	-----	359	0.9	0.2 U	0.2 U	0.8	1.6	0.2 U	0.2 U	0.1 U	0.1 U	-----	33,300	10	12.4
MW-7	11/9/2012	6.2	2095	13.9	0.04	-95.7	6.2	5.9	470	2.5	0.2 U	0.2 U	1.6	1.4	0.5 U	0.2 U	0.1 U	0.1 U	-----	36,500	10	14
MW-8	11/9/2012	6.4	1090	15.7	0.05	-98.1	7	48.8	46.0	1.5	0.2 U	0.5	6	5.6	0.5 U	0.2 U	0.1 U	0.1 U	-----	32,400	2	5
HC-B1	11/13/2012	8.0	10097	12.5	0.93	-201	0	5.1	3730	4.8	1 U	1 U	4	4	1 U	1 U	0.5 U	0.5 U	-----	126,000	6	6
SA-MW-2	11/9/2012	6.7	7021	13.1	0.04	-7.8	0.8	5.1	2280	36.1	0.2	0.2	0.5	0.5 U	0.2 U	0.2 U	0.1 U	0.1 U	-----	85,700	2.5	5
SA-MW3	11/13/2012	5.9	10760	13.6	-----	129	1.8	37.1	4050	576	1 U	1 U	4	3	1 U	1 U	0.5 U	0.5 U	-----	142,000	4	4
Seep 1	7/5/2012	6.5	6609	13	2.9	-11.8	1.4	6.7	2430	321	1 U	-	5	-	1 U	-	0.5 U	-	74,100	-	2 U	-
Seep 1(dup)	7/5/2012	-----	-----	-----	-----	-----	-----	-----	2440	327	1 U	-	5	-	1 U	-	0.5 U	-	74,100	-	2	-
Seep 2	7/5/2012	7.0	6202	13.7	7.5	-6.5	1.0	7.2	2220	303	1 U	-	4	-	1 U	-	0.5 U	-	76,200	-	2	-

Notes: U = Nondetected at the associated lower reporting limit.
 J = Estimate associated with value less than the verifiable lower quantitation limit.
 J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank.
 ----- = Not analyzed
 Shade highlights shoreline samples
 (1) - Referenced to Ag/AgCl electrode

TABLE 12 - Results of Groundwater and Seep Sample Analyses - 2012

Well No.	Collection Date	Copper		Lead		Magnesium		Mercury		Nickel		Silver		Zinc		Hardness mg-CaCO ₃ /L	Total Petroleum Hydrocarbons		
		diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L		Gasoline-range mg/L	Diesel-range mg/L	Lube-range mg/L
MW-1	11/8/2012	5 U	4	1 U	2	-----	170,000	0.1 U	0.1 U	8	8	2 U	2 U	40 U	40 U	1000	0.25 U	0.10 U	0.20 U
MW-2	11/8/2012	5.2	22.9	0.3	1.1	-----	22,100	0.1 U	0.1 U	1.7	2.1	1 U	1 U	4 U	7	130	0.25 U	0.10 U	0.20 U
MW-3	11/8/2012	1.7	5.3	0.1 U	0.7	-----	40,500	0.1 U	0.1 U	1.4	1.4	1 U	1 U	4 U	4	210	0.25 U	0.10 U	0.20 U
MW-4	11/8/2012	7.4	15.1	0.4	0.9	-----	24,800	0.1 U	0.1 U	1.5	1.7	1 U	1 U	5	5	140	0.25 U	0.10 U	0.20 U
MW-5	11/8/2012	2.1	7.0	0.1	0.3	-----	10,900	0.1 U	0.1 U	0.8	1.0	0.5 U	1 U	4 U	4 U	63	0.25 U	0.10 U	0.20 U
MW-6	11/9/2012	1 U	6.6	0.1	1.4	-----	37,800	0.1 U	0.1 U	1.7	2.3	0.2 U	0.2 U	4 U	4 U	230	0.22 J	0.10 U	0.20 U
MW-6(dup)	11/9/2012	1.0	6.5	0.1	1.8	-----	39,800	0.1 U	0.1 U	1.8	2.3	0.2 U	0.2 U	4 U	4 U	250	0.25 J	0.10 U	0.20 U
MW-7	11/9/2012	1.8	3.6	0.1 U	0.4	-----	28,200	0.1 U	0.1 U	2	2.4	0.2 U	0.2 U	4 U	4 U	210	0.5	0.41	0.20 U
MW-8	11/9/2012	0.6	3.4	0.5	13.5	-----	35,100	0.1 U	0.1 U	7	7.6	0.2 U	0.2 U	4 U	11	230	0.25 U	0.10 U	0.20 U
HC-B1	11/13/2012	2 U	2 U	0.5 U	0.5 U	-----	205,000	0.1 U	0.1 U	6	7	1 U	1 U	20 U	20 U	1200	0.25 U	0.10 U	0.20 U
SA-MW-2	11/9/2012	2 U	1.0	0.1 U	0.6	-----	156,000	0.1 U	0.1 U	4.7	4.1	0.2 U	0.2 U	4 U	4 U	860	0.25 U	0.10 U	0.20 U
SA-MW3	11/13/2012	4	4	0.5 U	0.5 U	-----	312,000	0.1 U	0.1 U	11	10	1 U	1 U	30	30	1600	0.25 U	0.10 U	0.20 U
Seep 1	7/5/2012	2 U	-	0.2 U	-	-----	173,000	0.1 U	-	4	-	1 U	-	20 U	-	900	0.25 U	0.10 U	0.20 U
Seep 1(dup)	7/5/2012	2 U	-	0.2 U	-	-----	173,000	0.1 U	-	4	-	1 U	-	20 U	-	900	0.25 U	0.10 U	0.20 U
Seep 2	7/5/2012	2 U	-	0.2 U	-	-----	179,000	0.1 U	-	6	-	1 U	-	210	-	930	0.25 U	0.10 U	0.20 U

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 ----- = Not analyzed
 Shade highlights shoreline samples

TABLE 12 - Results of Groundwater and Seep Sample Analyses - 2012

Well No.	Collection Date	Chloro-methane	Bromo-methane	Vinyl chloride	Chloro-ethane	Methylene chloride	Acetone	Carbon disulfide	1,1-Dichloro-ethene	1,1-Dichloro-ethane	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Chloroform	1,2-Dichloro-ethane	2-Butanone	1,1,1-Tri-chloroethane	Carbon tetrachloride
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-1	11/8/2012	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.10 J	0.20 U	0.20 U	0.15 J	0.20 U	5.0 U	0.20 U	0.20 U
MW-2	11/8/2012	0.50 U	1.0 U	0.19 J	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U
MW-3	11/8/2012	0.50 U	1.0 U	0.15 J	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U
MW-4	11/8/2012	0.50 U	1.0 U	0.17 J	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U
MW-5	11/8/2012	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U
MW-6	11/9/2012	0.50 U	1.0 U	0.33	0.65	1.0 U	5.0 U	1.6	0.20 U	0.14 J	0.34	0.22	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U
MW-6(dup)	11/9/2012	0.50 U	1.0 U	0.37	0.74	1.0 U	5.0 U	1.6	0.20 U	0.14 J	0.34	0.24	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U
MW-7	11/9/2012	0.50 U	1.0 U	2.1	4.8	0.59 J	5.0 U	0.61	0.20 U	1.2	0.36	25	0.16 J	0.20 U	5.0 U	0.20 U	0.20 U
MW-8	11/9/2012	0.50 U	1.0 U	0.89	3.3	1.0 U	5.0 U	0.74	0.20 U	0.45	0.40	0.42	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U
HC-B1	11/13/2012	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	3.7 J	0.20 U	0.20 U	0.20 U	0.20 U	0.16 J	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U
SA-MW-2	11/9/2012	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U
SA-MW3	11/13/2012	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U
Seep 1	7/5/2012	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U
Seep 1(dup)	7/5/2012	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U
Seep 2	7/5/2012	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U

Notes: U = Nondetected at the associated lower reporting limit.

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J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank.

----- = Not analyzed

Shade highlights shoreline samples

TABLE 12 - Results of Groundwater and Seep Sample Analyses - 2012

Well No.	Collection Date	Bromo-dichloromethane	1,2-Dichloropropane	cis-1,3-Dichloropropene	Trichloroethene	Dibromochloromethane	1,1,2-Trichloroethane	Benzene	trans-1,3-Dichloropropene	Bromoform	4-Methyl-2-pentanone	2-Hexanone	Tetrachloroethene	1,1,2,2-Tetrachloroethane	Toluene	Chlorobenzene
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-1	11/8/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-2	11/8/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-3	11/8/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-4	11/8/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-5	11/8/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-6	11/9/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	3.6	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	1.5	13
MW-6(dup)	11/9/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	3.6	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	1.5	13
MW-7	11/9/2012	0.20 U	0.20 U	0.20 U	0.79	0.20 U	0.20 U	1.7	0.20 U	0.20 U	5.0 U	5.0 U	0.43	0.20 U	28	0.14 J
MW-8	11/9/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	61	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	2.6	0.81
HC-B1	11/13/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U
SA-MW-2	11/9/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.15 J	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U
SA-MW3	11/13/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U
Seep 1	7/5/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U
Seep 1(dup)	7/5/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U
Seep 2	7/5/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U

Notes: U = Nondetected at the associated lower reporting limit.
 J = Estimate associated with value less than the verifiable lower quantitation limit.
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 ----- = Not analyzed

Shade highlights shoreline samples

TABLE 12 - Results of Groundwater and Seep Sample Analyses - 2012

Well No.	Collection Date	Ethylbenzene	Styrene	Trichlorofluoromethane	1,1,2-Trichloro-1,2,2-trifluoroethane	m- & p-Xylenes	o-Xylene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Acrolein	Bromoethane	1,1-Dichloropropene	Dibromomethane	1,1,1,2-Tetrachloroethane	1,2,3-Trichloropropane
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-1	11/8/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U
MW-2	11/8/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U
MW-3	11/8/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U
MW-4	11/8/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U
MW-5	11/8/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U
MW-6	11/9/2012	2.7	0.20 U	0.20 U	0.20 U	1.8	1.5	0.67	3.6	22	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U
MW-6(dup)	11/9/2012	2.7	0.20 U	0.20 U	0.20 U	1.8	1.5	0.71	3.6	22	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U
MW-7	11/9/2012	21	1.7	0.20 U	0.20 U	51	18	0.36	0.20 U	0.12 J	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U
MW-8	11/9/2012	2.0	0.20 U	0.20 U	0.20 U	7.6	1.3	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U
HC-B1	11/13/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U
SA-MW-2	11/9/2012	0.20	0.20 U	0.20 U	0.20 U	0.25 J	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U
SA-MW3	11/13/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U
Seep 1	7/5/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U
Seep 1(dup)	7/5/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U
Seep 2	7/5/2012	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U

Notes: U = Nondetected at the associated lower reporting limit.

J = Estimate associated with value less than the verifiable lower quantitation limit.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank.

----- = Not analyzed

Shade highlights shoreline samples

TABLE 12 - Results of Groundwater and Seep Sample Analyses - 2012

Well No.	Collection Date	<i>trans</i> -1,4-Dichloro-2-butene	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	1,2-Dibromoethane	Bromochloromethane	2,2-Dichloropropane	1,3-Dichloropropane	Isopropylbenzene	n-Propylbenzene	Bromobenzene	2-Chlorotoluene	4-Chlorotoluene	<i>tert</i> -Butylbenzene	<i>sec</i> -Butylbenzene	4-Isopropyltoluene	n-Butylbenzene	
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-1	11/8/2012	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-2	11/8/2012	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-3	11/8/2012	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-4	11/8/2012	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-5	11/8/2012	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-6	11/9/2012	1.0 U	0.20 U	1.5	0.20 U	0.20 U	0.20 U	0.20 U	0.33	0.37	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.28	0.23	J _B
MW-6(dup)	11/9/2012	1.0 U	0.20 U	1.5	0.20 U	0.20 U	0.20 U	0.20 U	0.33	0.36	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.26	0.20 U	0.20 U
MW-7	11/9/2012	1.0 U	1.8	5.2	0.20 U	0.20 U	0.20 U	0.20 U	0.50	0.53	0.20 U	0.20 U	0.20 U	0.20 U	0.23	0.35	0.23	J _B
MW-8	11/9/2012	1.0 U	0.20 U	0.29	0.20 U	0.20 U	0.20 U	0.20 U	0.45	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
HC-B1	11/13/2012	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
SA-MW-2	11/9/2012	1.0 U	0.20 U	0.16	J	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
SA-MW3	11/13/2012	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Seep 1	7/5/2012	1.0 U	0.20 U	0.20 U	----	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Seep 1(dup)	7/5/2012	1.0 U	0.20 U	0.20 U	----	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Seep 2	7/5/2012	1.0 U	0.20 U	0.20 U	----	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U

Notes: U = Nondetected at the associated lower reporting limit.
 J = Estimate associated with value less than the verifiable lower quantitation limit.
 J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank.
 ---- = Not analyzed
 Shade highlights shoreline samples

TABLE 12 - Results of Groundwater and Seep Sample Analyses - 2012

Well No.	Collection Date	1,2,4-Trichloro- benzene	1,2,3- Trichloro- benzene	Phenol	2-Chloro- phenol	Benzyl alcohol	2-Methyl- phenol	4-Methyl- phenol	N-Nitrosodi-n- propylamine	Hexachloro- ethane	Nitrobenzene	Isophorone	2,4-Dimethyl- phenol	Benzoic acid	2,4-Dichloro- phenol	Naphthalene
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-1	11/8/2012	0.50 U	0.50 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U	3.0 U	0.10 U
MW-2	11/8/2012	0.50 U	0.50 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U	3.0 U	0.10 U
MW-3	11/8/2012	0.50 U	0.50 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U	3.0 U	0.10 U
MW-4	11/8/2012	0.50 U	0.50 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U	3.0 U	0.10 U
MW-5	11/8/2012	0.50 U	0.50 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U	3.0 U	0.10 U
MW-6	11/9/2012	0.27 J	0.50 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U	3.0 U	0.48
MW-6(dup)	11/9/2012	0.29 J	0.50 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U	3.0 U	0.40
MW-7	11/9/2012	1.3	0.39 J	2.1	1.0 U	2.0 U	1.0 U	8.9	1.0 U	2.0 U	1.0 U	1.0 U	8.5	20 U	3.0 U	1.7
MW-8	11/9/2012	0.50 U	0.50 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U	3.0 U	0.10
HC-B1	11/13/2012	0.50 U	0.50 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U	3.0 U	0.10 U
SA-MW-2	11/9/2012	0.50 U	0.50 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U	3.0 U	0.06 J
SA-MW3	11/13/2012	0.50 U	0.50 U	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U	3.0 U	0.10 U
Seep 1	7/5/2012	1.0 U	0.50 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	-----	1.0 U	1.0 U	1.0 U	1.0 U	10 U	5.0 U	1.0 U
Seep 1(dup)	7/5/2012	1.0 U	0.50 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	-----	1.0 U	1.0 U	1.0 U	1.0 U	10 U	5.0 U	1.0 U
Seep 2	7/5/2012	1.0 U	0.50 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	-----	1.0 U	1.0 U	1.0 U	1.0 U	10 U	5.0 U	1.0 U

Notes: U = Nondetected at the associated lower reporting limit.

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----- = Not analyzed

Shade highlights shoreline samples

TABLE 12 - Results of Groundwater and Seep Sample Analyses - 2012

Well No.	Collection Date	4-Chloro-3-methylphenol	2-Methylnaphthalene	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	2-Chloronaphthalene	Dimethylphthalate	Acenaphthylene	Acenaphthene	Dibenzofuran	2,6-Dinitrotoluene	2,4-Dinitrotoluene	Diethylphthalate	4-Chlorophenylether	Fluorene	N-Nitrosodiphenylamine
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-1	11/8/2012	3.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U	1.0 U	3.0 U	3.0 U	1.0 U	1.0 U	0.10 U	1.0 U
MW-2	11/8/2012	3.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U	1.0 U	3.0 U	3.0 U	1.0 U	1.0 U	0.10 U	1.0 U
MW-3	11/8/2012	3.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U	1.0 U	3.0 U	3.0 U	1.0 U	1.0 U	0.10 U	1.0 U
MW-4	11/8/2012	3.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U	1.0 U	3.0 U	3.0 U	1.0 U	1.0 U	0.10 U	1.0 U
MW-5	11/8/2012	3.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U	1.0 U	3.0 U	3.0 U	1.0 U	1.0 U	0.10 U	1.0 U
MW-6	11/9/2012	3.0 U	1.4	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.11	0.10 U	3.0 U	3.0 U	1.0 U	1.0 U	0.22	1.0 U
MW-6(dup)	11/9/2012	3.0 U	0.8 J	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.09 J	0.10 U	3.0 U	3.0 U	1.0 U	1.0 U	0.16	1.0 U
MW-7	11/9/2012	3.0 U	59	0.25 U	5.0 U	1.0 U	1.0 U	0.10 J	0.48	0.06 J	3.0 U	3.0 U	1.0 U	1.0 U	0.40	1.0 U
MW-8	11/9/2012	3.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.07 J	0.10 U	0.10 U	3.0 U	3.0 U	1.0 U	1.0 U	0.10 U	1.0 U
HC-B1	11/13/2012	3.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U	0.10 U	3.0 U	3.0 U	1.0 U	1.0 U	0.10 U	1.0 U
SA-MW-2	11/9/2012	3.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 J	0.10 U	3.0 U	3.0 U	1.0 U	1.0 U	0.10 U	1.0 U
SA-MW3	11/13/2012	3.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U	0.10 U	3.0 U	3.0 U	1.0 U	1.0 U	0.10 U	1.0 U
Seep 1	7/5/2012	5.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	0.10 U	1.0 U
Seep 1(dup)	7/5/2012	5.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	0.10 U	1.0 U
Seep 2	7/5/2012	5.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	0.10 U	1.0 U

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----- = Not analyzed

Shade highlights shoreline samples

TABLE 12 - Results of Groundwater and Seep Sample Analyses - 2012

ICS/Former NWC Site
Seattle, Washington

Well No.	Collection Date	Pentachloro-phenol	Phenanthrene	Carbazole	Anthracene	Di-n-butyl-phthalate	Fluoranthene	Pyrene	Butylbenzyl-phthalate	Benzo(a)-anthracene	bis(2-Ethylhexyl)-phthalate	Chrysene	Di-n-octyl-phthalate	total Benzo-fluoranthenes	Benzo(a)-pyrene	Indeno(1,2,3-cd)pyrene
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-1	11/8/2012	0.25 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U	0.20 U	0.10 U	0.10 U
MW-2	11/8/2012	0.25 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U	0.20 U	0.10 U	0.10 U
MW-3	11/8/2012	0.25 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U	0.20 U	0.10 U	0.10 U
MW-4	11/8/2012	0.25 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U	0.20 U	0.10 U	0.10 U
MW-5	11/8/2012	0.25 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	1.6 J	0.10 U	1.0 U	0.20 U	0.10 U	0.10 U
MW-6	11/9/2012	0.25 U	0.12	1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U	0.20 U	0.10 U	0.10 U
MW-6(dup)	11/9/2012	0.25 U	0.11	1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U	0.20 U	0.10 U	0.10 U
MW-7	11/9/2012	240	0.48	1.0 U	0.07 J	1.0 U	0.09 J	0.08 J	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U	0.20 U	0.10 U	0.10 U
MW-8	11/9/2012	0.76	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U	0.20 U	0.10 U	0.10 U
HC-B1	11/13/2012	0.25 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U	0.20 U	0.10 U	0.10 U
SA-MW-2	11/9/2012	0.25 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U	0.20 U	0.10 U	0.10 U
SA-MW3	11/13/2012	0.25 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U	0.20 U	0.10 U	0.10 U
Seep 1	7/5/2012	0.25 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	1.0 U	0.20 U	0.10 U	0.10 U
Seep 1(dup)	7/5/2012	0.25 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	1.0 U	0.20 U	0.10 U	0.10 U
Seep 2	7/5/2012	0.25 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	1.0 U	0.20 U	0.10 U	0.10 U

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----- = Not analyzed

Shade highlights shoreline samples

TABLE 12 - Results of Groundwater and Seep Sample Analyses - 2012

Well No.	Collection Date	Dibenz(a,h)-anthracene	Benzo(g,h,i)-perylene	LPAH	HPAH	Total Naphthalenes	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC (Lindane)	Heptachlor	Aldrin	Heptachlor epoxide	Endosulfan I	Dieldrin	4,4'-DDE	Endrin	Endosulfan II	
		µg/L	µg/L	µg/L	µg/L	ug/l	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-1	11/8/2012	0.10 U	0.10 U	0.10 U	0.20 U	1.0 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
MW-2	11/8/2012	0.10 U	0.10 U	0.10 U	0.20 U	1.0 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
MW-3	11/8/2012	0.10 U	0.10 U	0.10 U	0.20 U	1.0 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
MW-4	11/8/2012	0.10 U	0.10 U	0.10 U	0.20 U	1.0 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
MW-5	11/8/2012	0.10 U	0.10 U	0.10 U	0.20 U	1.0 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
MW-6	11/9/2012	0.10 U	0.10 U	0.93	0.20 U	1.88	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
MW-6(dup)	11/9/2012	0.10 U	0.10 U	0.76	0.20 U	1.0 U	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
MW-7	11/9/2012	0.10 U	0.10 U	3.23	0.17	60.7	0.050 U	0.050 U	0.22 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
MW-8	11/9/2012	0.10 U	0.10 U	0.17	0.20 U	0.10	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
HC-B1	11/13/2012	0.10 U	0.10 U	0.10 U	0.20 U	1.0 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
SA-MW-2	11/9/2012	0.10 U	0.10 U	0.16	0.20 U	0.06 J	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
SA-MW3	11/13/2012	0.10 U	0.10 U	0.10 U	0.20 U	1.0 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Seep 1	7/5/2012	0.10 U	0.10 U	0.10 U	0.20 U	1.0 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Seep 1(dup)	7/5/2012	0.10 U	0.10 U	0.10 U	0.20 U	1.0 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Seep 2	7/5/2012	0.10 U	0.10 U	0.10 U	0.20 U	1.0 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U

Notes: U = Nondetected at the associated lower reporting limit.
 J = Estimate associated with value less than the verifiable lower quantitation limit.
 J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank.
 ----- = Not analyzed
 Shade highlights shoreline samples

TABLE 12 - Results of Groundwater and Seep Sample Analyses - 2012

ICS/Former NWC Site
Seattle, Washington

Well No.	Collection Date	4,4'-DDD	Endosulfan sulfate	4,4'-DDT	Methoxychlor	Endrin ketone	Endrin aldehyde	trans-Chlordane	cis-Chlordane	Toxa-phene	Hexachloro-benzene	Hexachloro-butadiene	Aroclor 1016	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1221	Aroclor 1232	Detected total PCBs	
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		µg/L
MW-1	11/8/2012	0.10 U	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	-----	0.050 U	0.050 U	0.010 U	0.010 U	0.12	0.16	0.14	0.010 U	0.010 U	0.010 U	0.42
MW-2	11/8/2012	0.10 U	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	-----	0.050 U	0.050 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
MW-3	11/8/2012	0.10 U	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	-----	0.050 U	0.050 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
MW-4	11/8/2012	0.10 U	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	-----	0.050 U	0.050 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
MW-5	11/8/2012	0.10 U	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	-----	0.050 U	0.050 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
MW-6	11/9/2012	0.10 U	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	-----	0.050 U	0.050 U	0.010 U	0.010 U	0.12 U	0.062 U	0.068	0.010 U	0.010 U	0.010 U	0.068
MW-6(dup)	11/9/2012	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	0.010 U	0.010 U	0.088 U	0.050 U	0.052	0.010 U	0.010 U	0.010 U	0.052
MW-7	11/9/2012	0.10 U	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	-----	0.050 U	0.050 U	0.010 U	0.10	0.010 U	0.028	0.012	0.010 U	0.010 U	0.010 U	0.14
MW-8	11/9/2012	0.10 U	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	-----	0.050 U	0.050 U	0.010 U	0.010 U	0.033	0.029	0.017	0.010 U	0.010 U	0.010 U	0.079
HC-B1	11/13/2012	0.10 U	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	-----	0.050 U	0.050 U	0.010 U	0.052	0.010 U	0.012 U	0.010 U	0.010 U	0.010 U	0.010 U	0.052
SA-MW-2	11/9/2012	0.10 U	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	-----	0.050 U	0.050 U	0.010 U	0.063	0.010 U	0.036	0.016	0.010 U	0.010 U	0.010 U	0.12
SA-MW3	11/13/2012	0.10 U	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	-----	0.050 U	0.050 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Seep 1	7/5/2012	0.10 U	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	5.0 U	0.050 U	0.050 U	0.010 U	0.010 U	0.025 U	0.075 U	0.010 U	0.010 U	0.010 U	0.010 U	0.075 U
Seep 1(dup)	7/5/2012	0.10 U	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	5.0 U	0.050 U	0.050 U	0.010 U	0.010 U	0.025 U	0.075 U	0.010 U	0.010 U	0.010 U	0.010 U	0.075 U
Seep 2	7/5/2012	0.10 U	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	5.0 U	0.050 U	0.050 U	0.010 U	0.010 U	0.032 U	0.14	0.16	0.010 U	0.010 U	0.010 U	0.30

Notes: U = Nondetected at the associated lower reporting limit.
 J = Estimate associated with value less than the verifiable lower quantitation limit.
 J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank.
 ----- = Not analyzed
 Shade highlights shoreline samples

TABLE 13 - Detected Groundwater Constituents and Screening Level Comparisons - Possible Upland Receptors

Constituents	Maximum Conc. (All Samples)	Location Detected	Detection Frequency	Protection of Drinking Water (a)			Protection of Indoor Air Method C (b)	Preliminary "Upland" GW-COPC
				Method A	Method B	MCL		
Conventionals (mg/l)								
Chloride	4050	SA-MW3	13/13	-----	-----	-----	-----	-----
Sulfate	576	SA-MW3	13/13	-----	-----	-----	-----	-----
Dissolved Metals (ug/l)								
Antimony	0.2	SA-MW2	1/13	-----	6.4	6	-----	no
Arsenic	6.0	MW8	13/13	5	0.06	10	-----	no
Beryllium	0.3	MW2	1/13	-----	32	4	-----	no
Chromium (Total)	47.2	MW2	11/13	50	-----	100	-----	no
Copper	7.4	MW4	8/13	-----	640	1300	-----	no
Lead	0.5	MW8	5/13	15	-----	15	-----	no
Nickel	11	SA-MW3	13/13	-----	320	100	-----	no
Zinc	210	SA-MW3	3/13	-----	4800	5000	-----	no
Petroleum Hydrocarbons (mg/l)								
Gasoline-range	0.5	MW7	2/13	0.8	-----	-----	-----	no
Diesel-range	0.4	MW7	1/13	0.5	-----	-----	-----	no
VOCs (ug/l)								
Vinyl chloride	2.1	MW7	6/13	0.2	-----	2	3.5	yes
Chloroethane	4.8	MW7	3/13	-----	-----	-----	-----	no
Methylene chloride	0.59 J	MW7	1/13	5	5.8	5	940	no
Acetone	3.7 J	HC-B1	1/13	-----	7200	-----	-----	no
Carbon disulfide	1.6	MW6	3/13	-----	800	-----	870	no
1,1-Dichloroethane	1.2	MW7	3/13	-----	1600	-----	5000	no
<i>trans</i> -1,2-Dichloroethene	0.40	MW8	3/13	-----	160	100	290	-----
<i>cis</i> -1,2-Dichloroethene	25	MW7	4/13	-----	16	70	350	-----
<i>1,2-Dichloroethene (mixed)</i>	25.4	MW7	4/13	-----	72	-----	-----	no
Chloroform	0.16 J	MW7	1/13	-----	80	80	12	no
Trichloroethene	0.79	MW7	1/13	5	0.54	5	4.2	no
Benzene	61	MW8	4/13	5	0.8	5	24	yes
Tetrachloroethene	0.43	MW7	1/13	5	21	5	10	no
Toluene	28	MW7	3/13	1000	640	1000	33000	no
Chlorobenzene	13	MW6	3/13	-----	160	100	220	no

TABLE 13 - Detected Groundwater Constituents and Screening Level Comparisons - Possible Upland Receptors

Constituents	Maximum Conc. (All Samples)	Location Detected	Detection Frequency	Protection of Drinking Water (a)			Protection of Indoor Air Method C (b)	Preliminary "Upland" GW-COPC
				Method A	Method B	MCL		
Ethylbenzene	21	MW7	4/13	700	800	700	6100	no
Styrene	1.7	MW7	1/13	-----	1600	100	780	no
<i>m</i> - & <i>p</i> -Xylenes	51	MW7	4/13	1000	1600	-----	670	no
<i>o</i> -Xylene	18	MW7	3/13	1000	1600	-----	960	no
1,2-Dichlorobenzene	0.71	MW6	2/13	-----	720	600	4000	no
1,3-Dichlorobenzene	3.6	MW6	1/13	-----	-----	-----	-----	no
1,4-Dichlorobenzene	22	MW6	2/13	-----	-----	75	17000	no
1,3,5-Trimethylbenzene	1.8	MW7	1/13	-----	80	-----	54	no
1,2,4-Trimethylbenzene	5.2	MW7	4/13	-----	-----	-----	52	no
Isopropylbenzene	0.50	MW7	3/13	-----	800	-----	-----	no
<i>n</i> -Propylbenzene	0.53	MW7	2/13	-----	800	-----	-----	no
<i>sec</i> -Butylbenzene	0.23	MW7	1/13	-----	-----	-----	-----	no
4-Isopropyltoluene	0.35	MW7	2/13	-----	-----	-----	-----	no
<i>n</i> -Butylbenzene	0.23 JB	MW6/7	2/13	-----	-----	-----	-----	no
1,2,4-Trichlorobenzene	1.3	MW7	2/13	-----	1.5	70	8400	no
1,2,3-Trichlorobenzene	0.39 J	MW7	1/13	-----	-----	-----	-----	no
SVOCs (ug/l)								
Phenol	2.1	MW7	1/13	-----	2400	-----	-----	no
4-Methylphenol	8.9	MW7	1/13	-----	-----	-----	-----	no
2,4-Dimethylphenol	8.5	MW7	1/13	-----	160	-----	-----	no
Naphthalene	1.7	MW7	4/13	160	160	-----	360	no
2-Methylnaphthalene	59	MW7	2/13	160	32	-----	-----	no(d)
Total Naphthalenes	60.7	MW7	4/13	160	-----	-----	-----	no
Acenaphthylene	0.10 J	MW7	2/13	-----	-----	-----	-----	no
Acenaphthene	0.48	MW7	3/13	-----	960	-----	-----	no
Dibenzofuran	0.06 J	MW7	1/13	-----	16	-----	-----	no
Fluorene	0.40	MW7	2/13	-----	640	-----	-----	no
Pentachlorophenol	240	MW7	2/13	-----	0.22	100	-----	yes
Phenanthrene	0.48	MW7	2/13	-----	-----	-----	-----	no
Anthracene	0.07 J	MW7	1/13	-----	4800	-----	-----	no
Fluoranthene	0.09 J	MW7	1/13	-----	640	-----	-----	no
Pyrene	0.08 J	MW7	1/13	-----	480	-----	-----	no
<i>bis</i> -(2-Ethylhexyl)phthalate	1.6 J	MW5	1/13	-----	6.3	6	-----	no

TABLE 13 - Detected Groundwater Constituents and Screening Level Comparisons - Possible Upland Receptors

Constituents	Maximum Conc. (All Samples)	Location Detected	Detection Frequency	Protection of Drinking Water (a)			Protection of Indoor Air Method C (b)	Preliminary "Upland" GW-COPC
				Method A	Method B	MCL		
LPAH	3.23	MW7	4/13	-----	-----	-----	-----	no
HPAH	0.17	MW7	1/13	-----	-----	-----	-----	no
PCBs (ug/l)								
Aroclor 1242	0.1	MW7	3/13	-----	0.044	0.044	-----	yes
Aroclor 1248	0.12	MW1	2/13	-----	0.044	0.044	-----	yes
Aroclor 1254	0.16	MW1	5/13	-----	0.044	0.044	-----	yes
Aroclor 1260	0.14	MW1	6/13	-----	0.044	0.044	-----	yes
Detected total PCBs	0.42	MW1	7/13	0.1	0.044	0.044	-----	yes

Notes: (a) - Screening levels from CLARC (Ecology on-line data base) and EPA (2011)
 (b) - In-door air screening levels from Ecology (2009)
 (c) - EPA RSL Tapwater Criteria (Boeing 2011)
 (d) - Based on Method A Total Naphthalenes cleanup level - includes 2-methylnaphthalene
 (e) - Background for Lower Duwamish Area groundwater (Boeing 2011)
 ----- - Not available
 GW-COPC - Groundwater Contaminant of Potential Concern
 MCL - Federal/State drinking water maximum contaminant level
 - Compound identified as a preliminary GW-COPC

TABLE 14 - Detected Groundwater Constituents and Screening Level Comparisons - Possible Surface Water Receptors

Constituents	Maximum Conc. Shoreline Locations	Location	Protect Marine Surface Water/Sediment						LDW Site CULs - Draft Final (1-2014)	Preliminary Surface Water COPC
			Aquatic Life - Chronic			Human Health				
			173-201A	CWA	NTR	CWA	NTR	Method B		
Conventionals (mg/l)										
Chloride	4050	SA-MW3	----	----	----	----	----	----	----	----
Sulfate	576	SA-MW3	----	----	----	----	----	----	----	----
Dissolved Metals (ug/l)										
Antimony	0.2	SA-MW2	----	----	----	640	4300	1000	----	no
Arsenic	4.0	HCB1/SA-MW3	36	36	36	0.14	0.14	0.10	0.005	no
Beryllium	<0.2 to <1	----	----	----	----	----	----	270	----	no
Chromium (Total)(a)	10.0	MW6	50 (a)	50 (a)	50 (a)	----	----	49(a)	0.58(a)	yes(a)
Copper	4.0	SA-MW3	3.1	3.1	2.4	----	----	2900	2.4	yes
Lead	0.1	MW6	8.1	8.1	8.1	----	----	----	2.5	no
Nickel	11	SA-MW3	8.2	8.2	8.2	4600	4600	1100	8.2	yes
Zinc	30	SA-MW3	81	81	81	26000	----	17000	56	no
Petroleum Hydrocarbons (mg/l)										
Gasoline-range	0.25	MW6	----	----	----	----	----	----	1	no
Diesel-range	<0.1	----	----	----	----	----	----	----	0.5	no
VOCs (ug/l)										
Vinyl chloride	0.37	MW6	----	----	----	2.4	530	6600	0.53	no
Chloroethane	0.74	MW6	----	----	----	----	----	----	21000	no
Methylene chloride	<1	----	----	----	----	590	1600	960	230	no
Acetone	3.7 J	HC-B1	----	----	----	----	----	----	110000	no
Carbon disulfide	1.6	MW6	----	----	----	----	----	----	3900	no
1,1-Dichloroethane	0.01	MW6	----	----	----	----	----	----	33	no
<i>trans</i> -1,2-Dichloroethene	0.34	MW6	----	----	----	----	----	----	----	no
<i>cis</i> -1,2-Dichloroethene	0.24	MW6	----	----	----	----	----	----	130	no
<i>1,2-Dichloroethene (mixed)</i>	0.58	MW6	----	----	----	----	----	----	----	----
Chloroform	<0.2	----	----	----	----	470	470	6900	9.3	no
Benzene	3.6	MW6	----	----	----	51	71	23	2	yes
Toluene	1.5	MW6	----	----	----	15000	200000	19000	1294	no
Chlorobenzene	13	MW6	----	----	----	1600	21000	5000	270	no
Ethylbenzene	2.7	MW6	2100	----	----	2100	29000	6900	1.7	yes

TABLE 14 - Detected Groundwater Constituents and Screening Level Comparisons - Possible Surface Water Receptors

Constituents	Maximum Conc. Shoreline Locations	Location	Protect Marine Surface Water/Sediment						LDW Site CULs - Draft Final (1-2014)	Preliminary Surface Water COPC
			Aquatic Life - Chronic			Human Health				
			173-201A	CWA	NTR	CWA	NTR	Method B		
Styrene	<0.2	----	----	----	----	----	----	----	77000	no
<i>m</i> - & <i>p</i> -Xylenes	1.8	MW6	----	----	----	----	----	----	1300	no
<i>o</i> -Xylene	1.5	MW6	----	----	----	----	----	----	1600	no
1,2-Dichlorobenzene	0.71	MW6	----	----	----	1300	17000	4200	436	no
1,3-Dichlorobenzene	3.6	MW6	----	----	----	960	2600	----	960	no
1,4-Dichlorobenzene	22	MW6	----	----	----	190	2600	----	1.7	yes
1,3,5-Trimethylbenzene	<0.2	----	----	----	----	----	----	----	303	no
1,2,4-Trimethylbenzene	1.5	MW6	----	----	----	----	----	----	303	----
Isopropylbenzene	0.33	MW6	----	----	----	----	----	----	----	no
<i>n</i> -Propylbenzene	0.37	MW6	----	----	----	----	----	----	----	----
<i>sec</i> -Butylbenzene	<0.2	----	----	----	----	----	----	----	----	----
4-Isopropyltoluene	0.26	MW6	----	----	----	----	----	----	----	----
<i>n</i> -Butylbenzene	0.23 JB	MW6	----	----	----	----	----	----	----	----
1,2,4-Trichlorobenzene	0.29	MW6	----	----	----	70	----	2	0.13	yes
1,2,3-Trichlorobenzene	<0.5	----	----	----	----	----	----	----	----	----
SVOCs (ug/l)										
Phenol	<1	----	----	----	----	1700000	5E+06	560000	40694	no
4-Methylphenol	<2	----	----	----	----	----	----	----	334	no
2,4-Dimethylphenol	<3	----	----	----	----	850	----	550	655	no
Naphthalene	0.4	MW6	----	----	----	----	----	4900	26	no
2-Methylnaphthalene	1.4	MW6	----	----	----	----	----	----	64	----
Acenaphthylene	<0.1	----	----	----	----	----	----	----	10.8	----
Acenaphthene	0.11	MW6	----	----	----	990	----	640	115	no
Dibenzofuran	<0.10	MW6	----	----	----	----	----	----	1.3	----
Fluorene	0.22	MW6	----	----	----	5300	14000	3500	45	----
Phenanthrene	0.12	MW6	----	----	----	----	----	----	4.8	----
Anthracene	<0.1	----	----	----	----	4000	110000	26000	199	no
Fluoranthene	<0.1	----	----	----	----	140	370	90	11	no
Pyrene	<0.1	----	----	----	----	4000	11000	2600	9.8	no
LPAH	0.93	MW6	----	----	----	----	----	----	----	----
HPAH	<0.2	----	----	----	----	----	----	----	----	----
PCBs (ug/l)										
Aroclor 1242	0.063	SA-MW2	----	----	----	----	----	----	0.001 (PQL)	yes

TABLE 14 - Detected Groundwater Constituents and Screening Level Comparisons - Possible Surface Water Receptors

Constituents	Maximum Conc. Shoreline Locations	Location	Protect Marine Surface Water/Sediment						LDW Site CULs - Draft Final (1-2014)	Preliminary Surface Water COPC
			Aquatic Life - Chronic			Human Health				
			173-201A	CWA	NTR	CWA	NTR	Method B		
Aroclor 1248	<0.12	----	----	----	----	----	----	----	0.001 (PQL)	no
Aroclor 1254	0.03	SA-MW2	----	----	0.03	----	----	----	0.001 (PQL)	yes
Aroclor 1260	0.068	MW6	----	----	0.03	----	----	----	0.001 (PQL)	yes
Detected total PCBs	0.12	SA-MW2	0.03	0.03	----	0.000064	0.0002	----	0.001 (PQL)	yes

Notes: (a) - As chromium [+6]
 (b) - Lower Duwamish Waterway groundwater background
 (c) - Based on Method A groundwater CULs
 ---- - Not available
 PQL - Practical Quantitation Level

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Collection Date	ARI Delivery Group	% solids %	pH SU	Antimony mg/kg, dry	Arsenic mg/kg, dry	Beryllium mg/kg, dry	Cadmium mg/kg, dry	Chromium mg/kg, dry	Copper mg/kg, dry
ICS-LP1-SO-A	3 - 5'	10/15/12	VN72	90	-----	0.4 J_R	14.5	0.2	0.4	30.1	44.6
ICS-LP1-SO-B	6.5 - 8'	10/15/12	VN72	58	7.41	0.3 U	21.4	0.4	1.7	60.5	103
ICS-LP1-SO-C	10.5 - 12'	10/15/12	VN72	75	-----	0.3 U	2.2	0.3 U	0.1 U	12.9	19.7
ICS-LP1-SO-D	16 - 18'	10/15/12	VN72	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP2-SO-A	3 - 5'	10/15/12	VN72	83	-----	0.2 U	5.9	0.2 U	0.7	31.4	160
ICS-LP2-SO-B	5.5 - 7.5'	10/15/12	VN72	73	7.45	0.3 U	4.8	0.3 U	0.1 U	17.4	23.1
ICS-LP2-SO-C	8 - 10'	10/15/12	VN72	72	-----	0.3 U	3.4	0.3 U	0.1 U	12.6	23.2
ICS-LP2-SO-D	15 - 16'	10/15/12	VN72	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP3-SO-A	3 - 5'	10/15/12	VN72	94	-----	0.2 U	2.7	0.2 U	0.4	41.0	24.6
ICS-LP3-SO-B	6 - 8'	10/15/12	VN72	82	6.85	0.8 J_R	6.7	0.2 U	5.8	910	450
ICS-LP3-SO-C	10 - 12'	10/15/12	VN72	75	-----	0.3 U	3.4	0.3 U	0.1 U	21.1	24.1
ICS-LP3-SO-D	15 - 16'	10/15/12	XD56	80	-----	0.2 U	1.5	0.2 U	0.2	18.0	11.7
ICS-LP4-SO-A	8 - 10'	10/15/12	VN72	81	-----	0.2 U	5.2	0.3	0.7	66.3	38.7
ICS-LP4-SO-B	10 - 12'	10/15/12	VN72	67	8.34	0.3 U	10.1	0.4	0.8	37.4	41.7
ICS-LP4-SO-C	14 - 15'	10/15/12	VN72	77	-----	0.2 U	1.3	0.2 U	0.1 U	10.2	9.6
ICS-LP4-SO-D	17 - 18'	10/15/12	VN72	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW1-A	4 - 5'	10/15/12	VN71	92	-----	0.2 U	3.0	0.2 U	0.1 U	15.8	14.0
ICS-DOF-MW1-B	6.5 - 7.5'	10/15/12	VN71	72	-----	0.3 U	3.2	0.3 U	0.1 U	15.0	22.1
ICS-DOF-MW1-C	11 - 12'	10/15/12	VN71	71	-----	0.3 U	2.0	0.3 U	0.1	13.6	17.3
ICS-DOF-MW2-A	2 - 3'	10/16/12	VO10	97	-----	0.2 U	2.0	0.2 U	0.1 U	10.0	9.6
ICS-DOF-MW2-B	8 - 9'	10/16/12	VO10	85	-----	0.2 U	2.5	0.2 U	0.1 U	12.9	14.9
ICS-DOF-MW2-C	12 - 13'	10/16/12	VO10	71	-----	0.3 U	4.7	0.4	0.1 U	19.6	26.5
ICS-DOF-MW2-D	16 - 17'	10/16/12	VO10	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-A	2 - 4'	10/16/12	VO10	93	-----	0.2 U	2.4	0.2 U	0.1 U	10.5	10.4
ICS-DOF-DUP1	dup of MW3-A	10/16/12	VO10	93	-----	0.2 U	2.7	0.2 U	0.1 U	10.9	10.2
ICS-DOF-MW3-B	7 - 8'	10/16/12	VO10	85	-----	0.2 U	2.1	0.2 U	0.1 U	11.2	11.7
ICS-DOF-MW3-C	12 - 13'	10/16/12	VO10	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-D	17 - 18'	10/16/12	VO10	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW4-A	3 - 4'	10/17/12	VO10	89	-----	0.2 U	2.4	0.2 U	0.1 U	10.5	10.8
ICS-DOF-MW4-B	7 - 8'	10/17/12	VO10	75	-----	0.2 U	2.8	0.3	0.1	12.0	17.7

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Collection Date	ARI Delivery Group	% solids %	pH SU	Antimony mg/kg, dry	Arsenic mg/kg, dry	Beryllium mg/kg, dry	Cadmium mg/kg, dry	Chromium mg/kg, dry	Copper mg/kg, dry
ICS-DOF-MW4-C	10 - 11'	10/17/12	VO10	78	-----	0.2 U	2.0	0.2 U	0.1	12.8	22.7
ICS-DOF-MW4-D	16 - 17'	10/17/12	VO10	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	10/17/12	VO11	91	-----	0.2 U	2.2	0.2 U	0.1 U	9.6	12.9
ICS-DOF-MW5-B	7 - 8'	10/17/12	VO11	77	-----	0.2 U	2.0	0.2 U	0.1 U	10.0	11.2
ICS-DOF-MW5-C	12 - 13'	10/17/12	VO11	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	10/17/12	VO11	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	10/17/12	VO11	79	-----	0.2 U	3.0	0.2 U	0.1 U	11.8	13.9
ICS-DOF-MW6-B	6 - 8'	10/17/12	VO11	78	-----	0.3 U	2.6	0.3 U	0.1 U	11.6	13.0
ICS-DOF-DUP2	dup of MW6-B	10/17/12	VO11	78	-----	0.3 U	3.0	0.3 U	0.1 U	12.8	14.9
ICS-DOF-MW6-C	9 - 10'	10/17/12	VO11	62	-----	0.3 U	8.0	0.3	0.1 U	17.3	28.0
ICS-DOF-MW6-D	12 - 13'	10/17/12	VO11	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	10/16/12	VO10	77	-----	0.3 U	3.5	0.3 U	0.1 U	13.0	18.2
ICS-DOF-MW7-B	7 - 8'	10/16/12	VO10	72	-----	0.3 U	3.2	0.3 U	0.1 U	14.7	21.6
ICS-DOF-MW7-C	11 - 12'	10/16/12	VO10	70	-----	0.3 U	2.6	0.3 U	0.1 U	13.1	20.8
ICS-DOF-MW7-D	16 - 17'	10/16/12	VO10	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	10/16/12	VO10	95	-----	0.2 U	1.7	0.2 U	0.1 U	8.4	10.2
ICS-DOF-MW8-B	7 - 8'	10/16/12	VO10	73	-----	0.3 U	2.5	0.3 U	0.1 U	14.4	20.9
ICS-DOF-MW8-C	11 - 12'	10/16/12	VO10	74	-----	0.3 U	3.2	0.3 U	0.1 U	12.9	18.3
ICS-DOF-MW8-D	15 - 16'	10/16/12	VO10	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	10/15/12	VN72	-----	-----	-----	-----	-----	-----	-----	-----
Trip Blank ($\mu\text{g/L}$)	VOA trip blank	10/17/12	VO11	-----	-----	-----	-----	-----	-----	-----	-----

Notes: J = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Lead mg/kg, dry	Mercury mg/kg, dry	Nickel mg/kg, dry	Silver mg/kg, dry	Zinc mg/kg, dry	TOX mg/kg	Total Petroleum Hydrocarbons (1)		
								Gasoline-range mg/kg, dry	Diesel-range mg/kg, dry	Lube-range mg/kg, dry
ICS-LP1-SO-A	3 - 5'	403	0.14	36.7	0.2 U	90	-----	-----	23	70
ICS-LP1-SO-B	6.5 - 8'	448	3.12	31.5	0.8	349	-----	-----	820	1700
ICS-LP1-SO-C	10.5 - 12'	2.5	0.3 U	10.0	0.3 U	30	-----	-----	8.2	18
ICS-LP1-SO-D	16 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP2-SO-A	3 - 5'	106	0.18	52.7	0.2 U	238	-----	-----	7.2	31
ICS-LP2-SO-B	5.5 - 7.5'	4.3	0.06	13.3	0.3 U	95	-----	-----	6.8 U	14 U
ICS-LP2-SO-C	8 - 10'	3.4	0.03	9.0	0.3 U	85	-----	-----	6.9 U	14 U
ICS-LP2-SO-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP3-SO-A	3 - 5'	110	0.37	21.6	0.2 U	165	-----	-----	32	100
ICS-LP3-SO-B	6 - 8'	3600	8.7	54.5	0.4	2120		<i>incl lt HC solvent</i>	6200	11,000
ICS-LP3-SO-C	10 - 12'	4.2	0.13	9.5	0.3 U	33		<i>incl lt HC solvent</i>	120	170
ICS-LP3-SO-D	15 - 16'	23.3	0.08 J	11.7	0.2 U	35	-----	-----	92	170
ICS-LP4-SO-A	8 - 10'	748	0.74	22.2	0.2 U	196	-----	-----	620	1300
ICS-LP4-SO-B	10 - 12'	118	2.06	20.9	0.4	116	-----	-----	760	440
ICS-LP4-SO-C	14 - 15'	1.6	0.03 U	7.7	0.2 U	22	-----	-----	10	18
ICS-LP4-SO-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW1-A	4 - 5'	11.0	0.04	10.3	0.2 U	55	-----	6.3 U	8.1	16
ICS-DOF-MW1-B	6.5 - 7.5'	3.0	0.05	10.7	0.3 U	33	-----	9.2 U	6.8 U	14 U
ICS-DOF-MW1-C	11 - 12'	2.0	0.03	11.8	0.3 U	31	-----	9.3 U	7.1 U	14 U
ICS-DOF-MW2-A	2 - 3'	1.8	0.02 U	9.0	0.2 U	25	-----	5.7 U	5.0 U	10 U
ICS-DOF-MW2-B	8 - 9'	2.9	0.23	9.8	0.2 U	28	-----	6.8 U	5.2 U	10 U
ICS-DOF-MW2-C	12 - 13'	4.7	0.04	16.3	0.3 U	37	-----	8.8 U	6.7 U	13 U
ICS-DOF-MW2-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-A	2 - 4'	3.4	0.03 U	9.1	0.2 U	26	-----	5.7 U	5.3 U	11 U
ICS-DOF-DUP1	dup of MW3-A	4.1	0.02 U	9.0	0.2 U	27	-----	6.3 U	6.2	11 U
ICS-DOF-MW3-B	7 - 8'	2.8	0.02 U	11.7	0.2 U	29	-----	7.0 U	22	17
ICS-DOF-MW3-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW4-A	3 - 4'	2.1	0.02 U	9.5	0.2 U	27	-----	6.7 U	8.4	11 U
ICS-DOF-MW4-B	7 - 8'	3.9	0.03 U	11.0	0.2 U	29	-----	8.2 U	15	18

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

Sample Location	Depth (feet)	Lead mg/kg, dry	Mercury mg/kg, dry	Nickel mg/kg, dry	Silver mg/kg, dry	Zinc mg/kg, dry	TOX mg/kg	Total Petroleum Hydrocarbons (1)		
								Gasoline-range mg/kg, dry	Diesel-range mg/kg, dry	Lube-range mg/kg, dry
ICS-DOF-MW4-C	10 - 11'	6.3	0.04	10.7	0.2 U	34	-----	8.1 U	17	27
ICS-DOF-MW4-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	2.3	0.02 U	10.1	0.2 U	28	-----	6.4 U	23	22
ICS-DOF-MW5-B	7 - 8'	1.9	0.02 U	9.0	0.2 U	26	-----	7.7 U	22	25
ICS-DOF-MW5-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	2.6	0.04	9.6	0.2 U	25	-----	3000	19,000	1200 U
ICS-DOF-MW6-B	6 - 8'	2.3	0.02 U	8.8	0.3 U	25	-----	2300	12,000	1200 U
ICS-DOF-DUP2	dup of MW6-B	2.5	0.02	9.5	0.3 U	25	-----	2500	9000	1300 U
ICS-DOF-MW6-C	9 - 10'	4.2	0.04 U	14.6	0.3 U	36	-----	10 U	34	40
ICS-DOF-MW6-D	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	8.4	0.03	10.3	0.3 U	34	-----	54	970	820
ICS-DOF-MW7-B	7 - 8'	3.0	0.03	10.1	0.3 U	31	-----	8.9 U	6.6 U	13 U
ICS-DOF-MW7-C	11 - 12'	2.4	0.03 U	10.5	0.3 U	32	-----	7.8 U	6.5 U	13 U
ICS-DOF-MW7-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	1.5	0.02 U	7.3	0.2 U	36	-----	8.2	5.2	10 U
ICS-DOF-MW8-B	7 - 8'	3.0	0.03	10.5	0.3 U	32	-----	8.6 U	6.5 U	13 U
ICS-DOF-MW8-C	11 - 12'	2.4	0.03 U	10.5	0.3 U	28	-----	7.8 U	6.5 U	13 U
ICS-DOF-MW8-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	-----	-----	-----	-----	-----	270	> 2000	> 5000	> 10,000
Trip Blank ($\mu\text{g/L}$)	VOA trip blank	-----	-----	-----	-----	-----	-----	0.25 U (mg/L)	-----	-----

Notes: J = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

(1) - Bold typed values resemble corresponding petroleum hydrocarbon mixture.

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Chloro- methane	Bromo- methane	Vinyl chloride	Chloro- ethane	Methylene chloride	Acetone	Carbon disulfide	1,1-Dichloro- ethene	1,1-Dichloro- ethane
		µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry
ICS-LP1-SO-A	3 - 5'	----	----	----	----	----	----	----	----	----
ICS-LP1-SO-B	6.5 - 8'	1.7 U	1.7 U	1.7 U	1.7 U	3.8	680	20	1.7 U	3.1
ICS-LP1-SO-C	10.5 - 12'	----	----	----	----	----	----	----	----	----
ICS-LP1-SO-D	16 - 18'	----	----	----	----	----	----	----	----	----
ICS-LP2-SO-A	3 - 5'	----	----	----	----	----	----	----	----	----
ICS-LP2-SO-B	5.5 - 7.5'	1.2 U	1.2 U	1.2 U	1.2 U	2.3 U	99	1.2 U	1.2 U	1.2 U
ICS-LP2-SO-C	8 - 10'	----	----	----	----	----	----	----	----	----
ICS-LP2-SO-D	15 - 16'	----	----	----	----	----	----	----	----	----
ICS-LP3-SO-A	3 - 5'	----	----	----	----	----	----	----	----	----
ICS-LP3-SO-B	6 - 8'	2500 U	2500 U	2500 U	2500 U	5100 U	9900 J	2500 U	2500 U	2500 U
ICS-LP3-SO-C	10 - 12'	----	----	----	----	----	----	----	----	----
ICS-LP3-SO-D	15 - 16'	----	----	----	----	----	----	----	----	----
ICS-LP4-SO-A	8 - 10'	----	----	----	----	----	----	----	----	----
ICS-LP4-SO-B	10 - 12'	110 U	110 U	110 U	110 U	86 J	430 J	130	110 U	110 U
ICS-LP4-SO-C	14 - 15'	----	----	----	----	----	----	----	----	----
ICS-LP4-SO-D	17 - 18'	----	----	----	----	----	----	----	----	----
ICS-DOF-MW1-A	4 - 5'	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	4.9 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW1-B	6.5 - 7.5'	1.2 U	1.2 U	1.2 U	1.2 U	2.5 U	160	1.9	1.2 U	1.2 U
ICS-DOF-MW1-C	11 - 12'	1.3 U	1.3 U	1.3 U	1.3 U	2.5 U	65	1.3 U	1.3 U	1.3 U
ICS-DOF-MW2-A	2 - 3'	0.9 U	0.9 U	0.9 U	0.9 U	1.9 U	4.7 U	0.9 U	0.9 U	0.9 U
ICS-DOF-MW2-B	8 - 9'	1.1 U	1.1 U	1.1 U	1.1 U	2.2 U	48 J_Q	5.4	1.1 U	1.1 U
ICS-DOF-MW2-C	12 - 13'	1.3 U	1.3 U	1.3 U	1.3 U	2.6 U	100 J_Q	1.0 J	1.3 U	1.3 U
ICS-DOF-MW2-D	16 - 17'	----	----	----	----	----	----	----	----	----
ICS-DOF-MW3-A	2 - 4'	1.1 U	1.1 U	1.1 U	1.1 U	2.1 U	5.3 U	1.1 U	1.1 U	1.1 U
ICS-DOF-DUP1	dup of MW3-A	1.1 U	1.1 U	1.1 U	1.1 U	2.1 U	5.3 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW3-B	7 - 8'	1.1 U	1.1 U	1.1 U	1.1 U	2.2 U	5.6 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW3-C	12 - 13'	----	----	----	----	----	----	----	----	----
ICS-DOF-MW3-D	17 - 18'	----	----	----	----	----	----	----	----	----
ICS-DOF-MW4-A	3 - 4'	1.0 U	1.0 U	1.0 U	1.0 U	2.1 U	21 J_Q	1.0 U	1.0 U	1.0 U
ICS-DOF-MW4-B	7 - 8'	1.3 U	1.3 U	1.3 U	1.3 U	3.1	150	3.1 J_Q	1.3 U	1.3 U

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Chloro- methane	Bromo- methane	Vinyl chloride	Chloro- ethane	Methylene chloride	Acetone	Carbon disulfide	1,1-Dichloro- ethene	1,1-Dichloro- ethane
		µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry
ICS-DOF-MW4-C	10 - 11'	1.1 U	1.1 U	1.1 U	1.1 U	1.6 J_B	42	1.1 U	1.1 U	1.1 U
ICS-DOF-MW4-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	0.9 U	0.9 U	0.9 U	0.9 U	1.9 U	4.7 U	0.9 U	0.9 U	0.9 U
ICS-DOF-MW5-B	7 - 8'	1.1 U	1.1 U	1.1 U	1.1 U	1.1 J	59 J_Q	1.1 U	1.1 U	1.1 U
ICS-DOF-MW5-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	280 U	280 U	280 U	280 U	550 U	1400 U	280 U	280 U	280 U
ICS-DOF-MW6-B	6 - 8'	270 U	270 U	270 U	270 U	550 U	1400 U	270 U	270 U	270 U
ICS-DOF-DUP2	dup of MW6-B	270 U	270 U	270 U	270 U	540 U	1400 U	270 U	270 U	270 U
ICS-DOF-MW6-C	9 - 10'	1.6 U	1.6 U	1.6 U	1.6 U	3.3	220 J_Q	4.9	1.6 U	1.6 U
ICS-DOF-MW6-D	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	91 U	91 U	91 U	91 U	180 U	460 U	91 U	91 U	91 U
ICS-DOF-MW7-B	7 - 8'	1.2 U	1.2 U	1.2 U	6.0	1.0 J	74 J_Q	1.2 U	1.2 U	2.0
ICS-DOF-MW7-C	11 - 12'	1.3 U	1.3 U	1.3 U	1.4	2.6 U	58 J_Q	1.7	1.3 U	1.3 U
ICS-DOF-MW7-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	1.0 U	1.0 U	1.0 U	1.0 U	0.7 J	400 J_Q	1.0 U	1.0 U	1.0 U
ICS-DOF-MW8-B	7 - 8'	1.3 U	1.3 U	1.3 U	1.9	3.1	110 J_Q	4.1	1.3 U	1.3 U
ICS-DOF-MW8-C	11 - 12'	1.2 U	1.2 U	1.2 U	1.4	2.3 U	66 J_Q	1.2 U	1.2 U	1.2 U
ICS-DOF-MW8-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	-----	-----	-----	-----	-----	-----	-----	-----	-----
Trip Blank (µg/L)	VOA trip blank	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	3.3 J	1.0 U	1.0 U	1.0 U

Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	<i>trans</i> -1,2-Dichloroethene µg/kg, dry	<i>cis</i> -1,2-Dichloroethene µg/kg, dry	Chloroform µg/kg, dry	1,2-Dichloroethane µg/kg, dry	2-Butanone µg/kg, dry	1,1,1-Tri-chloroethane µg/kg, dry	Carbon tetrachloride µg/kg, dry	Bromo-dichloromethane µg/kg, dry
ICS-LP1-SO-A	3 - 5'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP1-SO-B	6.5 - 8'	1.7 U	1.7 U	1.7 U	1.7 U	140	1.7 U	1.7 U	1.7 U
ICS-LP1-SO-C	10.5 - 12'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP1-SO-D	16 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP2-SO-A	3 - 5'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP2-SO-B	5.5 - 7.5'	1.2 U	1.2 U	1.2 U	1.2 U	20 J_Q	1.2 U	1.2 U	1.2 U
ICS-LP2-SO-C	8 - 10'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP2-SO-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP3-SO-A	3 - 5'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP3-SO-B	6 - 8'	2500 U	2400 J	2500 U	2500 U	13,000 U	2500 U	2500 U	2500 U
ICS-LP3-SO-C	10 - 12'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP3-SO-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-SO-A	8 - 10'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-SO-B	10 - 12'	110 U	110 U	110 U	110 U	550 U	110 U	110 U	110 U
ICS-LP4-SO-C	14 - 15'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-SO-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW1-A	4 - 5'	1.0 U	1.0 U	1.0 U	1.0 U	4.9 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW1-B	6.5 - 7.5'	1.2 U	1.2 U	1.2 U	1.2 U	30 J_Q	1.2 U	1.2 U	1.2 U
ICS-DOF-MW1-C	11 - 12'	1.3 U	1.3 U	1.3 U	1.3 U	14	1.3 U	1.3 U	1.3 U
ICS-DOF-MW2-A	2 - 3'	0.9 U	0.9 U	0.9 U	0.9 U	4.7 U	0.9 U	0.9 U	0.9 U
ICS-DOF-MW2-B	8 - 9'	1.1 U	1.1 U	1.1 U	1.1 U	8.5	1.1 U	1.1 U	1.1 U
ICS-DOF-MW2-C	12 - 13'	1.3 U	1.3 U	1.3 U	1.3 U	29	1.3 U	1.3 U	1.3 U
ICS-DOF-MW2-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-A	2 - 4'	1.1 U	1.1 U	1.1 U	1.1 U	5.3 U	1.1 U	1.1 U	1.1 U
ICS-DOF-DUP1	dup of MW3-A	1.1 U	1.1 U	1.1 U	1.1 U	5.3 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW3-B	7 - 8'	1.1 U	1.1 U	1.1 U	1.1 U	5.6 U	1.4	1.1 U	1.1 U
ICS-DOF-MW3-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW4-A	3 - 4'	1.0 U	1.0 U	1.0 U	1.0 U	3.3 J	1.0 U	1.0 U	1.0 U
ICS-DOF-MW4-B	7 - 8'	1.3 U	1.3 U	1.3 U	1.3 U	23 J_Q	1.3 U	1.3 U	1.3 U

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	<i>trans</i> -1,2-Dichloroethene µg/kg, dry	<i>cis</i> -1,2-Dichloroethene µg/kg, dry	Chloroform µg/kg, dry	1,2-Dichloroethane µg/kg, dry	2-Butanone µg/kg, dry	1,1,1-Tri-chloroethane µg/kg, dry	Carbon tetrachloride µg/kg, dry	Bromo-dichloromethane µg/kg, dry
ICS-DOF-MW4-C	10 - 11'	1.1 U	1.1 U	1.1 U	1.1 U	11	1.1 U	1.1 U	1.1 U
ICS-DOF-MW4-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	0.9 U	0.9 U	0.9 U	0.9 U	4.7 U	0.9 U	0.9 U	0.9 U
ICS-DOF-MW5-B	7 - 8'	1.1 U	1.1 U	1.1 U	1.1 U	10	1.1 U	1.1 U	1.1 U
ICS-DOF-MW5-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	280 U	280 U	280 U	280 U	1400 U	280 U	280 U	280 U
ICS-DOF-MW6-B	6 - 8'	270 U	270 U	270 U	270 U	1400 U	270 U	270 U	270 U
ICS-DOF-DUP2	dup of MW6-B	270 U	270 U	270 U	270 U	1400 U	270 U	270 U	270 U
ICS-DOF-MW6-C	9 - 10'	1.6 U	1.6 U	1.6 U	1.6 U	48	1.6 U	1.6 U	1.6 U
ICS-DOF-MW6-D	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	91 U	130	91 U	91 U	460 U	91 U	91 U	91 U
ICS-DOF-MW7-B	7 - 8'	1.1 J	1.2 U	1.2 U	1.2 U	18	1.2 U	1.2 U	1.2 U
ICS-DOF-MW7-C	11 - 12'	1.3 U	4.3	1.3 U	1.3 U	16	1.3 U	1.3 U	1.3 U
ICS-DOF-MW7-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	1.0 U	1.0 U	1.0 U	1.0 U	39	1.0 U	1.0 U	1.0 U
ICS-DOF-MW8-B	7 - 8'	1.3 U	1.3 U	1.3 U	1.3 U	21	1.3 U	1.3 U	1.3 U
ICS-DOF-MW8-C	11 - 12'	1.2 U	1.2 U	1.2 U	1.2 U	19	1.2 U	1.2 U	1.2 U
ICS-DOF-MW8-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	-----	-----	-----	-----	-----	-----	-----	-----
Trip Blank (µg/L)	VOA trip blank	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U

Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	1,2-Dichloro- propane µg/kg, dry	<i>cis</i> -1,3-Dichloro- propene µg/kg, dry	Trichloro- ethene µg/kg, dry	Dibromo- chloromethane µg/kg, dry	1,1,2-Trichloro- ethane µg/kg, dry	Benzene µg/kg, dry	<i>trans</i> -1,3- Dichloropropene µg/kg, dry	Bromoform µg/kg, dry
ICS-LP1-SO-A	3 - 5'	----	----	----	----	----	----	----	----
ICS-LP1-SO-B	6.5 - 8'	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.1 J	1.7 U	1.7 U
ICS-LP1-SO-C	10.5 - 12'	----	----	----	----	----	----	----	----
ICS-LP1-SO-D	16 - 18'	----	----	----	----	----	----	----	----
ICS-LP2-SO-A	3 - 5'	----	----	----	----	----	----	----	----
ICS-LP2-SO-B	5.5 - 7.5'	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ICS-LP2-SO-C	8 - 10'	----	----	----	----	----	----	----	----
ICS-LP2-SO-D	15 - 16'	----	----	----	----	----	----	----	----
ICS-LP3-SO-A	3 - 5'	----	----	----	----	----	----	----	----
ICS-LP3-SO-B	6 - 8'	2500 U	2500 U	2000 J	2500 U	2500 U	1600 J	2500 U	2500 U
ICS-LP3-SO-C	10 - 12'	----	----	----	----	----	----	----	----
ICS-LP3-SO-D	15 - 16'	----	----	----	----	----	----	----	----
ICS-LP4-SO-A	8 - 10'	----	----	----	----	----	----	----	----
ICS-LP4-SO-B	10 - 12'	110 U	110 U	200	110 U	110 U	78 J	110 U	110 U
ICS-LP4-SO-C	14 - 15'	----	----	----	----	----	----	----	----
ICS-LP4-SO-D	17 - 18'	----	----	----	----	----	----	----	----
ICS-DOF-MW1-A	4 - 5'	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW1-B	6.5 - 7.5'	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ICS-DOF-MW1-C	11 - 12'	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW2-A	2 - 3'	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
ICS-DOF-MW2-B	8 - 9'	1.1 U	1.1 U	4.2	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW2-C	12 - 13'	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW2-D	16 - 17'	----	----	----	----	----	----	----	----
ICS-DOF-MW3-A	2 - 4'	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-DUP1	dup of MW3- A	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW3-B	7 - 8'	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW3-C	12 - 13'	----	----	----	----	----	----	----	----
ICS-DOF-MW3-D	17 - 18'	----	----	----	----	----	----	----	----
ICS-DOF-MW4-A	3 - 4'	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW4-B	7 - 8'	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

Sample Location	Depth (feet)	1,2-Dichloro- propane µg/kg, dry	<i>cis</i> -1,3-Dichloro- propene µg/kg, dry	Trichloro- ethene µg/kg, dry	Dibromo- chloromethane µg/kg, dry	1,1,2-Trichloro- ethane µg/kg, dry	Benzene µg/kg, dry	<i>trans</i> -1,3- Dichloropropene µg/kg, dry	Bromoform µg/kg, dry
ICS-DOF-MW4-C	10 - 11'	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW4-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
ICS-DOF-MW5-B	7 - 8'	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW5-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	280 U	280 U	280 U	280 U	280 U	280 U	280 U	280 U
ICS-DOF-MW6-B	6 - 8'	270 U	270 U	270 U	270 U	270 U	270 U	270 U	270 U
ICS-DOF-DUP2	dup of MW6- B	270 U	270 U	270 U	270 U	270 U	270 U	270 U	270 U
ICS-DOF-MW6-C	9 - 10'	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	3.2	1.6 U	1.6 U
ICS-DOF-MW6-D	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	91 U	91 U	120	91 U	91 U	91 U	91 U	91 U
ICS-DOF-MW7-B	7 - 8'	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	2.1	1.2 U	1.2 U
ICS-DOF-MW7-C	11 - 12'	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.8 J	1.3 U	1.3 U
ICS-DOF-MW7-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW8-B	7 - 8'	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	15	1.3 U	1.3 U
ICS-DOF-MW8-C	11 - 12'	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	29	1.2 U	1.2 U
ICS-DOF-MW8-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	-----	-----	-----	-----	-----	-----	-----	-----
Trip Blank (µg/L)	VOA trip blank	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	4-Methyl-2-pentanone µg/kg, dry	2-Hexanone µg/kg, dry	Tetrachloroethene µg/kg, dry	1,1,2,2-Tetrachloroethane µg/kg, dry	Toluene µg/kg, dry	Chlorobenzene µg/kg, dry	Ethylbenzene µg/kg, dry	Styrene µg/kg, dry	Trichlorofluoromethane µg/kg, dry
ICS-LP1-SO-A	3 - 5'	----	----	----	----	----	----	----	----	----
ICS-LP1-SO-B	6.5 - 8'	8.5 U	8.5 U	1.7 U	1.7 U	4.0	1.7 U	1.1 J	1.7 U	1.7 U
ICS-LP1-SO-C	10.5 - 12'	----	----	----	----	----	----	----	----	----
ICS-LP1-SO-D	16 - 18'	----	----	----	----	----	----	----	----	----
ICS-LP2-SO-A	3 - 5'	----	----	----	----	----	----	----	----	----
ICS-LP2-SO-B	5.5 - 7.5'	5.8 U	5.8 U	1.2 U	1.2 U	16	1.2 U	8.3	1.2 U	1.2 U
ICS-LP2-SO-C	8 - 10'	----	----	----	----	----	----	----	----	----
ICS-LP2-SO-D	15 - 16'	----	----	----	----	----	----	----	----	----
ICS-LP3-SO-A	3 - 5'	----	----	----	----	----	----	----	----	----
ICS-LP3-SO-B	6 - 8'	13,000 U	13,000 U	2500 U	2500 U	120,000	2500 U	130,000	2500 U	2500 U
ICS-LP3-SO-C	10 - 12'	----	----	----	----	----	----	----	----	----
ICS-LP3-SO-D	15 - 16'	----	----	----	----	----	----	----	----	----
ICS-LP4-SO-A	8 - 10'	----	----	----	----	----	----	----	----	----
ICS-LP4-SO-B	10 - 12'	550 U	550 U	110 U	110 U	810	110 U	1800	100 J	110 U
ICS-LP4-SO-C	14 - 15'	----	----	----	----	----	----	----	----	----
ICS-LP4-SO-D	17 - 18'	----	----	----	----	----	----	----	----	----
ICS-DOF-MW1-A	4 - 5'	4.9 U	4.9 U	0.6 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW1-B	6.5 - 7.5'	6.2 U	6.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ICS-DOF-MW1-C	11 - 12'	6.3 U	6.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW2-A	2 - 3'	4.7 U	4.7 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
ICS-DOF-MW2-B	8 - 9'	5.5 U	5.5 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW2-C	12 - 13'	6.5 U	6.5 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW2-D	16 - 17'	----	----	----	----	----	----	----	----	----
ICS-DOF-MW3-A	2 - 4'	5.3 U	5.3 U	0.6 J	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-DUP1	dup of MW3-A	5.3 U	5.3 U	0.8 J	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW3-B	7 - 8'	5.6 U	5.6 U	1.9	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW3-C	12 - 13'	----	----	----	----	----	----	----	----	----
ICS-DOF-MW3-D	17 - 18'	----	----	----	----	----	----	----	----	----
ICS-DOF-MW4-A	3 - 4'	5.2 U	5.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW4-B	7 - 8'	6.6 U	6.6 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	4-Methyl-2-pentanone µg/kg, dry	2-Hexanone µg/kg, dry	Tetrachloro-ethene µg/kg, dry	1,1,2,2-Tetrachloroethane µg/kg, dry	Toluene µg/kg, dry	Chloro-benzene µg/kg, dry	Ethyl-benzene µg/kg, dry	Styrene µg/kg, dry	Trichloro-fluoromethane µg/kg, dry
ICS-DOF-MW4-C	10 - 11'	5.6 U	5.6 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW4-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	4.7 U	4.7 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
ICS-DOF-MW5-B	7 - 8'	5.5 U	5.5 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW5-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	1400 U	1400 U	280 U	280 U	2500	280 U	3300	280 U	280 U
ICS-DOF-MW6-B	6 - 8'	1400 U	1400 U	270 U	270 U	1700	270 U	2300	270 U	270 U
ICS-DOF-DUP2	dup of MW6-B	1400 U	1400 U	270 U	270 U	550	270 U	640	270 U	270 U
ICS-DOF-MW6-C	9 - 10'	8.0 U	8.0 U	1.6 U	1.6 U	4.2	1.6 U	4.1	1.6 U	1.6 U
ICS-DOF-MW6-D	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	460 U	460 U	91 U	91 U	1300	91 U	1500	91 U	91 U
ICS-DOF-MW7-B	7 - 8'	6.1 U	6.1 U	1.2 U	1.2 U	1.4	1.2 U	5.3	1.2 U	1.2 U
ICS-DOF-MW7-C	11 - 12'	6.6 U	6.6 U	1.3 U	1.3 U	6.6	1.3 U	6.7	1.3 U	1.3 U
ICS-DOF-MW7-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	5.0 J	9.8	1.0 U	1.0 U	3.8	1.0 U	10	1.0 U	1.0 U
ICS-DOF-MW8-B	7 - 8'	6.7 U	6.7 U	1.3 U	1.3 U	1.8	3.1	22	1.3 U	1.3 U
ICS-DOF-MW8-C	11 - 12'	5.8 U	5.8 U	1.2 U	1.2 U	1.2	2.5	0.9 J	1.2 U	1.2 U
ICS-DOF-MW8-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	-----	-----	-----	-----	-----	-----	-----	-----	-----
Trip Blank (µg/L)	VOA trip blank	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	1,1,2-Trichloro-1,2,2-trifluoroethane µg/kg, dry	<i>m</i> - & <i>p</i> - Xylenes µg/kg, dry	<i>o</i> -Xylene µg/kg, dry	1,2-Dichloro-benzene µg/kg, dry	1,3-Dichloro-benzene µg/kg, dry	1,4-Dichloro-benzene µg/kg, dry	Acrolein µg/kg, dry	Bromoethane µg/kg, dry
ICS-LP1-SO-A	3 - 5'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP1-SO-B	6.5 - 8'	3.4 U	1.9	1.2 J	1.7 U	1.7 U	<i>see SVOA's</i>	85 U	3.4 U
ICS-LP1-SO-C	10.5 - 12'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP1-SO-D	16 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP2-SO-A	3 - 5'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP2-SO-B	5.5 - 7.5'	2.3 U	7.1	1.4	1.2 U	1.2 U	1.2 U	58 U	2.3 U
ICS-LP2-SO-C	8 - 10'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP2-SO-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP3-SO-A	3 - 5'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP3-SO-B	6 - 8'	5100 U	120,000	34,000	<i>see SVOA's</i>	<i>see SVOA's</i>	<i>see SVOA's</i>	130,000 U	5100 U
ICS-LP3-SO-C	10 - 12'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP3-SO-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-SO-A	8 - 10'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-SO-B	10 - 12'	220 U	2900	550	150	<i>see SVOA's</i>	200	5500 U	220 U
ICS-LP4-SO-C	14 - 15'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-SO-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW1-A	4 - 5'	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	49 U	2.0 U
ICS-DOF-MW1-B	6.5 - 7.5'	2.5 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	62 U	2.5 U
ICS-DOF-MW1-C	11 - 12'	2.5 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	63 U	2.5 U
ICS-DOF-MW2-A	2 - 3'	1.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	47 U	1.9 U
ICS-DOF-MW2-B	8 - 9'	2.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	55 U	2.2 U
ICS-DOF-MW2-C	12 - 13'	2.6 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	65 U	2.6 U
ICS-DOF-MW2-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-A	2 - 4'	2.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	53 U	2.1 U
ICS-DOF-DUP1	dup of MW3-A	2.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	53 U	2.1 U
ICS-DOF-MW3-B	7 - 8'	2.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	56 U	2.2 U
ICS-DOF-MW3-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW4-A	3 - 4'	2.1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	52 U	2.1 U
ICS-DOF-MW4-B	7 - 8'	2.6 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	66 U	2.6 U

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

Sample Location	Depth (feet)	1,1,2-Trichloro-1,2,2-trifluoroethane µg/kg, dry	<i>m</i> - & <i>p</i> - Xylenes µg/kg, dry	<i>o</i> -Xylene µg/kg, dry	1,2-Dichloro-benzene µg/kg, dry	1,3-Dichloro-benzene µg/kg, dry	1,4-Dichloro-benzene µg/kg, dry	Acrolein µg/kg, dry	Bromoethane µg/kg, dry
ICS-DOF-MW4-C	10 - 11'	2.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	56 U	2.2 U
ICS-DOF-MW4-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	1.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	47 U	1.9 U
ICS-DOF-MW5-B	7 - 8'	2.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	55 U	2.2 U
ICS-DOF-MW5-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	550 U	7700	2500	660	770	2100	14,000 U	550 U
ICS-DOF-MW6-B	6 - 8'	550 U	5200	1700	490	640	1800	14,000 U	550 U
ICS-DOF-DUP2	dup of MW6-B	540 U	1500	500	200 J	320	870	14,000 U	540 U
ICS-DOF-MW6-C	9 - 10'	3.2 U	2.7	2.3	<i>see SVOA's</i>	<i>see SVOA's</i>	<i>see SVOA's</i>	80 U	3.2 U
ICS-DOF-MW6-D	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	180 U	2400	940	<i>see SVOA's</i>	<i>see SVOA's</i>	<i>see SVOA's</i>	4600 U	180 U
ICS-DOF-MW7-B	7 - 8'	2.4 U	3.4	1.4	<i>see SVOA's</i>	<i>see SVOA's</i>	<i>see SVOA's</i>	61 U	2.4 U
ICS-DOF-MW7-C	11 - 12'	2.6 U	25	4.4	1.3 U	1.3 U	1.3 U	66 U	2.6 U
ICS-DOF-MW7-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	2.1 U	17	5.0	1.0 U	1.0 U	1.0 U	51 U	2.1 U
ICS-DOF-MW8-B	7 - 8'	2.7 U	160	1.3 U	1.5	1.3 U	1.3 U	67 U	2.7 U
ICS-DOF-MW8-C	11 - 12'	2.3 U	28	1.0 J	1.2 U	1.2 U	1.2 U	58 U	2.3 U
ICS-DOF-MW8-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	-----	-----	-----	-----	-----	-----	-----	-----
Trip Blank (µg/L)	VOA trip blank	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	2.0 U

Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	1,1-Dichloro- propene µg/kg, dry	Dibromo- methane µg/kg, dry	1,1,1,2-Tetra- chloroethane µg/kg, dry	1,2,3-Trichloro- propane µg/kg, dry	<i>trans</i> -1,4-Dichloro- 2-butene µg/kg, dry	1,3,5-Trimethyl- benzene µg/kg, dry	1,2,4-Trimethyl- benzene µg/kg, dry	Ethylene dibromide µg/kg, dry
ICS-LP1-SO-A	3 - 5'	----	----	----	----	----	----	----	----
ICS-LP1-SO-B	6.5 - 8'	1.7 U	1.7 U	1.7 U	3.4 U	8.5 U	1.7 U	1.7 U	1.7 U
ICS-LP1-SO-C	10.5 - 12'	----	----	----	----	----	----	----	----
ICS-LP1-SO-D	16 - 18'	----	----	----	----	----	----	----	----
ICS-LP2-SO-A	3 - 5'	----	----	----	----	----	----	----	----
ICS-LP2-SO-B	5.5 - 7.5'	1.2 U	1.2 U	1.2 U	2.3 U	5.8 U	1.2 U	1.2 U	1.2 U
ICS-LP2-SO-C	8 - 10'	----	----	----	----	----	----	----	----
ICS-LP2-SO-D	15 - 16'	----	----	----	----	----	----	----	----
ICS-LP3-SO-A	3 - 5'	----	----	----	----	----	----	----	----
ICS-LP3-SO-B	6 - 8'	2500 U	2500 U	2500 U	5100 U	13,000 U	7500	24,000	2500 U
ICS-LP3-SO-C	10 - 12'	----	----	----	----	----	----	----	----
ICS-LP3-SO-D	15 - 16'	----	----	----	----	----	----	----	----
ICS-LP4-SO-A	8 - 10'	----	----	----	----	----	----	----	----
ICS-LP4-SO-B	10 - 12'	110 U	110 U	110 U	220 U	550 U	330	1500	110 U
ICS-LP4-SO-C	14 - 15'	----	----	----	----	----	----	----	----
ICS-LP4-SO-D	17 - 18'	----	----	----	----	----	----	----	----
ICS-DOF-MW1-A	4 - 5'	1.0 U	1.0 U	1.0 U	2.0 U	4.9 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW1-B	6.5 - 7.5'	1.2 U	1.2 U	1.2 U	2.5 U	62 U	1.2 U	1.2 U	1.2 U
ICS-DOF-MW1-C	11 - 12'	1.3 U	1.3 U	1.3 U	2.5 U	63 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW2-A	2 - 3'	0.9 U	0.9 U	0.9 U	1.9 U	4.7 U	0.9 U	0.9 U	0.9 U
ICS-DOF-MW2-B	8 - 9'	1.1 U	1.1 U	1.1 U	2.2 U	5.5 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW2-C	12 - 13'	1.3 U	1.3 U	1.3 U	2.6 U	6.5 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW2-D	16 - 17'	----	----	----	----	----	----	----	----
ICS-DOF-MW3-A	2 - 4'	1.1 U	1.1 U	1.1 U	2.1 U	5.3 U	1.1 U	1.1 U	1.1 U
ICS-DOF-DUP1	dup of MW3- A	1.1 U	1.1 U	1.1 U	2.1 U	5.3 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW3-B	7 - 8'	1.1 U	1.1 U	1.1 U	2.2 U	5.6 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW3-C	12 - 13'	----	----	----	----	----	----	----	----
ICS-DOF-MW3-D	17 - 18'	----	----	----	----	----	----	----	----
ICS-DOF-MW4-A	3 - 4'	1.0 U	1.0 U	1.0 U	2.1 U	5.2 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW4-B	7 - 8'	1.3 U	1.3 U	1.3 U	2.6 U	6.6 U	1.3 U	1.3 U	1.3 U

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	1,1-Dichloro- propene µg/kg, dry	Dibromo- methane µg/kg, dry	1,1,1,2-Tetra- chloroethane µg/kg, dry	1,2,3-Trichloro- propane µg/kg, dry	<i>trans</i> -1,4-Dichloro- 2-butene µg/kg, dry	1,3,5-Trimethyl- benzene µg/kg, dry	1,2,4-Trimethyl- benzene µg/kg, dry	Ethylene dibromide µg/kg, dry
ICS-DOF-MW4-C	10 - 11'	1.1 U	1.1 U	1.1 U	2.2 U	5.6 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW4-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	0.9 U	0.9 U	0.9 U	1.9 U	4.7 U	0.9 U	0.9 U	0.9 U
ICS-DOF-MW5-B	7 - 8'	1.1 U	1.1 U	1.1 U	2.2 U	5.5 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW5-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	280 U	280 U	280 U	550 U	1400 U	4600	13,000	280 U
ICS-DOF-MW6-B	6 - 8'	270 U	270 U	270 U	550 U	1400 U	3100	8600	270 U
ICS-DOF-DUP2	dup of MW6- B	270 U	270 U	270 U	540 U	1400 U	1000	2800	270 U
ICS-DOF-MW6-C	9 - 10'	1.6 U	1.6 U	1.6 U	3.2 U	8.0 U	1.6 U	1.2 J	1.6 U
ICS-DOF-MW6-D	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	91 U	91 U	91 U	180 U	460 U	130	380	91 U
ICS-DOF-MW7-B	7 - 8'	1.2 U	1.2 U	1.2 U	2.4 U	6.1 U	1.2 U	1.2 U	1.2 U
ICS-DOF-MW7-C	11 - 12'	1.3 U	1.3 U	1.3 U	2.6 U	6.6 U	1.5	2.3	1.3 U
ICS-DOF-MW7-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	1.0 U	1.0 U	1.0 U	2.1 U	5.1 U	1.7	4.3	1.0 U
ICS-DOF-MW8-B	7 - 8'	1.3 U	1.3 U	1.3 U	2.7 U	6.7 U	4.7	17	1.3 U
ICS-DOF-MW8-C	11 - 12'	1.2 U	1.2 U	1.2 U	2.3 U	5.8 U	1.2 U	0.6 J	1.2 U
ICS-DOF-MW8-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	-----	-----	-----	-----	-----	-----	-----	-----
Trip Blank (µg/L)	VOA trip blank	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U

Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Bromochloro- methane µg/kg, dry	2,2-Dichloro- propane µg/kg, dry	1,3-Dichloro- propane µg/kg, dry	Isopropyl- benzene µg/kg, dry	n-Propyl- benzene µg/kg, dry	Bromo- benzene µg/kg, dry	2-Chloro- toluene µg/kg, dry	4-Chloro- toluene µg/kg, dry	<i>tert</i> -Butyl- benzene µg/kg, dry
ICS-LP1-SO-A	3 - 5'	----	----	----	----	----	----	----	----	----
ICS-LP1-SO-B	6.5 - 8'	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 J	1.7 U	1.7 U
ICS-LP1-SO-C	10.5 - 12'	----	----	----	----	----	----	----	----	----
ICS-LP1-SO-D	16 - 18'	----	----	----	----	----	----	----	----	----
ICS-LP2-SO-A	3 - 5'	----	----	----	----	----	----	----	----	----
ICS-LP2-SO-B	5.5 - 7.5'	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ICS-LP2-SO-C	8 - 10'	----	----	----	----	----	----	----	----	----
ICS-LP2-SO-D	15 - 16'	----	----	----	----	----	----	----	----	----
ICS-LP3-SO-A	3 - 5'	----	----	----	----	----	----	----	----	----
ICS-LP3-SO-B	6 - 8'	2500 U	2500 U	2500 U	2000 J	4100	2500 U	2500 U	2500 U	2500 U
ICS-LP3-SO-C	10 - 12'	----	----	----	----	----	----	----	----	----
ICS-LP3-SO-D	15 - 16'	----	----	----	----	----	----	----	----	----
ICS-LP4-SO-A	8 - 10'	----	----	----	----	----	----	----	----	----
ICS-LP4-SO-B	10 - 12'	110 U	110 U	110 U	110	310	110 U	110 U	110 U	110 U
ICS-LP4-SO-C	14 - 15'	----	----	----	----	----	----	----	----	----
ICS-LP4-SO-D	17 - 18'	----	----	----	----	----	----	----	----	----
ICS-DOF-MW1-A	4 - 5'	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW1-B	6.5 - 7.5'	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ICS-DOF-MW1-C	11 - 12'	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW2-A	2 - 3'	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
ICS-DOF-MW2-B	8 - 9'	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW2-C	12 - 13'	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW2-D	16 - 17'	----	----	----	----	----	----	----	----	----
ICS-DOF-MW3-A	2 - 4'	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-DUP1	dup of MW3- A	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW3-B	7 - 8'	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW3-C	12 - 13'	----	----	----	----	----	----	----	----	----
ICS-DOF-MW3-D	17 - 18'	----	----	----	----	----	----	----	----	----
ICS-DOF-MW4-A	3 - 4'	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW4-B	7 - 8'	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

Sample Location	Depth (feet)	Bromochloro- methane µg/kg, dry	2,2-Dichloro- propane µg/kg, dry	1,3-Dichloro- propane µg/kg, dry	Isopropyl- benzene µg/kg, dry	n-Propyl- benzene µg/kg, dry	Bromo- benzene µg/kg, dry	2-Chloro- toluene µg/kg, dry	4-Chloro- toluene µg/kg, dry	tert -Butyl- benzene µg/kg, dry
ICS-DOF-MW4-C	10 - 11'	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW4-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
ICS-DOF-MW5-B	7 - 8'	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW5-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	280 U	280 U	280 U	1300	2400	280 U	280 U	280 U	280 U
ICS-DOF-MW6-B	6 - 8'	270 U	270 U	270 U	920	1600	270 U	270 U	270 U	270 U
ICS-DOF-DUP2	dup of MW6- B	270 U	270 U	270 U	280	510	270 U	270 U	270 U	270 U
ICS-DOF-MW6-C	9 - 10'	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
ICS-DOF-MW6-D	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U
ICS-DOF-MW7-B	7 - 8'	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ICS-DOF-MW7-C	11 - 12'	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW7-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW8-B	7 - 8'	1.3 U	1.3 U	1.3 U	4.4	2.1	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW8-C	11 - 12'	1.2 U	1.2 U	1.2 U	2.4	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ICS-DOF-MW8-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	-----	-----	-----	-----	-----	-----	-----	-----	-----
Trip Blank (µg/L)	VOA trip blank	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Notes: J = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	sec -Butyl- benzene µg/kg, dry	4-Isopropyl- toluene µg/kg, dry	n-Butyl- benzene µg/kg, dry	Phenol µg/kg, dry	2-Chloro- phenol µg/kg, dry	1,3-Dichloro- benzene µg/kg, dry	1,4-Dichloro- benzene µg/kg, dry	Benzyl alcohol µg/kg, dry	1,2-Dichloro- benzene µg/kg, dry
ICS-LP1-SO-A	3 - 5'	-----	-----	-----	18 U	18 U	4.4 U	4.4 U	18 U	4.4 U
ICS-LP1-SO-B	6.5 - 8'	1.7 U	1.7 U	1.7 U	72	63 U	see VOA's	11 J	63 U	see VOA's
ICS-LP1-SO-C	10.5 - 12'	-----	-----	-----	9.5 J_B	19 U	4.7 U	4.7 U	12 J	4.7 U
ICS-LP1-SO-D	16 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP2-SO-A	3 - 5'	-----	-----	-----	18 U	18 U	4.6 U	4.6 U	18 U	4.6 U
ICS-LP2-SO-B	5.5 - 7.5'	1.2 U	1.2 U	1.2 U	19 U	19 U	see VOA's	see VOA's	9.0 J	see VOA's
ICS-LP2-SO-C	8 - 10'	-----	-----	-----	19 U	19 U	4.8 U	4.8 U	19	4.8 U
ICS-LP2-SO-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP3-SO-A	3 - 5'	-----	-----	-----	31	19 U	4.7 U	4.7 U	19 U	3.4 J
ICS-LP3-SO-B	6 - 8'	1500 J	2300 J	2600	2800	670 U	77 J	470	340 U	1800
ICS-LP3-SO-C	10 - 12'	-----	-----	-----	38	18 U	7.5	21	18 U	37
ICS-LP3-SO-D	15 - 16'	-----	-----	-----	36	19 U	4.8 U	4.5 J	19 U	14
ICS-LP4-SO-A	8 - 10'	-----	-----	-----	74	57 U	11 J	11 J	57 U	45
ICS-LP4-SO-B	10 - 12'	58 J	150	110	250	19 U	2.7 J	see VOA's	19 U	see VOA's
ICS-LP4-SO-C	14 - 15'	-----	-----	-----	18 U	18 U	4.5 U	4.5 U	18 U	2.6 J
ICS-LP4-SO-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW1-A	4 - 5'	1.0 U	1.0 U	1.0 U	20 U	20 U	see VOA's	see VOA's	20 U	see VOA's
ICS-DOF-MW1-B	6.5 - 7.5'	1.2 U	1.2 U	1.2 U	14 J_B	19 U	see VOA's	see VOA's	19 U	see VOA's
ICS-DOF-MW1-C	11 - 12'	1.3 U	1.3 U	1.3 U	12 J_B	19 U	see VOA's	see VOA's	25	4.2 J
ICS-DOF-MW2-A	2 - 3'	0.9 U	0.9 U	0.9 U	18 U	18 U	see VOA's	see VOA's	18 U	see VOA's
ICS-DOF-MW2-B	8 - 9'	1.1 U	1.1 U	1.1 U	19 U	19 U	see VOA's	see VOA's	19 U	see VOA's
ICS-DOF-MW2-C	12 - 13'	1.3 U	1.3 U	1.3 U	20 U	20 U	see VOA's	see VOA's	20 U	see VOA's
ICS-DOF-MW2-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-A	2 - 4'	1.1 U	1.1 U	1.1 U	19 U	19 U	see VOA's	see VOA's	19 U	see VOA's
ICS-DOF-DUP1	dup of MW3-A	1.1 U	1.1 U	1.1 U	19 U	19 U	see VOA's	see VOA's	19 U	see VOA's
ICS-DOF-MW3-B	7 - 8'	1.1 U	1.1 U	1.1 U	20 U	20 U	see VOA's	see VOA's	20 U	see VOA's
ICS-DOF-MW3-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW4-A	3 - 4'	1.0 U	1.0 U	1.0 U	19 U	19 U	see VOA's	see VOA's	19 U	see VOA's
ICS-DOF-MW4-B	7 - 8'	1.3 U	1.3 U	1.3 U	19 U	19 U	see VOA's	see VOA's	9.1 J	see VOA's

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	sec -Butyl- benzene µg/kg, dry	4-Isopropyl- toluene µg/kg, dry	n-Butyl- benzene µg/kg, dry	Phenol µg/kg, dry	2-Chloro- phenol µg/kg, dry	1,3-Dichloro- benzene µg/kg, dry	1,4-Dichloro- benzene µg/kg, dry	Benzyl alcohol µg/kg, dry	1,2-Dichloro- benzene µg/kg, dry
ICS-DOF-MW4-C	10 - 11'	1.1 U	1.1 U	1.1 U	14 J	20 U	see VOA's	see VOA's	42	see VOA's
ICS-DOF-MW4-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	0.9 U	0.9 U	0.9 U	18 U	18 U	see VOA's	see VOA's	18 U	see VOA's
ICS-DOF-MW5-B	7 - 8'	1.1 U	1.1 U	1.1 U	20 U	20 U	see VOA's	see VOA's	17 J	see VOA's
ICS-DOF-MW5-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	2100	4000	4400	100 U	100 U	see VOA's	see VOA's	100 U	see VOA's
ICS-DOF-MW6-B	6 - 8'	1400	2600	2900	44 U	44 U	see VOA's	see VOA's	44 U	see VOA's
ICS-DOF-DUP2	dup of MW6-B	480	890	1000	61 U	61 U	see VOA's	see VOA's	61 U	see VOA's
ICS-DOF-MW6-C	9 - 10'	1.6 U	1.6 U	1.6 U	650	19 U	26	120	19 U	7.2
ICS-DOF-MW6-D	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	91 U	91 U	91 U	260	19 U	19 U	19 U	19 U	17 J
ICS-DOF-MW7-B	7 - 8'	1.2 U	1.2 U	1.2 U	19 U	19 U	2.8 J	4.7 J	19 U	6.8
ICS-DOF-MW7-C	11 - 12'	1.3 U	1.3 U	1.3 U	9.4 J	19 U	see VOA's	see VOA's	15 J	see VOA's
ICS-DOF-MW7-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	1.0 U	1.0 U	1.0 U	19 U	19 U	see VOA's	see VOA's	19 U	see VOA's
ICS-DOF-MW8-B	7 - 8'	1.3 U	9.0	1.3 U	19 U	19 U	see VOA's	see VOA's	19 U	see VOA's
ICS-DOF-MW8-C	11 - 12'	1.2 U	1.2 U	1.2 U	20 U	20 U	see VOA's	see VOA's	14 J	see VOA's
ICS-DOF-MW8-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	-----	-----	-----	-----	-----	-----	-----	-----	-----
Trip Blank (µg/L)	VOA trip blank	1.0 U	1.0 U	1.0 U	-----	-----	-----	-----	-----	-----

Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	2-Methyl-phenol µg/kg, dry	4-Methyl-phenol µg/kg, dry	N-Nitrosodi-n-propylamine µg/kg, dry	Hexachloro-ethane µg/kg, dry	Nitrobenzene µg/kg, dry	Isophorone µg/kg, dry	2,4-Dimethyl-phenol µg/kg, dry	Benzoic acid µg/kg, dry
ICS-LP1-SO-A	3 - 5'	4.4 U	35 U	18 U	18 U	18 U	18 U	8.7 J	350 U
ICS-LP1-SO-B	6.5 - 8'	9.1 J	120 J	63 U	63 U	63 U	63 U	15 J	1300 U
ICS-LP1-SO-C	10.5 - 12'	4.7 U	38 U	19 U	19 U	19 U	19 U	19 U	380 U
ICS-LP1-SO-D	16 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP2-SO-A	3 - 5'	4.6 U	37 U	18 U	18 U	18 U	18 U	18 U	370 U
ICS-LP2-SO-B	5.5 - 7.5'	4.7 U	38 U	19 U	19 U	19 U	19 U	19 U	380 U
ICS-LP2-SO-C	8 - 10'	4.8 U	38 U	19 U	19 U	19 U	19 U	19 U	380 U
ICS-LP2-SO-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP3-SO-A	3 - 5'	7.5	12 J	19 U	19 U	19 U	19 U	3.4 J	370 U
ICS-LP3-SO-B	6 - 8'	3200	4900	670 U	670 U	670 U	670 U	2000	13,000 U
ICS-LP3-SO-C	10 - 12'	28	68	18 U	18 U	18 U	18 U	120	370 U
ICS-LP3-SO-D	15 - 16'	21	40	19 U	19 U	19 U	19 U	34	190 U
ICS-LP4-SO-A	8 - 10'	33	54 J	57 U	57 U	57 U	57 U	18 J	1100 U
ICS-LP4-SO-B	10 - 12'	81	700	19 U	19 U	19 U	19 U	2600	380 U
ICS-LP4-SO-C	14 - 15'	4.5 U	36 U	18 U	18 U	18 U	18 U	18 J	360 U
ICS-LP4-SO-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW1-A	4 - 5'	4.9 U	39 U	20 U	20 U	20 U	20 U	20 U	390 U
ICS-DOF-MW1-B	6.5 - 7.5'	4.7 U	9.4 J	19 U	19 U	19 U	19 U	19 U	380 U
ICS-DOF-MW1-C	11 - 12'	4.6 U	37 U	19 U	19 U	19 U	19 U	19 U	370 U
ICS-DOF-MW2-A	2 - 3'	4.6 U	37 U	18 U	18 U	18 U	18 U	18 U	370 U
ICS-DOF-MW2-B	8 - 9'	4.8 U	38 U	19 U	19 U	19 U	19 U	19 U	380 U
ICS-DOF-MW2-C	12 - 13'	4.9 U	39 U	20 U	20 U	20 U	20 U	20 U	390 U
ICS-DOF-MW2-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-A	2 - 4'	4.8 U	38 U	19 U	19 U	19 U	19 U	19 U	380 U
ICS-DOF-DUP1	dup of MW3-A	4.7 U	38 U	19 U	19 U	19 U	19 U	19 U	380 U
ICS-DOF-MW3-B	7 - 8'	5.0 U	40 U	20 U	20 U	20 U	20 U	20 U	400 U
ICS-DOF-MW3-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW4-A	3 - 4'	4.8 U	38 U	19 U	19 U	19 U	19 U	19 U	380 U
ICS-DOF-MW4-B	7 - 8'	4.7 U	38 U	19 U	19 U	19 U	19 U	19 U	380 U

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	2-Methyl-phenol µg/kg, dry	4-Methyl-phenol µg/kg, dry	N-Nitrosodi-n-propylamine µg/kg, dry	Hexachloro-ethane µg/kg, dry	Nitrobenzene µg/kg, dry	Isophorone µg/kg, dry	2,4-Dimethyl-phenol µg/kg, dry	Benzoic acid µg/kg, dry
ICS-DOF-MW4-C	10 - 11'	5.0 U	14 J	20 U	20 U	20 U	20 U	20 U	120 J
ICS-DOF-MW4-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	4.5 U	36 U	18 U	18 U	18 U	18 U	18 U	360 U
ICS-DOF-MW5-B	7 - 8'	5.0 U	14 J	20 U	20 U	20 U	20 U	20 U	400 U
ICS-DOF-MW5-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	45	210 U	100 U	100 U	100 U	100 U	210 U	2100 U
ICS-DOF-MW6-B	6 - 8'	17	89 U	44 U	44 U	44 U	44 U	89 U	890 U
ICS-DOF-DUP2	dup of MW6-B	27	120 U	61 U	61 U	61 U	61 U	120 U	1200 U
ICS-DOF-MW6-C	9 - 10'	8.8	42	19 U	19 U	19 U	19 U	350	370 U
ICS-DOF-MW6-D	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	36	520	19 U	19 U	19 U	19 U	200	370 U
ICS-DOF-MW7-B	7 - 8'	7.6	80	19 U	19 U	19 U	19 U	26	380 U
ICS-DOF-MW7-C	11 - 12'	12	58	19 U	19 U	19 U	19 U	33	380 U
ICS-DOF-MW7-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	4.2 J	31 J	19 U	19 U	19 U	19 U	3.4 J	380 U
ICS-DOF-MW8-B	7 - 8'	4.8 U	38 U	19 U	19 U	19 U	19 U	14 J	380 U
ICS-DOF-MW8-C	11 - 12'	4.9 U	11 J	20 U	20 U	20 U	20 U	4.7 J	390 U
ICS-DOF-MW8-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	-----	-----	-----	-----	-----	-----	-----	-----
Trip Blank (µg/L)	VOA trip blank	-----	-----	-----	-----	-----	-----	-----	-----

Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	2,4-Dichloro-phenol µg/kg, dry	1,2,4-Trichloro-benzene µg/kg, dry	Naphthalene µg/kg, dry	4-Chloro-3-methylphenol µg/kg, dry	2-Methyl-naphthalene µg/kg, dry	2,4,6-Trichloro-phenol µg/kg, dry	2,4,5-Trichloro-phenol µg/kg, dry	2-Chloro-naphthalene µg/kg, dry
ICS-LP1-SO-A	3 - 5'	180 U	4.4 U	45	87 U	31	87 U	87 U	18 U
ICS-LP1-SO-B	6.5 - 8'	630 U	10 J	91	320 U	66	320 U	320 U	63 U
ICS-LP1-SO-C	10.5 - 12'	190 U	4.7 U	19 U	95 U	19 U	95 U	95 U	19 U
ICS-LP1-SO-D	16 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP2-SO-A	3 - 5'	180 U	18 U	28	92 U	14 J	92 U	92 U	18 U
ICS-LP2-SO-B	5.5 - 7.5'	190 U	4.7 U	18 J	95 U	13 J	95 U	95 U	19 U
ICS-LP2-SO-C	8 - 10'	190 U	4.8 U	19 U	96 U	19 U	96 U	96 U	19 U
ICS-LP2-SO-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP3-SO-A	3 - 5'	190 U	4.7 U	210	93 U	90	93 U	93 U	19 U
ICS-LP3-SO-B	6 - 8'	6700 U	340	51,000	3400 U	34,000	3400 U	1000 J	670 U
ICS-LP3-SO-C	10 - 12'	180 U	38	190	150	160	91 U	91 U	18 U
ICS-LP3-SO-D	15 - 16'	96 U	7.0	180	96 U	180	-----	96 U	19 U
ICS-LP4-SO-A	8 - 10'	570 U	170	770	280 U	540	280 U	280 U	57 U
ICS-LP4-SO-B	10 - 12'	170 J	19	560	1200	240	94 U	52 J	760
ICS-LP4-SO-C	14 - 15'	180 U	4.5 U	18 U	90 U	18 U	90 U	90 U	18 U
ICS-LP4-SO-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW1-A	4 - 5'	200 U	4.9 U	840	98 U	89	98 U	98 U	20 U
ICS-DOF-MW1-B	6.5 - 7.5'	190 U	4.7 U	19 U	94 U	19 U	94 U	94 U	19 U
ICS-DOF-MW1-C	11 - 12'	190 U	4.6 U	19 U	93 U	19 U	93 U	93 U	19 U
ICS-DOF-MW2-A	2 - 3'	180 U	4.6 U	18 U	92 U	18 U	92 U	92 U	18 U
ICS-DOF-MW2-B	8 - 9'	190 U	4.8 U	19 U	96 U	19 U	96 U	96 U	19 U
ICS-DOF-MW2-C	12 - 13'	200 U	4.9 U	20 U	98 U	20 U	98 U	98 U	20 U
ICS-DOF-MW2-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-A	2 - 4'	190 U	4.8 U	19 U	96 U	19 U	96 U	96 U	19 U
ICS-DOF-DUP1	dup of MW3-A	190 U	4.7 U	19 U	94 U	12 J	94 U	94 U	19 U
ICS-DOF-MW3-B	7 - 8'	200 U	5.0 U	12 J	100 U	23	100 U	100 U	20 U
ICS-DOF-MW3-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW4-A	3 - 4'	190 U	4.8 U	19 U	95 U	9.5 J	95 U	95 U	19 U
ICS-DOF-MW4-B	7 - 8'	190 U	4.7 U	19	95 U	36	95 U	95 U	19 U

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	2,4-Dichloro-phenol µg/kg, dry	1,2,4-Trichloro-benzene µg/kg, dry	Naphthalene µg/kg, dry	4-Chloro-3-methylphenol µg/kg, dry	2-Methyl-naphthalene µg/kg, dry	2,4,6-Trichloro-phenol µg/kg, dry	2,4,5-Trichloro-phenol µg/kg, dry	2-Chloro-naphthalene µg/kg, dry
ICS-DOF-MW4-C	10 - 11'	200 U	5.0 U	24	99 U	24	99 U	99 U	20 U
ICS-DOF-MW4-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	180 U	4.5 U	14 J	90 U	25	90 U	90 U	18 U
ICS-DOF-MW5-B	7 - 8'	200 U	5.0 U	46	99 U	56	99 U	99 U	20 U
ICS-DOF-MW5-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	1000 U	1100	10,000	520 U	62,000	520 U	520 U	100 U
ICS-DOF-MW6-B	6 - 8'	440 U	200	2900	220 U	17,000	220 U	220 U	44 U
ICS-DOF-DUP2	dup of MW6-B	610 U	460	5200	300 U	33,000	300 U	300 U	61 U
ICS-DOF-MW6-C	9 - 10'	190 U	4.7 U	49	93 U	98	93 U	93 U	19 U
ICS-DOF-MW6-D	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	32 J	240	680	93 U	91,000	93 U	93 U	19 U
ICS-DOF-MW7-B	7 - 8'	190 U	11	19 U	95 U	93	95 U	95 U	19 U
ICS-DOF-MW7-C	11 - 12'	190 U	19 U	55	94 U	470	94 U	94 U	19 U
ICS-DOF-MW7-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	190 U	4.7 U	11 J	95 U	16 J	95 U	95 U	19 U
ICS-DOF-MW8-B	7 - 8'	190 U	4.8 U	64	95 U	150	95 U	95 U	19 U
ICS-DOF-MW8-C	11 - 12'	200 U	4.9 U	24	98 U	240	98 U	98 U	20 U
ICS-DOF-MW8-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	-----	-----	-----	-----	-----	-----	-----	-----
Trip Blank (µg/L)	VOA trip blank	-----	-----	-----	-----	-----	-----	-----	-----

Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Dimethyl- phthalate µg/kg, dry	Acenaph- thylene µg/kg, dry	Acenaphthene µg/kg, dry	Dibenzofuran µg/kg, dry	2,6-Dinitro- toluene µg/kg, dry	2,4-Dinitro- toluene µg/kg, dry	Diethyl- phthalate µg/kg, dry	4-Chlorophenyl- phenylether µg/kg, dry
ICS-LP1-SO-A	3 - 5'	18 U	23	18 U	18 U	87 U	87 U	44 U	18 U
ICS-LP1-SO-B	6.5 - 8'	63 U	63 U	50 J	63 U	320 U	320 U	160 U	63 U
ICS-LP1-SO-C	10.5 - 12'	19 U	19 U	19 U	19 U	95 U	95 U	47 U	19 U
ICS-LP1-SO-D	16 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP2-SO-A	3 - 5'	18 U	18 U	18 U	18 U	92 U	92 U	46 U	18 U
ICS-LP2-SO-B	5.5 - 7.5'	19 U	19 U	19 U	19 U	95 U	95 U	47 U	19 U
ICS-LP2-SO-C	8 - 10'	19 U	19 U	19 U	19 U	96 U	96 U	48 U	19 U
ICS-LP2-SO-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP3-SO-A	3 - 5'	460	18 J	23	48	93 U	93 U	1300	19 U
ICS-LP3-SO-B	6 - 8'	540 J	670 U	9700	7100	3400 U	3400 U	2200	670 U
ICS-LP3-SO-C	10 - 12'	18 U	18 U	46	36	91 U	91 U	34 J	18 U
ICS-LP3-SO-D	15 - 16'	19 U	19 U	42	32	96 U	96 U	39 J	19 U
ICS-LP4-SO-A	8 - 10'	57 U	57 U	250	190	280 U	280 U	140 U	57 U
ICS-LP4-SO-B	10 - 12'	19 U	19 U	20	24	94 U	94 U	47 U	19 U
ICS-LP4-SO-C	14 - 15'	18 U	18 U	18 U	18 U	90 U	90 U	45 U	18 U
ICS-LP4-SO-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW1-A	4 - 5'	20 U	20 U	20 U	19 J	98 U	98 U	49 U	20 U
ICS-DOF-MW1-B	6.5 - 7.5'	19 U	19 U	19 U	19 U	94 U	94 U	47 U	19 U
ICS-DOF-MW1-C	11 - 12'	19 U	19 U	19 U	19 U	93 U	93 U	46 U	19 U
ICS-DOF-MW2-A	2 - 3'	18 U	18 U	18 U	18 U	92 U	92 U	46 U	18 U
ICS-DOF-MW2-B	8 - 9'	19 U	19 U	19 U	19 U	96 U	96 U	48 U	19 U
ICS-DOF-MW2-C	12 - 13'	20 U	20 U	20 U	20 U	98 U	98 U	49 U	20 U
ICS-DOF-MW2-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-A	2 - 4'	19 U	19 U	19 U	19 U	96 U	96 U	48 U	19 U
ICS-DOF-DUP1	dup of MW3- A	19 U	19 U	19 U	19 U	94 U	94 U	47 U	19 U
ICS-DOF-MW3-B	7 - 8'	20 U	20 U	20 U	20 U	100 U	100 U	50 U	20 U
ICS-DOF-MW3-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW4-A	3 - 4'	19 U	19 U	19 U	19 U	95 U	95 U	48 U	19 U
ICS-DOF-MW4-B	7 - 8'	19 U	19 U	19 U	15 J	95 U	95 U	47 U	19 U

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Dimethyl- phthalate µg/kg, dry	Acenaph- thylene µg/kg, dry	Acenaphthene µg/kg, dry	Dibenzofuran µg/kg, dry	2,6-Dinitro- toluene µg/kg, dry	2,4-Dinitro- toluene µg/kg, dry	Diethyl- phthalate µg/kg, dry	4-Chlorophenyl- phenylether µg/kg, dry
ICS-DOF-MW4-C	10 - 11'	20 U	20 U	16 J	22	99 U	99 U	50 U	20 U
ICS-DOF-MW4-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	18 U	18 U	18 U	12 J	90 U	90 U	45 U	18 U
ICS-DOF-MW5-B	7 - 8'	20 U	20 U	11 J	24	99 U	99 U	50 U	20 U
ICS-DOF-MW5-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	100 U	100 U	3200	100 U	520 U	520 U	260 U	100 U
ICS-DOF-MW6-B	6 - 8'	44 U	44 U	620	330	220 U	220 U	110 U	44 U
ICS-DOF-DUP2	dup of MW6- B	61 U	61 U	1500	61 U	300 U	300 U	150 U	61 U
ICS-DOF-MW6-C	9 - 10'	19 U	19 U	19 U	19 U	93 U	93 U	47 U	19 U
ICS-DOF-MW6-D	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	19 U	73	420	72	93 U	93 U	47 U	19 U
ICS-DOF-MW7-B	7 - 8'	19 U	19 U	19 U	19 U	95 U	95 U	48 U	19 U
ICS-DOF-MW7-C	11 - 12'	19 U	19 U	19 U	19 U	94 U	94 U	47 U	19 U
ICS-DOF-MW7-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	19 U	19 U	19 U	19 U	95 U	95 U	47 U	19 U
ICS-DOF-MW8-B	7 - 8'	19 U	27	110	160	95 U	95 U	48 U	19 U
ICS-DOF-MW8-C	11 - 12'	20 U	20 U	20 U	20 U	98 U	98 U	49 U	20 U
ICS-DOF-MW8-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	-----	-----	-----	-----	-----	-----	-----	-----
Trip Blank (µg/L)	VOA trip blank	-----	-----	-----	-----	-----	-----	-----	-----

Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Fluorene µg/kg, dry	N-Nitrosodi- phenylamine µg/kg, dry	Pentachloro- phenol µg/kg, dry	Phenanthrene µg/kg, dry	Carbazole µg/kg, dry	Anthracene µg/kg, dry	Di-n-butyl- phthalate µg/kg, dry	Fluoranthene µg/kg, dry
ICS-LP1-SO-A	3 - 5'	18 U	18 U	15 J	52	18 U	21	9.6 J	68
ICS-LP1-SO-B	6.5 - 8'	50 J	38 J	140 J	200	63 U	110	63 U	540
ICS-LP1-SO-C	10.5 - 12'	19 U	19 U	47 U	19 U	19 U	19 U	19 U	10 J
ICS-LP1-SO-D	16 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP2-SO-A	3 - 5'	18 U	18 U	46 U	42	18 U	18 U	10 J	55
ICS-LP2-SO-B	5.5 - 7.5'	19 U	19 U	47 U	9.5 J	19 U	19 U	19 U	19 U
ICS-LP2-SO-C	8 - 10'	19 U	19 U	48 U	19 U	19 U	19 U	19 U	19 U
ICS-LP2-SO-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP3-SO-A	3 - 5'	45	12 J	460	220	34	34	420	200
ICS-LP3-SO-B	6 - 8'	12,000	1400	5300 J	42,000	6000	7900	16,000	32,000
ICS-LP3-SO-C	10 - 12'	78	28	56 J	330	33	42	81	120
ICS-LP3-SO-D	15 - 16'	53	4.8 U	72 J	210	30	35	59	110
ICS-LP4-SO-A	8 - 10'	310	94	210 J	1100	60	220	300	850
ICS-LP4-SO-B	10 - 12'	45	41	150 J	250	19 U	19 U	19 U	130
ICS-LP4-SO-C	14 - 15'	18 U	18 U	45 U	18 U	18 U	18 U	18 U	18 U
ICS-LP4-SO-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW1-A	4 - 5'	20 U	20 U	49 U	86	20 U	20 U	20 U	36
ICS-DOF-MW1-B	6.5 - 7.5'	19 U	19 U	47 U	19 U	19 U	19 U	19 U	19 U
ICS-DOF-MW1-C	11 - 12'	19 U	19 U	46 U	19 U	19 U	19 U	19 U	19 U
ICS-DOF-MW2-A	2 - 3'	18 U	18 U	46 U	18 U	18 U	18 U	18 U	18 U
ICS-DOF-MW2-B	8 - 9'	19 U	19 U	48 U	19 U	19 U	19 U	19 U	19 U
ICS-DOF-MW2-C	12 - 13'	20 U	20 U	49 U	20 U	20 U	20 U	20 U	20 U
ICS-DOF-MW2-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-A	2 - 4'	19 U	19 U	48 U	19 U	19 U	19 U	19 U	19 U
ICS-DOF-DUP1	dup of MW3- A	19 U	19 U	47 U	19 U	19 U	19 U	19 U	19 U
ICS-DOF-MW3-B	7 - 8'	20 U	13 J	50 U	30	20 U	20 U	20 U	20 U
ICS-DOF-MW3-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW4-A	3 - 4'	19 U	19 U	48 U	19 U	19 U	19 U	19 U	19 U
ICS-DOF-MW4-B	7 - 8'	10 J	15 J	47 U	51	19 U	19 U	19 U	24

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Fluorene µg/kg, dry	N-Nitrosodi- phenylamine µg/kg, dry	Pentachloro- phenol µg/kg, dry	Phenanthrene µg/kg, dry	Carbazole µg/kg, dry	Anthracene µg/kg, dry	Di-n-butyl- phthalate µg/kg, dry	Fluoranthene µg/kg, dry
ICS-DOF-MW4-C	10 - 11'	25	20 U	50 U	69	20 U	17 J	20 U	85
ICS-DOF-MW4-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	18 U	18 U	45 U	36	18 U	18 U	18 U	14 J
ICS-DOF-MW5-B	7 - 8'	14 J	20 U	50 U	61	20 U	11 J	20 U	34
ICS-DOF-MW5-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	8400	100 U	260 U	9500	100 U	100 U	100 U	99 J
ICS-DOF-MW6-B	6 - 8'	1600	44 U	110 U	2400	44 U	44 U	44 U	47
ICS-DOF-DUP2	dup of MW6- B	3500	61 U	150 U	4900	61 U	61 U	61 U	94
ICS-DOF-MW6-C	9 - 10'	12 J	19 U	47 U	19 U	19 U	19 U	19 U	19 U
ICS-DOF-MW6-D	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	340	19 U	160,000	1000	34 J_Q	270	600	580
ICS-DOF-MW7-B	7 - 8'	25	4.4 J	88	13 J	19 U	19 U	19 U	19 U
ICS-DOF-MW7-C	11 - 12'	19 U	19 U	62	19 U	19 U	19 U	19 U	19 U
ICS-DOF-MW7-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	19 U	19 U	190 U	19 U	19 U	19 U	19 U	19 U
ICS-DOF-MW8-B	7 - 8'	220	19 U	24 J	620	200 J_Q	94	19 U	12 J
ICS-DOF-MW8-C	11 - 12'	20 U	20 U	250	20 U	20 U	20 U	20 U	20 U
ICS-DOF-MW8-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	-----	-----	-----	-----	-----	-----	-----	-----
Trip Blank (µg/L)	VOA trip blank	-----	-----	-----	-----	-----	-----	-----	-----

Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Pyrene µg/kg, dry	Butylbenzyl- phthalate µg/kg, dry	Benzo(a)- anthracene µg/kg, dry	bis (2-Ethylhexyl)- phthalate µg/kg, dry	Chrysene µg/kg, dry	Di-n-octyl- phthalate µg/kg, dry	total Benzo- fluoranthenes µg/kg, dry	Benzo(a)- pyrene µg/kg, dry
ICS-LP1-SO-A	3 - 5'	66	4.4 U	34	170	53	18 U	93	62
ICS-LP1-SO-B	6.5 - 8'	600	63 U	220	2100	350	63 U	510	230
ICS-LP1-SO-C	10.5 - 12'	10 J	4.7 U	19 U	19 J_B	19 U	19 U	38 U	19 U
ICS-LP1-SO-D	16 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP2-SO-A	3 - 5'	50	4.6 U	21	37	38	18 U	56	25
ICS-LP2-SO-B	5.5 - 7.5'	19 U	4.7 U	19 U	22 J_B	19 U	19 U	38 U	19 U
ICS-LP2-SO-C	8 - 10'	19 U	4.8 U	19 U	24 J_B	19 U	19 U	38 U	19 U
ICS-LP2-SO-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP3-SO-A	3 - 5'	130	180	88	380	110	19 U	270	150
ICS-LP3-SO-B	6 - 8'	23,000	14,000	13,000	55,000	14,000	670 U	18,000	10,000
ICS-LP3-SO-C	10 - 12'	120	48	49	340	64	18 U	78	38
ICS-LP3-SO-D	15 - 16'	100	43	46	270	54	19 U	78	40
ICS-LP4-SO-A	8 - 10'	650	57	240	1400	300	57 U	350	200
ICS-LP4-SO-B	10 - 12'	140	4.7 U	50	120	79	19 U	84	41
ICS-LP4-SO-C	14 - 15'	18 U	4.5 U	18 U	22 J_B	18 U	18 U	36 U	18 U
ICS-LP4-SO-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW1-A	4 - 5'	35	20 U	12 J	20 J_B	17 J	20 U	20 J	20 U
ICS-DOF-MW1-B	6.5 - 7.5'	19 U	4.7 U	19 U	22 J_B	19 U	19 U	38 U	19 U
ICS-DOF-MW1-C	11 - 12'	19 U	4.6 U	19 U	30 J_B	19 U	19 U	37 U	19 U
ICS-DOF-MW2-A	2 - 3'	18 U	4.6 U	18 U	17 J_B	18 U	18 U	37 U	18 U
ICS-DOF-MW2-B	8 - 9'	19 U	4.8 U	19 U	14 J_B	19 U	19 U	38 U	19 U
ICS-DOF-MW2-C	12 - 13'	20 U	4.9 U	20 U	16 J_B	20 U	20 U	39 U	20 U
ICS-DOF-MW2-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-A	2 - 4'	19 U	13	19 U	260	19 U	19 U	38 U	19 U
ICS-DOF-DUP1	dup of MW3-A	19 U	4.7 U	19 U	24 U	19 U	19 U	38 U	19 U
ICS-DOF-MW3-B	7 - 8'	20 U	5.0 U	20 U	25 U	20 U	20 U	40 U	20 U
ICS-DOF-MW3-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW4-A	3 - 4'	19 U	4.8 U	19 U	24 U	19 U	19 U	38 U	19 U
ICS-DOF-MW4-B	7 - 8'	18 J	4.7 U	19 U	16 J_B	10 J	19 U	38 U	19 U

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Pyrene µg/kg, dry	Butylbenzyl- phthalate µg/kg, dry	Benzo(a)- anthracene µg/kg, dry	bis (2-Ethylhexyl)- phthalate µg/kg, dry	Chrysene µg/kg, dry	Di-n-octyl- phthalate µg/kg, dry	total Benzo- fluoranthenes µg/kg, dry	Benzo(a)- pyrene µg/kg, dry
ICS-DOF-MW4-C	10 - 11'	56	5.0 U	19 J	20 J_B	23	20 U	27 J	14 J
ICS-DOF-MW4-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	14 J	4.5 U	18 U	23 U	13 J	18 U	9.0 J	18 U
ICS-DOF-MW5-B	7 - 8'	32	5.0 U	11 J	25 U	12 J	20 U	13 J	20 U
ICS-DOF-MW5-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	300	26 U	100 U	88 J	100 U	100 U	88 J	100 U
ICS-DOF-MW6-B	6 - 8'	78	11 U	29 J	62	62	44 U	31 J	44 U
ICS-DOF-DUP2	dup of MW6- B	180	15 U	70	76 U	120	61 U	42 J	61 U
ICS-DOF-MW6-C	9 - 10'	19 U	4.7 U	19 U	23 U	19 U	19 U	37 U	19 U
ICS-DOF-MW6-D	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	530	130	250	400	220	19 U	240	150
ICS-DOF-MW7-B	7 - 8'	19 U	4.8 U	19 U	24 U	19 U	19 U	38 U	19 U
ICS-DOF-MW7-C	11 - 12'	19 U	4.7 U	19 U	24 U	19 U	19 U	38 U	19 U
ICS-DOF-MW7-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	19 U	4.7 U	19 U	17 J_B	19 U	19 U	38 U	19 U
ICS-DOF-MW8-B	7 - 8'	19 U	4.8 U	19 U	18 J_B	19 U	19 U	38 U	19 U
ICS-DOF-MW8-C	11 - 12'	20 U	4.9 U	20 U	23 J_B	20 U	20 U	39 U	20 U
ICS-DOF-MW8-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	-----	-----	-----	-----	-----	-----	-----	-----
Trip Blank (µg/L)	VOA trip blank	-----	-----	-----	-----	-----	-----	-----	-----

Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Indeno(1,2,3-cd)pyrene µg/kg, dry	Dibenz(a,h)-anthracene µg/kg, dry	Benzo(g,h,i)-perylene µg/kg, dry	LPAH µg/kg, dry	HPAH µg/kg, dry	alpha-BHC µg/kg, dry	beta-BHC µg/kg, dry	delta-BHC µg/kg, dry	gamma-BHC (Lindane) µg/kg, dry
ICS-LP1-SO-A	3 - 5'	51	11 J	77	141	515	2.5 U	2.5 U	2.5 U	2.5 U
ICS-LP1-SO-B	6.5 - 8'	110	63 U	130	501	2690	17 U	17 U	52 U	17 U
ICS-LP1-SO-C	10.5 - 12'	19 U	19 U	19 U	19 U	20	0.47 U	0.47 U	0.47 U	0.47 U
ICS-LP1-SO-D	16 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP2-SO-A	3 - 5'	23	18 U	31	70	299	0.47 U	0.47 U	0.47 U	0.47 U
ICS-LP2-SO-B	5.5 - 7.5'	19 U	19 U	19 U	27.5	38 U	0.46 U	0.76 U	0.46 U	0.46 U
ICS-LP2-SO-C	8 - 10'	19 U	19 U	19 U	19 U	38 U	0.48 U	0.48 U	0.48 U	0.48 U
ICS-LP2-SO-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP3-SO-A	3 - 5'	170	48	190	550	1356	3.3 U	3.3 U	3.3 U	3.3 U
ICS-LP3-SO-B	6 - 8'	4500	2300	4400	122,600	121,200	120 U	350 U	120 U	120 U
ICS-LP3-SO-C	10 - 12'	16 J	18 U	19	686	504	4.9 U	13 U	50 U	4.9 U
ICS-LP3-SO-D	15 - 16'	22	19 U	26	520	476	2.4 U	2.4 U	2.4 U	2.4 U
ICS-LP4-SO-A	8 - 10'	99	34 J	120	2650	2843	20 U	20 U	290 U	20 U
ICS-LP4-SO-B	10 - 12'	19 U	19 U	19 U	875	524	2.8 U	16 U	12 U	2.8 U
ICS-LP4-SO-C	14 - 15'	18 U	18 U	18 U	18 U	36 U	0.46 U	0.46 U	0.46 U	0.46 U
ICS-LP4-SO-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW1-A	4 - 5'	20 U	20 U	20 U	926	120	0.47 U	0.47 U	0.47 U	0.47 U
ICS-DOF-MW1-B	6.5 - 7.5'	19 U	19 U	19 U	19 U	38 U	0.47 U	1.5 U	0.47 U	0.47 U
ICS-DOF-MW1-C	11 - 12'	19 U	19 U	19 U	19 U	37 U	0.48 U	0.48 U	0.48 U	0.48 U
ICS-DOF-MW2-A	2 - 3'	18 U	18 U	18 U	18 U	37 U	0.49 U	0.49 U	0.49 U	0.49 U
ICS-DOF-MW2-B	8 - 9'	19 U	19 U	19 U	19 U	38 U	0.47 U	0.47 U	0.47 U	0.47 U
ICS-DOF-MW2-C	12 - 13'	20 U	20 U	20 U	20 U	39 U	0.48 U	0.48 U	0.48 U	0.48 U
ICS-DOF-MW2-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-A	2 - 4'	19 U	19 U	19 U	19 U	38 U	0.47 U	0.47 U	0.47 U	0.47 U
ICS-DOF-DUP1	dup of MW3-A	19 U	19 U	19 U	19 U	38 U	0.47 U	0.47 U	0.47 U	0.47 U
ICS-DOF-MW3-B	7 - 8'	20 U	20 U	20 U	42	40 U	0.46 U	0.46 U	0.46 U	0.46 U
ICS-DOF-MW3-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW4-A	3 - 4'	19 U	19 U	19 U	19 U	38 U	0.47 U	0.47 U	0.47 U	0.47 U
ICS-DOF-MW4-B	7 - 8'	19 U	19 U	19 U	80	52	0.48 U	0.48 U	0.48 U	0.48 U

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Indeno(1,2,3-cd)pyrene µg/kg, dry	Dibenz(a,h)-anthracene µg/kg, dry	Benzo(g,h,i)-perylene µg/kg, dry	LPAH µg/kg, dry	HPAH µg/kg, dry	alpha-BHC µg/kg, dry	beta-BHC µg/kg, dry	delta-BHC µg/kg, dry	gamma-BHC (Lindane) µg/kg, dry
ICS-DOF-MW4-C	10 - 11'	20 U	20 U	12 J	151	236	0.48 U	0.48 U	0.48 U	0.48 U
ICS-DOF-MW4-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	18 U	18 U	18 U	50	50	0.46 U	0.46 U	0.46 U	0.46 U
ICS-DOF-MW5-B	7 - 8'	20 U	20 U	20 U	143	102	0.47 U	0.47 U	0.47 U	0.47 U
ICS-DOF-MW5-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	100 U	100 U	100 U	31,100	487	2.5 U	16 U	2.5 U	2.5 U
ICS-DOF-MW6-B	6 - 8'	44 U	44 U	44 U	7520	247	2.4 U	10 U	2.4 U	2.4 U
ICS-DOF-DUP2	dup of MW6-B	61 U	61 U	61 U	15,100	247	2.4 U	8.5 U	2.4 U	2.4 U
ICS-DOF-MW6-C	9 - 10'	19 U	19 U	19 U	61	37 U	13 U	4.5 U	0.50 U	0.50 U
ICS-DOF-MW6-D	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	52	15 J	100	2783	2137	4.4 U	200 U	95 U	4.4 U
ICS-DOF-MW7-B	7 - 8'	19 U	19 U	19 U	38	38 U	0.49 U	0.55 U	0.49 U	0.49 U
ICS-DOF-MW7-C	11 - 12'	19 U	19 U	19 U	55	38 U	0.49 U	0.49 U	0.49 U	0.49 U
ICS-DOF-MW7-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	19 U	19 U	19 U	11	38 U	0.46 U	0.46 U	0.46 U	0.46 U
ICS-DOF-MW8-B	7 - 8'	19 U	19 U	19 U	1135	12	0.50 U	0.50 U	0.50 U	0.50 U
ICS-DOF-MW8-C	11 - 12'	20 U	20 U	20 U	24	39 U	0.48 U	0.48 U	0.48 U	0.48 U
ICS-DOF-MW8-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	-----	-----	-----	-----	-----	-----	-----	-----	-----
Trip Blank (µg/L)	VOA trip blank	-----	-----	-----	-----	-----	-----	-----	-----	-----

Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Heptachlor µg/kg, dry	Aldrin µg/kg, dry	Heptachlor epoxide µg/kg, dry	Endosulfan I µg/kg, dry	Dieldrin µg/kg, dry	4,4'-DDE µg/kg, dry	Endrin µg/kg, dry	Endosulfan II µg/kg, dry	4,4'-DDD µg/kg, dry
ICS-LP1-SO-A	3 - 5'	2.5 U	2.5 U	4.9 U	2.5 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U
ICS-LP1-SO-B	6.5 - 8'	19 U	17 U	180 U	17 U	96 U	430	34 U	86 U	1000
ICS-LP1-SO-C	10.5 - 12'	0.47 U	0.47 U	0.94 U	0.47 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
ICS-LP1-SO-D	16 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP2-SO-A	3 - 5'	0.47 U	0.47 U	0.94 U	0.47 U	2.7 U	0.94 U	1.4 U	3.7 U	0.94 U
ICS-LP2-SO-B	5.5 - 7.5'	0.46 U	0.46 U	0.92 U	0.46 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U
ICS-LP2-SO-C	8 - 10'	0.48 U	0.48 U	0.96 U	0.48 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U
ICS-LP2-SO-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP3-SO-A	3 - 5'	3.3 U	3.3 U	110 U	130 U	12 U	79 U	120 U	49 U	6.7 U
ICS-LP3-SO-B	6 - 8'	620 U	120 U	2400 U	120 U	240 U	2900 J_p	1200 U	1000 U	3000 J_p
ICS-LP3-SO-C	10 - 12'	20 U	4.9 U	70 U	4.9 U	56 U	170 J_p	47 U	9.8 U	56 J_p
ICS-LP3-SO-D	15 - 16'	28 U	2.4 U	28 U	2.4 U	17 U	50 J	4.9 U	4.9 U	24 J
ICS-LP4-SO-A	8 - 10'	120 U	20 U	220 U	20 U	41 U	380 J_p	250 U	130 U	970
ICS-LP4-SO-B	10 - 12'	12 U	2.8 U	46 U	2.8 U	20 U	94 J_p	30 U	16 U	60 J_p
ICS-LP4-SO-C	14 - 15'	0.46 U	0.46 U	0.91 U	0.46 U	0.91 U	5.6	0.91 U	0.91 U	2.7
ICS-LP4-SO-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW1-A	4 - 5'	0.47 U	0.47 U	3.9 U	0.47 U	12 U	0.94 U	25 U	0.94 U	4.6 U
ICS-DOF-MW1-B	6.5 - 7.5'	0.47 U	0.47 U	0.94 U	0.47 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
ICS-DOF-MW1-C	11 - 12'	0.48 U	0.48 U	0.97 U	0.48 U	0.97 U	0.97 U	2.0 U	0.97 U	0.97 U
ICS-DOF-MW2-A	2 - 3'	0.49 U	0.49 U	0.97 U	0.49 U	0.97 U	0.97 U	0.97 U	0.97 U	0.97 U
ICS-DOF-MW2-B	8 - 9'	0.47 U	0.47 U	0.94 U	0.47 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
ICS-DOF-MW2-C	12 - 13'	0.48 U	0.48 U	0.96 U	0.48 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U
ICS-DOF-MW2-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-A	2 - 4'	0.47 U	0.47 U	0.95 U	0.47 U	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U
ICS-DOF-DUP1	dup of MW3-A	0.47 U	0.47 U	0.94 U	0.47 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
ICS-DOF-MW3-B	7 - 8'	0.46 U	0.46 U	0.92 U	0.46 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U
ICS-DOF-MW3-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW4-A	3 - 4'	0.47 U	0.47 U	0.95 U	0.47 U	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U
ICS-DOF-MW4-B	7 - 8'	0.48 U	0.48 U	0.96 U	0.48 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Heptachlor µg/kg, dry	Aldrin µg/kg, dry	Heptachlor epoxide µg/kg, dry	Endosulfan I µg/kg, dry	Dieldrin µg/kg, dry	4,4'-DDE µg/kg, dry	Endrin µg/kg, dry	Endosulfan II µg/kg, dry	4,4'-DDD µg/kg, dry
ICS-DOF-MW4-C	10 - 11'	0.48 U	0.48 U	0.97 U	0.48 U	0.97 U	0.97 U	0.97 U	0.97 U	0.97 U
ICS-DOF-MW4-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	0.46 U	0.46 U	0.92 U	0.46 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U
ICS-DOF-MW5-B	7 - 8'	0.47 U	0.47 U	0.94 U	0.47 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
ICS-DOF-MW5-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	2.5 U	2.5 U	4.9 U	2.5 U	4.9 U	4.9 U	4.9 U	19 U	4.9 U
ICS-DOF-MW6-B	6 - 8'	2.4 U	2.4 U	10 U	2.4 U	36 U	4.8 U	48 U	68 U	4.8 U
ICS-DOF-DUP2	dup of MW6-B	2.4 U	2.4 U	4.8 U	2.4 U	33 U	4.8 U	44 U	27 U	4.8 U
ICS-DOF-MW6-C	9 - 10'	0.50 U	0.50 U	0.99 U	6.0 U	0.99 U	0.99 U	2.0 U	3.1 U	0.99 U
ICS-DOF-MW6-D	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	4.4 U	4.4 U	15 U	40 U	8.8 U	23 J_p	8.8 U	8.8 U	8.8 U
ICS-DOF-MW7-B	7 - 8'	0.49 U	0.49 U	0.98 U	0.49 U	0.98 U	0.98 U	0.98 U	1.8 U	0.98 U
ICS-DOF-MW7-C	11 - 12'	0.49 U	0.49 U	0.98 U	0.49 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U
ICS-DOF-MW7-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	0.46 U	0.68	0.93 U	0.46 U	0.93 U	0.93 U	0.93 U	0.93 U	1.7
ICS-DOF-MW8-B	7 - 8'	0.50 U	1.2	0.99 U	0.50 U	0.99 U	0.99 U	0.99 U	0.99 U	0.99 U
ICS-DOF-MW8-C	11 - 12'	0.48 U	0.48 U	0.96 U	0.48 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U
ICS-DOF-MW8-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	-----	-----	-----	-----	-----	-----	-----	-----	-----
Trip Blank (µg/L)	VOA trip blank	-----	-----	-----	-----	-----	-----	-----	-----	-----

Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Endosulfan sulfate µg/kg, dry	4,4'-DDT µg/kg, dry	Methoxychlor µg/kg, dry	Endrin ketone µg/kg, dry	Endrin aldehyde µg/kg, dry	trans-Chlordane µg/kg, dry	cis-Chlordane µg/kg, dry	Toxaphene µg/kg, dry	Hexachlorobenzene µg/kg, dry
ICS-LP1-SO-A	3 - 5'	4.9 U	4.9 U	25 U	4.9 U	4.9 U	2.5 U	2.5 U	490 U	4.9 U
ICS-LP1-SO-B	6.5 - 8'	34 U	270 U	170 U	120 U	74 U	83 U	17 U	3400 U	34 U
ICS-LP1-SO-C	10.5 - 12'	0.94 U	0.94 U	4.7 U	0.94 U	0.94 U	0.47 U	0.47 U	94 U	0.94 U
ICS-LP1-SO-D	16 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP2-SO-A	3 - 5'	0.94 U	4.6 U	4.7 U	4.2 U	2.3 U	0.47 U	0.47 U	94 U	0.94 U
ICS-LP2-SO-B	5.5 - 7.5'	0.92 U	0.92 U	4.6 U	0.92 U	0.92 U	0.46 U	0.46 U	92 U	0.92 U
ICS-LP2-SO-C	8 - 10'	0.96 U	0.96 U	4.8 U	0.96 U	0.96 U	0.48 U	0.48 U	96 U	0.96 U
ICS-LP2-SO-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP3-SO-A	3 - 5'	6.7 U	180 U	33 U	6.7 U	17 U	38 U	3.3 U	670 U	6.7 U
ICS-LP3-SO-B	6 - 8'	240 U	2900 U	1200 U	240 U	810 U	690 U	120 U	24,000 U	240 U
ICS-LP3-SO-C	10 - 12'	9.8 U	62 U	49 U	30 U	18 U	26 U	4.9 U	980 U	9.8 U
ICS-LP3-SO-D	15 - 16'	4.9 U	35 U	24 U	20 U	4.9 U	2.4 U	2.4 U	120 U	4.9 U
ICS-LP4-SO-A	8 - 10'	41 U	450 U	200 U	41 U	210 U	20 U	20 U	4100 U	41 U
ICS-LP4-SO-B	10 - 12'	5.5 U	56 U	28 U	5.5 U	20 U	9.8 U	2.8 U	550 U	21 U
ICS-LP4-SO-C	14 - 15'	0.91 U	2.5 U	4.6 U	0.91 U	0.91 U	0.46 U	0.46 U	91 U	0.91 U
ICS-LP4-SO-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW1-A	4 - 5'	0.94 U	42 U	4.7 U	31 U	17 U	0.47 U	0.47 U	94 U	0.94 U
ICS-DOF-MW1-B	6.5 - 7.5'	0.94 U	0.94 U	4.7 U	0.94 U	0.94 U	0.47 U	0.47 U	94 U	0.94 U
ICS-DOF-MW1-C	11 - 12'	0.97 U	3.2 U	4.8 U	0.97 U	1.4 U	0.48 U	0.48 U	97 U	0.97 U
ICS-DOF-MW2-A	2 - 3'	0.97 U	0.97 U	4.9 U	0.97 U	0.97 U	0.49 U	0.49 U	97 U	0.97 U
ICS-DOF-MW2-B	8 - 9'	0.94 U	0.94 U	4.7 U	0.94 U	0.94 U	0.47 U	0.47 U	94 U	0.94 U
ICS-DOF-MW2-C	12 - 13'	0.96 U	0.96 U	4.8 U	0.96 U	0.96 U	0.48 U	0.48 U	96 U	0.96 U
ICS-DOF-MW2-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-A	2 - 4'	0.95 U	0.95 U	4.7 U	0.95 U	0.95 U	0.47 U	0.47 U	95 U	0.95 U
ICS-DOF-DUP1	dup of MW3-A	0.94 U	0.94 U	4.7 U	0.94 U	0.94 U	1.2 U	0.47 U	94 U	0.94 U
ICS-DOF-MW3-B	7 - 8'	0.92 U	0.92 U	4.6 U	0.92 U	0.92 U	0.46 U	0.46 U	92 U	0.92 U
ICS-DOF-MW3-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW4-A	3 - 4'	0.95 U	0.95 U	4.7 U	0.95 U	0.95 U	0.47 U	0.47 U	95 U	0.95 U
ICS-DOF-MW4-B	7 - 8'	0.96 U	0.96 U	4.8 U	0.96 U	0.96 U	0.48 U	0.48 U	96 U	0.96 U

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Endosulfan sulfate µg/kg, dry	4,4'-DDT µg/kg, dry	Methoxychlor µg/kg, dry	Endrin ketone µg/kg, dry	Endrin aldehyde µg/kg, dry	trans-Chlordane µg/kg, dry	cis-Chlordane µg/kg, dry	Toxaphene µg/kg, dry	Hexachlorobenzene µg/kg, dry
ICS-DOF-MW4-C	10 - 11'	0.97 U	0.97 U	4.8 U	0.97 U	0.97 U	0.48 U	0.48 U	97 U	0.97 U
ICS-DOF-MW4-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	0.92 U	0.92 U	4.6 U	0.92 U	0.92 U	0.46 U	0.46 U	92 U	0.92 U
ICS-DOF-MW5-B	7 - 8'	0.94 U	0.94 U	4.7 U	0.94 U	0.94 U	0.47 U	0.47 U	94 U	0.94 U
ICS-DOF-MW5-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	4.9 U	10 U	25 U	4.9 U	4.9 U	7.4 U	11 U	490 U	4.9 U
ICS-DOF-MW6-B	6 - 8'	4.8 U	72 U	24 U	4.8 U	43 U	7.5 U	11 U	480 U	4.8 U
ICS-DOF-DUP2	dup of MW6-B	4.8 U	67 U	24 U	59 U	41 U	9.1 U	14 U	480 U	4.8 U
ICS-DOF-MW6-C	9 - 10'	0.99 U	2.5 U	5.0 U	0.99 U	8.5 U	0.50 U	0.50 U	99 U	0.99 U
ICS-DOF-MW6-D	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	8.8 U	22 U	44 U	23 U	22 U	13 U	4.4 U	880 U	34
ICS-DOF-MW7-B	7 - 8'	0.98 U	0.98 U	4.9 U	0.98 U	0.98 U	0.49 U	0.49 U	98 U	0.98 U
ICS-DOF-MW7-C	11 - 12'	0.98 U	0.98 U	4.9 U	0.98 U	0.98 U	0.49 U	0.49 U	98 U	0.98 U
ICS-DOF-MW7-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	0.93 U	0.93 U	4.6 U	0.93 U	0.93 U	0.46 U	0.46 U	93 U	0.93 U
ICS-DOF-MW8-B	7 - 8'	0.99 U	0.99 U	5.0 U	0.99 U	0.99 U	0.50 U	0.50 U	99 U	0.99 U
ICS-DOF-MW8-C	11 - 12'	0.96 U	0.96 U	4.8 U	0.96 U	0.96 U	0.48 U	0.48 U	96 U	0.96 U
ICS-DOF-MW8-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	-----	-----	-----	-----	-----	-----	-----	-----	-----
Trip Blank (µg/L)	VOA trip blank	-----	-----	-----	-----	-----	-----	-----	-----	-----

Notes: J = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Hexachloro- butadiene µg/kg, dry	Aroclor 1016 µg/kg, dry	Aroclor 1242 µg/kg, dry	Aroclor 1248 µg/kg, dry	Aroclor 1254 µg/kg, dry	Aroclor 1260 µg/kg, dry	Aroclor 1221 µg/kg, dry	Aroclor 1232 µg/kg, dry	Total Detected PCBs µg/kg, dry
ICS-LP1-SO-A	3 - 5'	4.9 U	3.8 U	3.8 U	17 J_p	26	49	3.8 U	3.8 U	92
ICS-LP1-SO-B	6.5 - 8'	34 U	140 U	140 U	4100	4600	1900	140 U	140 U	10,600
ICS-LP1-SO-C	10.5 - 12'	0.94 U	3.9 U	3.9 U	10	12	12	3.9 U	3.9 U	34
ICS-LP1-SO-D	16 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP2-SO-A	3 - 5'	0.94 U	3.8 U	3.8 U	3.8 U	16	33	3.8 U	3.8 U	49
ICS-LP2-SO-B	5.5 - 7.5'	0.92 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-LP2-SO-C	8 - 10'	0.96 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-LP2-SO-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP3-SO-A	3 - 5'	6.7 U	130 U	130 U	1900 U	3300	520 U	130 U	130 U	3300
ICS-LP3-SO-B	6 - 8'	240 U	980 U	980 U	53,000	36,000	24,000	980 U	980 U	113,000
ICS-LP3-SO-C	10 - 12'	9.8 U	37 U	37 U	1000	760	310	37 U	37 U	2070
ICS-LP3-SO-D	15 - 16'	4.9 U	39 U	39 U	460	380	210	39 U	39 U	1050
ICS-LP4-SO-A	8 - 10'	41 U	200 U	200 U	7400	4000	3900	200 U	200 U	15,300
ICS-LP4-SO-B	10 - 12'	5.5 U	55 U	55 U	810	780	560	55 U	55 U	2150
ICS-LP4-SO-C	14 - 15'	0.91 U	3.8 U	3.8 U	31	21	12	3.8 U	3.8 U	64
ICS-LP4-SO-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW1-A	4 - 5'	0.94 U	3.7 U	3.7 U	9.3 U	83 U	470	3.7 U	3.7 U	470
ICS-DOF-MW1-B	6.5 - 7.5'	0.94 U	3.8 U	3.8 U	3.8 U	5.8	9.8	3.8 U	3.8 U	15.6
ICS-DOF-MW1-C	11 - 12'	0.97 U	3.8 U	3.8 U	6.4	7.6 U	26	3.8 U	3.8 U	32.4
ICS-DOF-MW2-A	2 - 3'	0.97 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
ICS-DOF-MW2-B	8 - 9'	0.94 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-DOF-MW2-C	12 - 13'	0.96 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-DOF-MW2-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-A	2 - 4'	0.95 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-DOF-DUP1	dup of MW3- A	0.94 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-DOF-MW3-B	7 - 8'	0.92 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U
ICS-DOF-MW3-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW3-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW4-A	3 - 4'	0.95 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-DOF-MW4-B	7 - 8'	0.96 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U

**TABLE 15 - Results of Soil Sample Analyses -
October 2012 (Revised)**

ICS/NW Cooperage Site
Seattle, Washington

Sample Location	Depth (feet)	Hexachloro- butadiene µg/kg, dry	Aroclor 1016 µg/kg, dry	Aroclor 1242 µg/kg, dry	Aroclor 1248 µg/kg, dry	Aroclor 1254 µg/kg, dry	Aroclor 1260 µg/kg, dry	Aroclor 1221 µg/kg, dry	Aroclor 1232 µg/kg, dry	Total Detected PCBs µg/kg, dry
ICS-DOF-MW4-C	10 - 11'	0.97 U	3.9 U	3.9 U	3.9 U	3.1 J	2.3 J	3.9 U	3.9 U	5.4
ICS-DOF-MW4-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-A	3 - 4'	0.92 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U
ICS-DOF-MW5-B	7 - 8'	0.94 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-DOF-MW5-C	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW5-D	17 - 18'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW6-A	3 - 5'	73	19 U	19 U	130	160	180	19 U	19 U	470
ICS-DOF-MW6-B	6 - 8'	52	20 U	20 U	260 J_P	390 U	1200	20 U	20 U	1460
ICS-DOF-DUP2	dup of MW6- B	65	19 U	19 U	200 J_P	240 U	740	19 U	19 U	940
ICS-DOF-MW6-C	9 - 10'	0.99 U	4.0 U	4.0 U	9.9 J_P	12 U	32	4.0 U	4.0 U	41.9
ICS-DOF-MW6-D	12 - 13'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW7-A	3 - 4'	8.8 U	140 U	140 U	220	210 U	670	140 U	140 U	890
ICS-DOF-MW7-B	7 - 8'	0.98 U	3.9 U	3.9 U	3.2 J	2.3 J	4.1 J_P	3.9 U	3.9 U	9.6
ICS-DOF-MW7-C	11 - 12'	0.98 U	3.9 U	3.9 U	3.3 J	2.4 J	2.5 J_P	3.9 U	3.9 U	8.2
ICS-DOF-MW7-D	16 - 17'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-DOF-MW8-A	3 - 4'	0.93 U	3.7 U	3.7 U	3.7 U	5.3	3.1 J	3.7 U	5.6 U	8.4
ICS-DOF-MW8-B	7 - 8'	0.99 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	4.9 U	4.9 U
ICS-DOF-MW8-C	11 - 12'	0.96 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-DOF-MW8-D	15 - 16'	-----	-----	-----	-----	-----	-----	-----	-----	-----
ICS-LP4-NAPL	4 - 5'	-----	-----	-----	-----	-----	-----	-----	-----	-----
Trip Blank (µg/L)	VOA trip blank	-----	-----	-----	-----	-----	-----	-----	-----	-----

Notes: *J* = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank

J_P = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	Collection Date	Comments	ARI Delivery Group	% solids %	TOC %	Chloride mg/L	Sulfate mg/L	Antimony		Arsenic	
									diss. µg/L	total µg/L	diss. µg/L	total µg/L
ICS-MH1-SW	water	8/3/2012	Upstream	VE83	-----	-----	6970	995	5 U	5 U	7	6
ICS-OUTF-SW	water	8/3/2012	Discharge	VE83	-----	-----	7710	1100	5 U	5 U	8	10

Sample Location	Matrix	Collection Date	Comments	pH SU	Conductivity uS	Temp. C	Dissolved Oxygen mg/l	Ferrous Iron mg/l	Turbidity NTU
ICS-MH1-SW	water	8/3/2012	Upstream	7.4	21580	16.1	8.6	0	6.5
ICS-OUTF-SW	water	8/3/2012	Discharge	7.4	23310	15.7	10	0	5.5

**Stormwater -
Solids Samples**

Sample Location	Matrix	Collection Date	Comments	ARI Delivery Group	% solids %	TOC %	Antimony mg/kg	Arsenic mg/kg	Beryllium mg/kg	Cadmium mg/kg	Chromium mg/kg	Copper mg/kg
ICS-MH1-SE	sediment	8/3/2012	Upstream	VE84	77	4.20	7 U	8	0.1 U	1.3	62.3	86.8

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	Beryllium		Cadmium		Calcium		Chromium		Copper	
		diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L
ICS-MH1-SW	water	2 U	2 U	2 U	2 U	-	150,000	10 U	10 U	10 U	10 U
ICS-OUTF-SW	water	2 U	2 U	2 U	2 U	-	169,000	10 U	10 U	10 U	10 U

**Stormwater -
Solids Samples**

Sample Location	Matrix	Iron mg/kg	Lead mg/kg	Mercury mg/kg	Nickel mg/kg	Silver mg/kg	Zinc mg/kg	Total Petroleum Hydrocarbons			Benzene µg/kg
								Gasoline- range mg/kg	Diesel- range mg/kg	Lube-range mg/kg	
ICS-MH1-SE	sediment	25,400	63	0.08	39	1.6	464	9.9 U	290	1400	25 U

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	Iron	Lead		Magnesium		Mercury		Nickel	
		ug/l	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L
ICS-MH1-SW	water	-----	0.5 U	1 U	-----	453,000	0.1 U	0.1 U	10 U	10 U
ICS-OUTF-SW	water	-----	1 U	1 U	-----	521,000	0.1 U	0.1 U	10 U	10 U

**Stormwater -
Solids Samples**

Sample Location	Matrix	Toluene	Ethylbenzene	<i>m</i> - & <i>p</i> - Xylenes	<i>o</i> -Xylene	Phenol	2-Chloro- phenol	1,3-Dichloro- benzene	1,4- Dichloro- benzene	Benzyl alcohol
		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
ICS-MH1-SE	sediment	25 U	25 U	50 U	25 U	500	71	4100	2900	160

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	Silver		Zinc		Hardness mg-CaCO ₃ /L	Total Petroleum Hydrocarbons		
		diss. µg/L	total µg/L	diss. µg/L	total µg/L		Gasoline-range	Diesel-range	Lube-range
						mg/L	mg/L	mg/L	
ICS-MH1-SW	water	5 U	5 U	100 U	100 U	2200	0.25 U	0.10 U	0.20 U
ICS-OUTF-SW	water	5 U	5 U	100 U	100 U	2600	0.25 U	0.10 U	0.20 U

**Stormwater -
Solids Samples**

Sample Location	Matrix	1,2-Dichloro- benzene	2-Methyl- phenol	4-Methyl- phenol	N-Nitroso-di- n- propylamine	Hexachloro- ethane	Nitrobenzene	Isophorone	2,4-Dimethyl- phenol
		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
ICS-MH1-SE	sediment	3400	23	90	18 U	18 U	18 U	18 U	18 U

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	Chloro- methane µg/L	Bromo- methane µg/L	Vinyl chloride µg/L	Chloro- ethane µg/L	Methylene chloride µg/L	Acetone µg/L	Carbon disulfide µg/L	1,1-Dichloro- ethene µg/L	1,1-Dichloro- ethane µg/L
ICS-MH1-SW	water	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	16	0.20 U	0.20 U	0.20 U
ICS-OUTF-SW	water	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.6	0.20 U	0.20 U	0.20 U

**Stormwater -
Solids Samples**

Sample Location	Matrix	Benzoic acid µg/kg	2,4- Dichloro- phenol µg/kg	1,2,4- Trichloro- benzene µg/kg	Naphthalene µg/kg	4-Chloro-3- methylphen- ol µg/kg	2-Methyl- naphthalene µg/kg	2,4,6- Trichloro- phenol µg/kg	2,4,5-Trichloro- phenol µg/kg	2-Chloro- naphthalene µg/kg
ICS-MH1-SE	sediment	770	180 U	5300	4100	93 U	70	93 U	93 U	2800

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	<i>trans</i> -1,2-Dichloroethene µg/L	<i>cis</i> -1,2-Dichloroethene µg/L	Chloroform µg/L	1,2-Dichloroethane µg/L	2-Butanone µg/L	1,1,1-Tri-chloroethane µg/L	Carbon tetrachloride µg/L	Bromo-dichloromethane µg/L
ICS-MH1-SW	water	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U
ICS-OUTF-SW	water	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U

**Stormwater -
Solids Samples**

Sample Location	Matrix	Dimethyl-phthalate µg/kg	Acenaph-thylene µg/kg	Acenaphthen e µg/kg	Dibenzofuran µg/kg	2,6-Dinitro-toluene µg/kg	2,4-Dinitro-toluene µg/kg	Diethyl-phthalate µg/kg	4-Chlorophenyl-phenylether µg/kg
ICS-MH1-SE	sediment	18 U	740	18	20	93 U	93 U	46 U	18 U

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	1,2-Dichloro- propane µg/L	<i>cis</i> -1,3-Dichloro- propene µg/L	Trichloro- ethene µg/L	Dibromo- chloromethane µg/L	1,1,2-Trichloro- ethane µg/L	Benzene µg/L	<i>trans</i> -1,3- Dichloropropene µg/L	Bromoform µg/L
ICS-MH1-SW	water	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-OUTF-SW	water	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U

**Stormwater -
Solids Samples**

Sample Location	Matrix	Fluorene µg/kg	N-Nitrosodi- phenylamine µg/kg	Pentachlo- rophenol µg/kg	Phenanthrene µg/kg	Carbazole µg/kg	Anthracene µg/kg	Di-n-butyl- phthalate µg/kg	Fluoranthene µg/kg
ICS-MH1-SE	sediment	32	18 U	44 U	1700	18 U	190	65	2200

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	4-Methyl-2-pentanone µg/L	2-Hexanone µg/L	Tetrachloro-ethene µg/L	1,1,2,2-Tetra-chloroethane µg/L	Toluene µg/L	Chloro-benzene µg/L	Ethyl-benzene µg/L	Styrene µg/L	Trichloro-fluoromethane µg/L
ICS-MH1-SW	water	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.21	0.20 U	0.20 U
ICS-OUTF-SW	water	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U

**Stormwater -
Solids Samples**

Sample Location	Matrix	Pyrene µg/kg	Butylbenzyl-phthalate µg/kg	Benzo(a)-anthracene µg/kg	<i>bis</i> (2-Ethylhexyl)-phthalate µg/kg	Chrysene µg/kg	Di-n-octyl-phthalate µg/kg	total Benzo-fluoranthenes µg/kg	Benzo(a)-pyrene µg/kg	Indeno(1,2,3-cd)pyrene µg/kg
ICS-MH1-SE	sediment	1700	82	240	3400	640	900	1400	500	260

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	1,1,2-Trichloro-1,2,2-trifluoroethane µg/L	<i>m</i> - & <i>p</i> - Xylenes µg/L	<i>o</i> -Xylene µg/L	1,2-Dichloro-benzene µg/L	1,3-Dichloro-benzene µg/L	1,4-Dichloro-benzene µg/L	Acrolein µg/L	Bromoethane µg/L
ICS-MH1-SW	water	0.20 U	0.71	0.29	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-OUTF-SW	water	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U

**Stormwater -
Solids Samples**

Sample Location	Matrix	Dibenz(a,h)anthracene µg/kg	Benzo(g,h,i)-perylene µg/kg	LPAH µg/kg	HPAH µg/kg	alpha-BHC µg/kg	beta-BHC µg/kg	delta-BHC µg/kg	gamma-BHC (Lindane) µg/kg
ICS-MH1-SE	sediment	44	210	6780	7194	6.0 U	4.0 U	39 U	1.6 U

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	1,1-Dichloro- propene µg/L	Dibromo- methane µg/L	1,1,1,2-Tetra- chloroethane µg/L	1,2,3-Trichloro- propane µg/L	<i>trans</i> -1,4-Dichloro-2- butene µg/L	1,3,5-Trimethyl- benzene µg/L	1,2,4-Trimethyl- benzene µg/L	Hexachloro- butadiene µg/L
ICS-MH1-SW	water	0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.59	<i>see Cl pest.</i>
ICS-OUTF-SW	water	0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	<i>see Cl pest.</i>

**Stormwater -
Solids Samples**

Sample Location	Matrix	Heptachlor µg/kg	Aldrin µg/kg	Heptachlor epoxide µg/kg	Endosulfan I µg/kg	Dieldrin µg/kg	4,4'-DDE µg/kg	Endrin µg/kg	Endosulfan II µg/kg
ICS-MH1-SE	sediment	1.6 U	1.6 U	1.6 U	1.6 U	3.2 U	3.2 U	3.2 U	3.2 U

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	Ethylene dibromide µg/L	Bromochloro- methane µg/L	2,2-Dichloro- propane µg/L	1,3-Dichloro- propane µg/L	Isopropyl- benzene µg/L	n-Propyl- benzene µg/L	Bromo- benzene µg/L	2-Chloro- toluene µg/L	4-Chloro- toluene µg/L
ICS-MH1-SW	water	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-OUTF-SW	water	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U

**Stormwater -
Solids Samples**

Sample Location	Matrix	4,4'-DDD µg/kg	Endosulfan sulfate µg/kg	4,4'-DDT µg/kg	Methoxychlor µg/kg	Endrin ketone µg/kg	Endrin aldehyde µg/kg	trans- Chlordane µg/kg	cis- Chlordane µg/kg	Hexachloro- benzene µg/kg
ICS-MH1-SE	sediment	3.2 U	3.2 U	6.4 U	16 U	3.2 U	3.2 U	6.7 U	2.8 U	230 J_Q

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	<i>tert</i> -Butyl- benzene µg/L	<i>sec</i> -Butyl- benzene µg/L	4-Isopropyl- toluene µg/L	n-Butyl- benzene µg/L	1,2,4- Trichloro- benzene µg/L	Naphtha- lene µg/L	1,2,3- Trichloro- benzene µg/L	Phenol µg/L	2-Chloro- phenol µg/L
ICS-MH1-SW	water	0.20 U	0.20 U	0.20 U	0.20 U	<i>see SVOC's</i>	<i>see SVOC's</i>	0.50 U	1.0 U	1.0 U
ICS-OUTF-SW	water	0.20 U	0.20 U	0.20 U	0.20 U	<i>see SVOC's</i>	<i>see SVOC's</i>	0.50 U	1.0 U	1.0 U

**Stormwater -
Solids Samples**

Sample Location	Matrix	Hexachloro- butadiene µg/kg	Aroclor 1016 µg/kg	Aroclor 1242 µg/kg	Aroclor 1248 µg/kg	Aroclor 1254 µg/kg	Aroclor 1260 µg/kg	Aroclor 1221 µg/kg	Aroclor 1232 µg/kg	Total Detected PCBs µg/L
ICS-MH1-SE	sediment	1.6 U	3.7 U	3.7 U	31	36	38	3.7 U	3.7 U	105

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	1,3-Dichloro- benzene µg/L	1,4-Dichloro- benzene µg/L	Benzyl alcohol µg/L	1,2-Dichloro- benzene µg/L	2-Methyl- phenol µg/L	4-Methyl- phenol µg/L	N-Nitrosodi-n- propylamine µg/kg	Hexachloro- ethane µg/L
ICS-MH1-SW	water	<i>see VOC's</i>	<i>see VOC's</i>	5.0 U	<i>see VOC's</i>	1.0 U	1.0 U	-----	1.0 U
ICS-OUTF-SW	water	<i>see VOC's</i>	<i>see VOC's</i>	5.0 U	<i>see VOC's</i>	1.0 U	1.0 U	-----	1.0 U

**Stormwater -
Solids Samples**

Sample Location	Matrix	gravel > 2000 µm %	very coarse sand 2000 - 1000 µm %	coarse sand 1000 - 500 µm %	medium sand 500 - 250 µm %	fine sand 250 - 125 µm %	very fine sand 125 - 62 µm %	coarse silt 62 - 31 µm %	medium silt 31 - 15.6 µm %
ICS-MH1-SE	sediment	15.2	23.0	22.5	12.5	6.8	3.7	2.6	6.3

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	Nitrobenzene µg/L	Isophorone µg/L	2,4-Dimethyl- phenol µg/L	Benzoic acid µg/L	2,4-Dichloro- phenol µg/L	1,2,4-Trichloro- benzene µg/L	Naphthalene µg/L	4-Chloro-3- methylphenol µg/L
ICS-MH1-SW	water	1.0 U	1.0 U	1.0 U	10 U	5.0 U	1.0 U	0.10 U	5.0 U
ICS-OUTF-SW	water	1.0 U	1.0 U	1.0 U	10 U	5.0 U	1.0 U	0.10 U	5.0 U

**Stormwater -
Solids Samples**

Sample Location	Matrix	fine silt 15.6 - 7.8 µm %	very fine silt 7.8 - 3.9 µm %	total silt 32 - 3.2 µm %	clay			total fines < 62 µm %	2,3,7,8-TCDF ng/kg, dry
					3.9 - 2.0 µm %	2.0 - 1.0 µm %	< 1.0 µm %		
ICS-MH1-SE	sediment	4.6	1.6	15.1	0.2	0.2	0.8	16.3	1.54

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	2-Methyl-naphthalene µg/L	2,4,6-Trichloro-phenol µg/L	2,4,5-Trichloro-phenol µg/L	2-Chloro-naphthalene µg/L	Dimethyl-phthalate µg/L	Acenaphthylene µg/L	Acenaphthene µg/L	Dibenzo-furan µg/L
ICS-MH1-SW	water	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U	1.0 U
ICS-OUTF-SW	water	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U	1.0 U

**Stormwater -
Solids Samples**

Sample Location	Matrix	total TCDF ng/kg, dry	2,3,7,8-TCDD ng/kg, dry	total TCDD ng/kg, dry	1,2,3,7,8-PeCDF ng/kg, dry	2,3,4,7,8-PeCDF ng/kg, dry	total PeCDF ng/kg, dry	1,2,3,7,8-PeCDD ng/kg, dry	total PeCDD ng/kg, dry
ICS-MH1-SE	sediment	25.0	0.772 J	6.10	1.18 J	1.77 J	50.3	3.67 J	19.6

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	2,6-Dinitro- toluene µg/L	2,4-Dinitro- toluene µg/L	Diethyl- phthalate µg/L	4-Chlorophenyl- phenylether µg/L	Fluorene µg/L	N-Nitrosodi- phenylamine µg/L	Pentachloro- phenol µg/L	Phenanthrene µg/L
ICS-MH1-SW	water	5.0 U	5.0 U	1.0 U	1.0 U	0.10 U	1.0 U	5.0 U	0.10 U
ICS-OUTF-SW	water	5.0 U	5.0 U	1.0 U	1.0 U	0.10 U	1.0 U	5.0 U	0.10 U

**Stormwater -
Solids Samples**

Sample Location	Matrix	1,2,3,4,7,8- HxCDF ng/kg, dry	1,2,3,6,7,8- HxCDF ng/kg, dry	2,3,4,6,7,8- HxCDF ng/kg, dry	1,2,3,7,8,9- HxCDF ng/kg, dry	total HxCDF ng/kg, dry	1,2,3,4,7,8- HxCDD ng/kg, dry	1,2,3,6,7,8- HxCDD ng/kg, dry	1,2,3,7,8,9- HxCDD ng/kg, dry
ICS-MH1-SE	sediment	4.94 J	3.35 J	4.78 J	1.20 J	89.1	5.41	17.7	12.0

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	Carbazole µg/L	Anthracene µg/L	Di-n-butyl- phthalate µg/L	Fluoranthene µg/L	Pyrene µg/L	Butylbenzyl- phthalate µg/L	Benzo(a)- anthracene µg/L	bis (2-Ethylhexyl)- phthalate µg/L
ICS-MH1-SW	water	1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	1.1
ICS-OUTF-SW	water	1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	1.0 U

**Stormwater -
Solids Samples**

Sample Location	Matrix	total HxCDD ng/kg, dry	1,2,3,4,6,7,8- HpCDF ng/kg, dry	1,2,3,4,7,8,9- HpCDF ng/kg, dry	total HpCDF ng/kg, dry	1,2,3,4,6,7,8- HpCDD ng/kg, dry	total HpCDD ng/kg, dry	OCDF ng/kg, dry	OCDD ng/kg, dry
ICS-MH1-SE	sediment	117	59.2	3.30 J	155	364	677	126	2590

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	Chrysene µg/L	Di-n-octyl- phthalate µg/L	total Benzo- fluoranthenes µg/L	Benzo(a)- pyrene µg/L	Indeno(1,2,3- cd)pyrene µg/L	Dibenz(a,h)- anthracene µg/L	Benzo(g,h,i)- perylene µg/L	LPAH µg/L	HPAH µg/L
ICS-MH1-SW	water	0.10 U	1.0 U	0.20 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.20 U
ICS-OUTF-SW	water	0.10 U	1.0 U	0.20 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.20 U

**Stormwater -
Solids Samples**

Sample Location	Matrix	2,3,7,8-TCDD (TEQ)	
		ND=0 ng/kg, dry	ND/2 ng/kg, dry
ICS-MH1-SE	sediment	15.2	15.2

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.
 ND = Not detected

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	alpha-BHC µg/L	beta-BHC µg/L	delta-BHC µg/L	gamma-BHC (Lindane) µg/L	Heptachlor µg/L	Aldrin µg/L	Heptachlor epoxide µg/L	Endosulfan I µg/L	Dieldrin µg/L	4,4'-DDE µg/L
ICS-MH1-SW	water	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U
ICS-OUTF-SW	water	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U

**Stormwater -
Solids Samples**

Sample Location	Matrix
ICS-MH1-SE	sediment

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	Endrin µg/L	Endosulfan II µg/L	4,4'-DDD µg/L	Endosulfan sulfate µg/L	4,4'-DDT µg/L	Methoxychlor µg/L	Endrin ketone µg/L	Endrin aldehyde µg/L	trans- Chlordane µg/L	cis- Chlordane µg/L
ICS-MH1-SW	water	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U
ICS-OUTF-SW	water	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U

**Stormwater -
Solids Samples**

Sample Location	Matrix
ICS-MH1-SE	sediment

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

**TABLE 16 - Results of Stormwater System
Sample Analyses**

**Stormwater -
Liquid Samples**

Sample Location	Matrix	Hexachloro- benzene µg/L	Hexachloro- butadiene µg/L	Aroclor 1016 µg/L	Aroclor 1242 µg/L	Aroclor 1248 µg/L	Aroclor 1254 µg/L	Aroclor 1260 µg/L	Aroclor 1221 µg/L	Aroclor 1232 µg/L	Total Detected PCBs µg/L
ICS-MH1-SW	water	0.050 U	0.050 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
ICS-OUTF-SW	water	0.050 U	0.050 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.015 U	0.015 U

**Stormwater -
Solids Samples**

Sample Location	Matrix
ICS-MH1-SE	sediment

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.
 U = nondetected at the associated lower reporting limit.
 J_Q = estimate; due to noncompliant CCV check.
 J = estimate associated with value less than the verifiable lower quantitation limit.

TABLE 17 - Results of Baghouse Dust and Furnace Ash Analyses - August 2012

Sample	Matrix	Collection Date	Comments	ARI Delivery Group	% solids %	Antimony mg/kg	Arsenic mg/kg	Beryllium mg/kg	Cadmium mg/kg	Chromium mg/kg	Copper mg/kg	Lead mg/kg	Mercury mg/kg
ICS-ASH	ash	8/13/12	<i>furnace</i>	VF62	71	33.7	4.7	0.2 U	3.9	2110	1830	226	0.05
ICS-DUST	dust	8/13/12	<i>baghouse</i>	VF62	100	0.5	8.3	0.2 U	0.3	1150	653	1200	0.02 U

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.

U = nondetected at the associated lower reporting limit.

J_Q = estimate; due to noncompliant CCV check.

J = estimate associated with value less than the verifiable lower quantitation limit.

TABLE 17 - Results of Baghouse Dust and Furnace Ash Analyses - August 2012

Sample	Matrix	Nickel mg/kg	Silver mg/kg	Zinc mg/kg	Phenol µg/kg	2-Chloro-phenol µg/kg	1,3-Dichloro-benzene µg/kg	1,4-Dichloro-benzene µg/kg	Benzyl alcohol µg/kg	1,2-Dichloro-benzene µg/kg	2-Methyl-phenol µg/kg	4-Methyl-phenol µg/kg
ICS-ASH	ash	171	13.7 J_R	3680	45,000	190 U	48 U	48 U	3300	48 U	1900	1000
ICS-DUST	dust	107	1.6	2380	350	18 U	4.5 U	6.3	60	7.0	33	47

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.

U = nondetected at the associated lower reporting limit.

J_Q = estimate; due to noncompliant CCV check.

J = estimate associated with value less than the verifiable lower quantitation limit.

TABLE 17 - Results of Baghouse Dust and Furnace Ash Analyses - August 2012

Sample	Matrix	N-Nitrosodi-n-propylamine µg/kg	Hexachloro-ethane µg/kg	Nitrobenzene µg/kg	Isophorone µg/kg	2,4-Dimethyl-phenol µg/kg	Benzoic acid µg/kg	2,4-Dichloro-phenol µg/kg	1,2,4-Trichloro-benzene µg/kg	Naphthalene µg/kg
ICS-ASH	ash	190 U	190 U	190 U	220,000	790	3900 U	1900 U	48 U	91,000
ICS-DUST	dust	18 U	18 U	18 U	210	18 U	730	180 U	4.5 U	160

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.

U = nondetected at the associated lower reporting limit.

J_Q = estimate; due to noncompliant CCV check.

J = estimate associated with value less than the verifiable lower quantitation limit.

TABLE 17 - Results of Baghouse Dust and Furnace Ash Analyses - August 2012

Sample	Matrix	4-Chloro-3-methylphenol µg/kg	2-Methylnaphthalene µg/kg	2,4,6-Trichlorophenol µg/kg	2,4,5-Trichlorophenol µg/kg	2-Chloronaphthalene µg/kg	Dimethylphthalate µg/kg	Acenaphthylene µg/kg	Acenaphthene µg/kg	Dibenzofuran µg/kg
ICS-ASH	ash	970 U	22,000	970 U	970 U	190 U	81,000	190 U	360	190 U
ICS-DUST	dust	90 U	39	90 U	90 U	18 U	18 U	18 U	18 U	18 U

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.

U = nondetected at the associated lower reporting limit.

J_Q = estimate; due to noncompliant CCV check.

J = estimate associated with value less than the verifiable lower quantitation limit.

TABLE 17 - Results of Baghouse Dust and Furnace Ash Analyses - August 2012

Sample	Matrix	2,6-Dinitro- toluene µg/kg	2,4-Dinitro- toluene µg/kg	Diethyl- phthalate µg/kg	4-Chlorophenyl- phenylether µg/kg	Fluorene µg/kg	N-Nitrosodi- phenylamine µg/kg	Pentachloro- phenol µg/kg	Phenanthrene µg/kg	Carbazole µg/kg
ICS-ASH	ash	970 U	970 U	480 U	190 U	640	2800	480 U	760	190 U
ICS-DUST	dust	90 U	90 U	45 U	18 U	18 U	18 U	45 U	18 U	18 U

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.

U = nondetected at the associated lower reporting limit.

J_Q = estimate; due to noncompliant CCV check.

J = estimate associated with value less than the verifiable lower quantitation limit.

TABLE 17 - Results of Baghouse Dust and Furnace Ash Analyses - August 2012

Sample	Matrix	Anthracene µg/kg	Di-n-butyl-phthalate µg/kg	Fluoranthene µg/kg	Pyrene µg/kg	Butylbenzyl-phthalate µg/kg	Benzo(a)-anthracene µg/kg	bis (2-Ethylhexyl)-phthalate µg/kg	Chry-sene µg/kg	Di-n-octyl-phthalate µg/kg
ICS-ASH	ash	190 U	9300	340	350	5600	190 U	26,000	350	190 U
ICS-DUST	dust	18 U	640	18 U	18 U	120	18 U	2000	18 U	49

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.

U = nondetected at the associated lower reporting limit.

J_Q = estimate; due to noncompliant CCV check.

J = estimate associated with value less than the verifiable lower quantitation limit.

TABLE 17 - Results of Baghouse Dust and Furnace Ash Analyses - August 2012

Sample	Matrix	total Benzo-fluoranthenes µg/kg	Benzo(a)-pyrene µg/kg	Indeno(1,2,3-cd)pyrene µg/kg	Dibenz(a,h)-anthracene µg/kg	Benzo(g,h,i)-perylene µg/kg	LPAH µg/kg	HPAH µg/kg	Hexachlorobenzene µg/kg	Hexachlorobutadiene µg/kg
ICS-ASH	ash	390 U	190 U	190 U	190 U	190 U	92,760	1040	190 U	190 U
ICS-DUST	dust	36 U	18 U	18 U	18 U	18 U	160	36 U	18	18 U

Notes: J_R = estimate; due to low matrix spike recovery. Value likely biased low.

U = nondetected at the associated lower reporting limit.

J_Q = estimate; due to noncompliant CCV check.

J = estimate associated with value less than the verifiable lower quantitation limit.

TABLE 18 - Phase 2 RI - Sampling and Analysis Summary

Location ID	Minimum Approximate Boring Depth (target screen depth) (feet bgs) ^(a)	Potential Source Areas of Interest / Data Gap Area				COPCs / Analytical Tests ^(b)										Approximate Soil Sampling Depths (feet bgs) ^(c, d, e, g)										Groundwater Samples	Data Gaps Addressed / Rationale			
		Lagoon	Shoreline	Site Interior	Upstream Junkyard	Total Metals (Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Ag, Zn and Hg) Soil and GW Samples (f)	Dissolved Metals (Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Ag, Zn and Hg) - GW samples only (f)	VOCs	SVOCs (full list including PAHs)	PCBs	TPH (Gasoline, Diesel, Oil)	Pesticides	TCLP (RCRA Metals) - Soil Samples Only	Dioxin/Furans (soils only)	Chloride, Sulfate, Sodium and Hardness - GW Only	Hexavalent Chromium (GW only)	3 to 5	6 to 8	9 to 11	12 to 14	15 to 17	20 to 25	30 to 35	40 to 45	50+					
Push-Probes																														
P11	22			X		X	X	X	X	X	X	X					X	X	X	A	X	A	X	A					From near water table at time of drilling	Assess soil and groundwater quality beneath upstairs conditioning plant upgradient of DOF-MW8; provide data to locate Phase 2b monitoring wells
P12	22			X		X	X	X	X	X	X	X					X	X	X	A	X	A	X	A					From near water table at time of drilling	Assess soil and groundwater quality beneath upstairs conditioning plant generally upgradient and in vicinity of monitoring well DOF-MW8; provide data to locate Phase 2b monitoring wells
P13	22			X		X	X	X	X	X	X	X					X	X	X	A	X	A	X	A					From near water table at time of drilling	Assess soil and groundwater quality beneath upstairs conditioning plant generally upgradient and in vicinity of monitoring wells DOF-MW7 and DOF-MW8; provide data to locate Phase 2b monitoring wells
P14	22			X		X	X	X	X	X	X	X					X	X	X	A	X	A	X	A					From near water table at time of drilling	Assess soil and groundwater quality beneath inside wash plant generally upgradient monitoring well DOF-MW7; provide data to locate Phase 2b monitoring wells.
P15	22			X		X	X	X	X	X	X	X					X	X	X	A	X	A	X	A					From near water table at time of drilling	Assess soil and groundwater quality beneath inside wash plant generally upgradient and in vicinity of monitoring well DOF-MW7; provide data to locate Phase 2b monitoring wells
P16	22			X		X	X	X	X	X	X	X					X	X	X	A	X	A	X	A					From near water table at time of drilling	Assess soil and groundwater quality beneath northeastern portion of operations area; provide data to locate Phase 2b monitoring wells
P17	22		X			X		X	X	X	X	X					X	A	X	A	X	A						None	Assess soil quality along shoreline between DOF-MW6 and embayment; provide data to locate Phase 2b monitoring wells	
P18	52	X				X	X	X	X	X	X	X					X	X	X	A	X	A	X	A	X	A	A	10 to 15 feet below visual residues and approx. 50 feet bgs.	Assess deeper geology and soil and deeper groundwater quality near northern end of identified former lagoon area; provide data on possible fresh/saline groundwater mixing beneath site; and provide data to locate Phase 2b monitoring wells.	
P19	22	X				X		X	X	X	X	X					X	A	X	A	X	A						None	Assess western extent of former lagoon residues	
P20	22	X				X	X	X	X	X	X	X					X	X	X	A	X	A	X	A				From approx. depth interval of residues (8 to 12 feet bgs).	Assess eastern extent of former lagoon residues and possible constituent migration in groundwater from residues	
P21	52	X				X	X	X	X	X	X	X					X	X	X	A	X	A	X	A	X	A	A	10 to 15 feet below visual residues and approx. 50 feet bgs.	Assess deeper geology and deeper soil and groundwater quality near middle portion of former lagoon area; assess extent of soil with PCB concentrations greater than 50 ppm (TSCA waste); provide data on possible fresh/saline groundwater mixing beneath site; and provide data to locate Phase 2b monitoring wells.	
P22	22	X				X		X	X	X	X	X					X	A	X	A	X	A						None	Assess eastern extent of former lagoon residues	
P23	22	X				X	X	X	X	X	X	X					X	X	X	A	X	A	X	A				From approx. depth interval of residues (8 to 12 feet bgs).	Assess eastern extent of former lagoon residues and possible constituent migration in groundwater from residues	
P24	22	X				X		X	X	X	X	X					X	A	X	A	X	A						None	Assess southern extent of former lagoon residues with PCBs greater than 50 ppm	
P25	22	X				X		X	X	X	X	X					X	A	X	A	X	A						None	Assess western extent of former lagoon residues	
P26	22	X				X	X	X	X	X	X	X					X	X	X	A	X	A	X	A				From approx. depth interval of residues (8 to 12 feet bgs).	Assess eastern extent of former lagoon residues and possible constituent migration in groundwater from residues	
P27	52	X				X	X	X	X	X	X	X					X	X	X	A	X	A	X	A	X	A	A	10 to 15 feet below visual residues and approx. 50 feet bgs.	Assess deeper geology and soil and deeper groundwater quality near southern end of identified former lagoon/slough area; provide data on possible fresh/saline groundwater mixing beneath site; and provide data to locate Phase 2b monitoring wells.	
P28	52		X			X	X	X	X	X	X	X					X	X	X	A	X	A	X	A	X	A	A	Sample GW target screening depth well Ba (25 to 30 feet bgs)	Assess deeper geology and soil and deeper groundwater quality near southern end of identified former lagoon/slough area; provide data on possible fresh/saline groundwater mixing beneath site; and provide data to locate Phase 2b monitoring wells.	
P29	52		X			X	X	X	X	X	X	X					X	X	X	A	X	A	X	A	X	A	A	Sample GW target screening depth well J (30 to 35 feet bgs)	Assess deeper geology and soil and deeper groundwater quality near southern end of identified former lagoon/slough area; provide data on possible fresh/saline groundwater mixing beneath site; and provide data to locate Phase 2b monitoring wells.	
P30	52		X			X	X	X	X	X	X	X					X	X	X	A	X	A	X	A	X	A	A	Sample GW target screening depth well F (25 to 30 feet bgs)	Assess deeper geology and soil and deeper groundwater quality along embayment shoreline; provide data on possible fresh/saline groundwater mixing beneath site; and provide data to locate Phase 2b monitoring wells.	
P31	52		X			X	X	X	X	X	X	X					X	X	X	A	X	A	X	A	X	A	A	Sample GW target screening depth well G (25 to 30 feet bgs)	Assess deeper geology and soil and deeper groundwater quality along embayment shoreline; provide data on possible fresh/saline groundwater mixing beneath site; and provide data to locate Phase 2b monitoring wells.	
P32	52			X		X	X	X	X	X	X	X					X	X	X	A	X	A	X	A	X	A	A	Sample GW 10 and 20 feet below bottom of DOF-MW1 screen	Assess deeper geology and soil and deeper groundwater quality downgradient of drum reconditioning plant; provide data on possible fresh/saline groundwater mixing beneath site; and provide data to locate Phase 2b monitoring wells.	
P33	52	X				X	X	X	X	X	X	X					X	X	X	A	X	A	X	A	X	A	A	Sample GW 10 and 20 feet below bottom of DOF-MW1 screen	Assess deeper geology and soil and deeper groundwater quality downgradient of southern portion of site and on upgradient side of former ditch; provide data on possible fresh/saline groundwater mixing beneath site; and provide data to locate Phase 2b monitoring wells.	
P34	22				X	X	X	X	X	X	X	X					X	X	X	A	X	A	X	A				From near water table and ten feet below water table at time of drilling	Assess possible ditch residues and groundwater constituent migration from former junkyard south of ICS/NWC property	

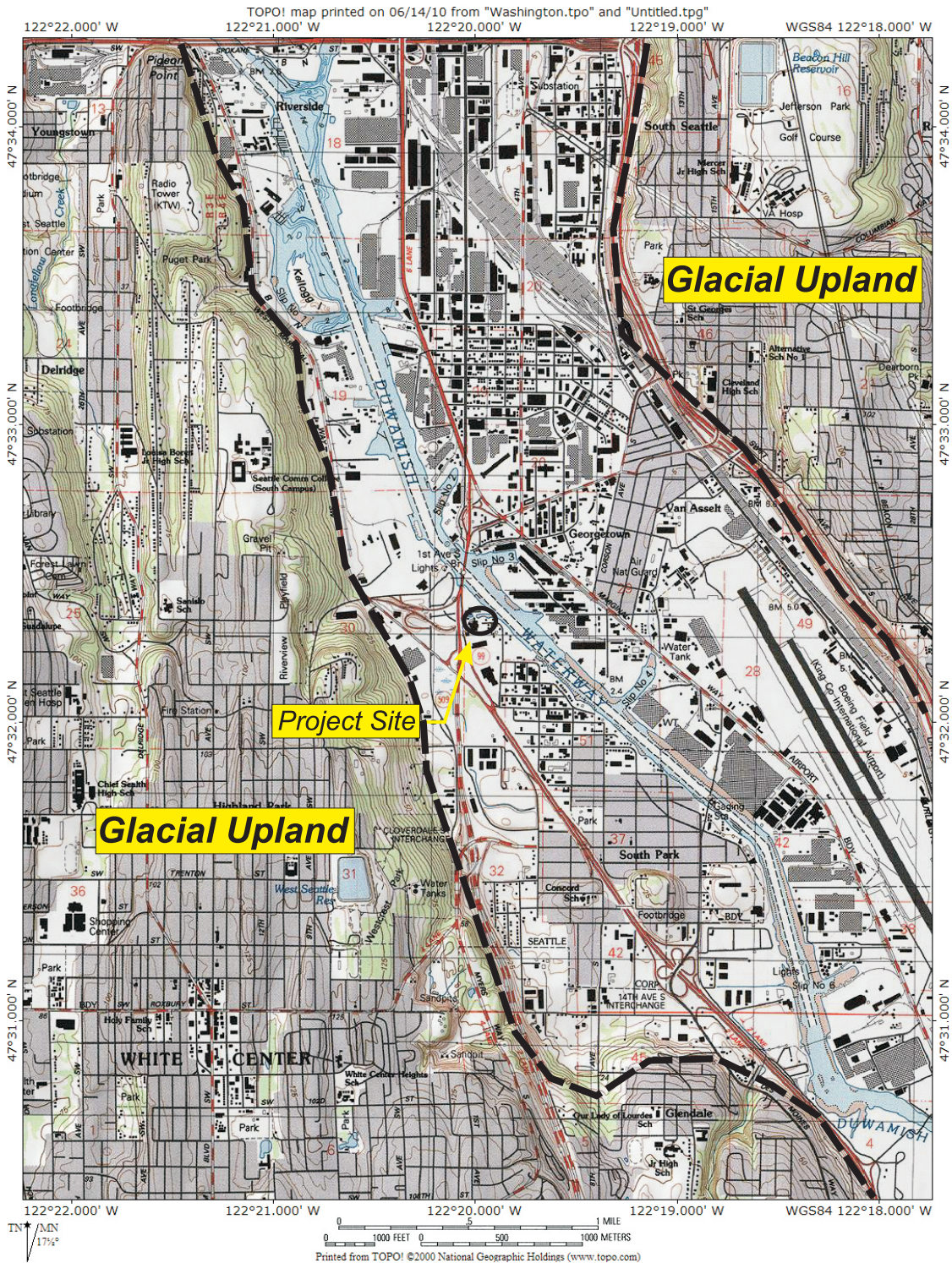
TABLE 18 - Phase 2 RI - Sampling and Analysis Summary

Location ID	Minimum Approximate Boring Depth (target screen depth) (feet bgs) ^(a)	Potential Source Areas of Interest / Data Gap Area				COPCs / Analytical Tests ^(b)										Approximate Soil Sampling Depths (feet bgs) ^(c, d, e, g)										Groundwater Samples	Data Gaps Addressed / Rationale		
		Lagoon	Shoreline	Site Interior	Upstream Junkyard	Total Metals (Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Ag, Zn and Hg) Soil and GW Samples (f)	Dissolved Metals (Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Ag, Zn and Hg) - GW samples only (f)	VOCs	SVOCs (full list including PAHs)	PCBs	TPH (Gasoline, Diesel, Oil)	Pesticides	TCLP (RCRA Metals) - Soil Samples Only	Dioxin/Furans (soils only)	Chloride, Sulfate, Sodium and Hardness - GW Only	Hexavalent Chromium (GW only)	3 to 5	6 to 8	9 to 11	12 to 14	15 to 17	20 to 25	30 to 35	40 to 45	50+				
P35	22				X	X	X	X	X	X	X	X			X	X	X	A	X	A	X	A						From near water table and ten feet below water table at time of drilling	Assess possible ditch residues and groundwater constituent migration from former junkyard south of ICS/NWC property
P36	22				X	X	X	X	X	X	X			X	X	X	A	X	A	X	A						From near water table and ten feet below water table at time of drilling	Assess possible ditch residues and groundwater constituent migration from former junkyard south of ICS/NWC property	
Monitoring Well Borings																													
A	17 (4 to 9 feet)		X			X	X	X	X	X	X			X	X	X	A	X	A	X							Sample 4 quarters	Assess constituent migration to head of embayment and refine area of concern	
Ba	30 (25 to 30 feet)		X			X	X	X	X	X	X			X	X	Use sampling from probe P28										Sample 4 quarters	Assess presence of vertical hydraulic gradients and vertical extent of groundwater constituent migration along shoreline		
C	22 (see GW spl. column)			X		X	X	X	X	X	X			X	X	X	A	X	A	X	A						Screen above silt and across water table; sample 4 quarters	Refine area of concern and possible soil contamination above underlying silt layer; assess presence of LNAPL	
D	22 (see GW spl. column)			X		X	X	X	X	X	X			X	X	X	A	X	A	X	A						Screen above silt and across water table; sample 4 quarters	Refine area of concern and possible soil contamination above underlying silt layer; assess presence of LNAPL	
E	11 (5 to 10 feet)			X		X	X	X	X	X	X			X	X	X	A	X								Screen across water table above DOF-MW7; sample 4 quarters	Assess presence of LNAPL and quality of shallow groundwater		
F	30 (25 to 30 feet)		X			X	X	X	X	X	X			X	X	Use sampling from probe P30										Screen below HC-B1; sample 4 quarters	Assess presence of vertical hydraulic gradients and vertical extent of groundwater constituent migration along shoreline		
G	30 (25 to 30 feet)		X			X	X	X	X	X	X			X	X	Use sampling from probe P31										Screen below SA-MW-3; sample 4 quarters	Assess presence of vertical hydraulic gradients and vertical extent of groundwater constituent migration along shoreline		
Ha	15 (5 to 15 feet)	X (off-site)				X	X	X	X	X	X			X	X	Use sampling from probe Hb										Screen above silt and across water table; sample 4 quarters	Assess off-site downgradient constituent migration in shallow groundwater		
Hb	32 (25 to 30 feet)	X (off-site)				X	X	X	X	X	X			X	X	X	A	X	A	X	A	X					Sample 4 quarters	Assess off-site downgradient constituent migration from lagoon area in deeper groundwater	
I	22 (5 to 15 feet)	X (off-site)				X	X	X	X	X	X			X	X	X	A	X	A	X	A					Screen above silt and across water table; sample 4 quarters	Assess off-site downgradient constituent migration from lagoon area in shallow groundwater		
J	30 (30 to 35 feet)		X			X	X	X	X	X	X			X	X	Use sampling from probe P29										Screen below SA-MW-1; sample 4 quarters	Assess presence of vertical hydraulic gradients and vertical extent of groundwater constituent migration along shoreline		
K	11 (5 to 10 feet)			X		X	X	X	X	X	X			X	X	X	A	X								Screen across water table above DOF-MW8; sample 4 quarters	Assess presence of LNAPL and quality of shallow groundwater		
L	11 (5 to 10 feet)	X				X	X	X	X	X	X			X	X	X	A	X							Screen across water table above DOF-MW1; sample 4 quarters	Assess presence of LNAPL and quality of shallow groundwater on upgradient side of lagoon in southern portion of site			
HC-B2 R	10 (5 to 10 feet)	X				X	X	X	X	X	X			X	X	Use sampling from probe P18										Screen across water table; sample 4 quarters	Replacement well; assess presence of LNAPL and shallow groundwater quality at northern head of former lagoon		
LNAPL-1	10 (5 to 10 feet)		X			X	X	X	X	X	X			X	X	Use sampling from probe P28										Screen across water table above DOF-MW6; sample 4 quarters	Assess presence of LNAPL along shoreline		
LNAPL-2	11 (5 to 10 feet)		X			X	X	X	X	X	X			X	X	X	A	X							Screen across water table; assess LNAPL 4 quarters	Assess presence of LNAPL along shoreline			
LNAPL-3	11 (5 to 10 feet)		X			X	X	X	X	X	X			X	X	X	A	X							Screen across water table; assess LNAPL 4 quarters	Assess presence of LNAPL along shoreline			

Notes:

- (a) Indicated boring depths are minimum depths. Boring will be advanced to greater depths, and additional samples collected, if field observations indicate potential COPC impacts at the targeted bottom depth.
- (b) Refer to the Work Plan (DOF 2012) as amended by Table D5 (Attachment D) for mercury and pesticides or information regarding specific analytical methods, detection limits, and PQLs.
- (c) Sample depths are based on the top of the sampling interval (maximum 1-foot interval). Sample interval may be modified based on field observations (i.e., listed depth may be the middle or bottom of the interval), but will include the indicated depth.
- (d) Table shows the minimum number of samples to be collected at each boring. Additional samples will be collected and submitted for laboratory analysis if field observations indicate potential COPC impacts.
- (e) Archived samples may be submitted for laboratory analysis based on the results of the initial soil analyses.
- (f) Push-probe grab (screening) groundwater samples will be analyzed for total and dissolved metals; the samples for dissolved metal analysis will be field filtered prior to preservation.

(g) Soils will include samples of silt layer if encountered
GW - Groundwater



ICS/NW Cooprage Site

Vicinity Map

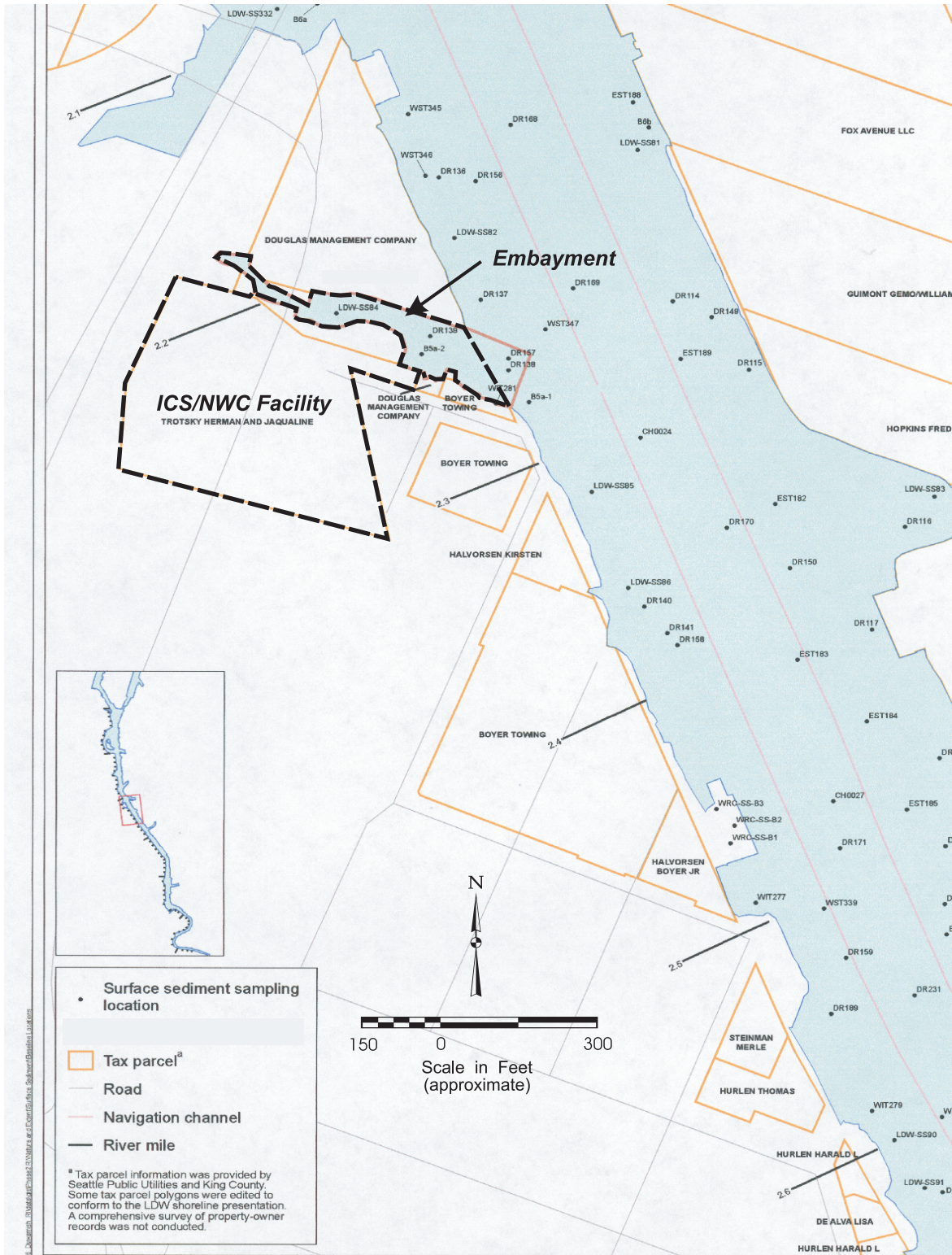
SUM-008-00 (ICS)

June 2010

Dalton, Olmsted & Fuglevand, Inc.

FIGURE

1



ICS/NW Cooperage Site

Project Site Area and Lower Duwamish Waterway

SUM-008-00 (ICS) Sept. 2014

Dalton, Olmsted & Fuglevand, Inc.

FIGURE 2



Scale in Feet
(approximate)

ICS/NW Cooperage Site

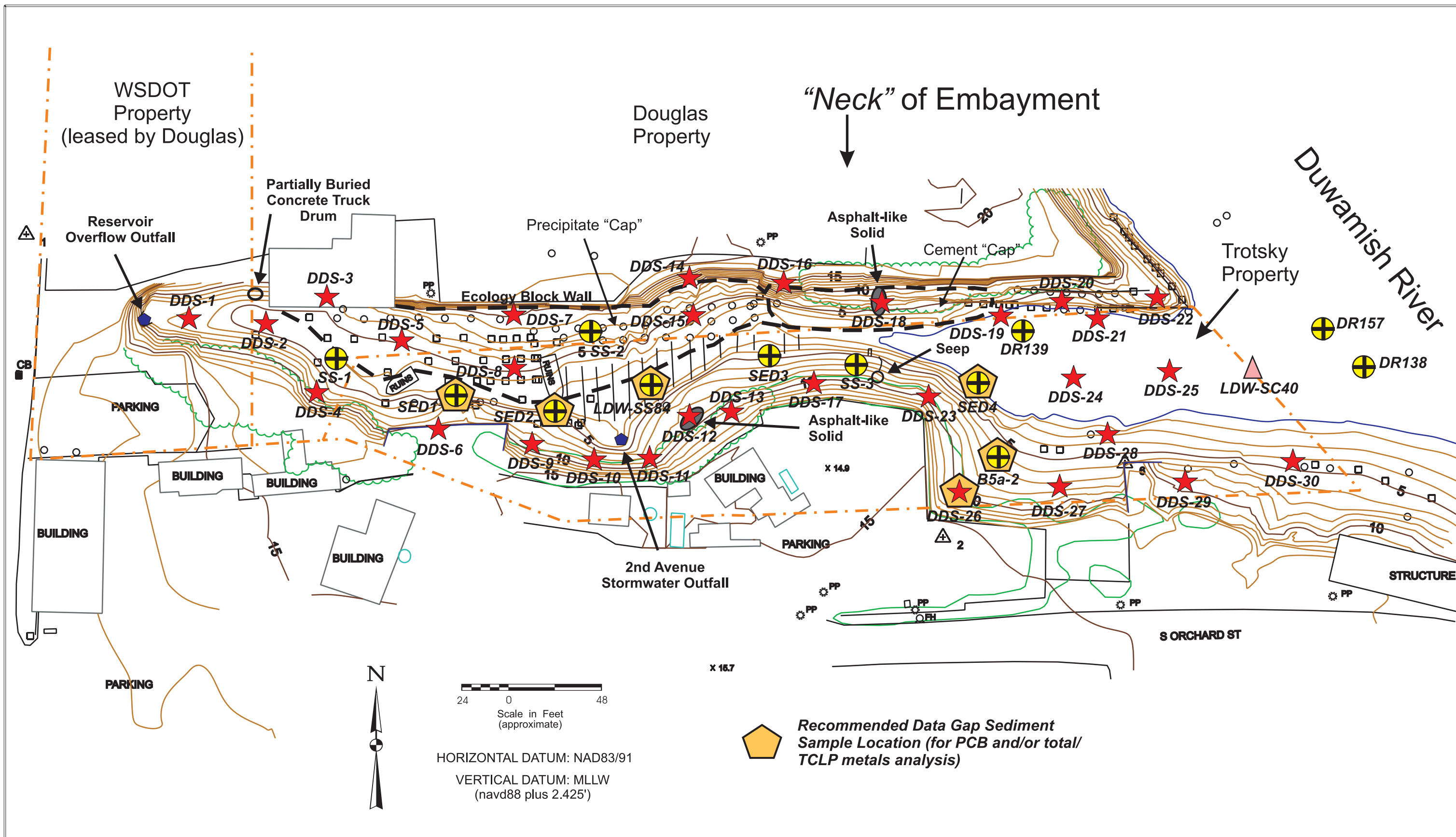
Historic Air Photograph - 2004

SUM-008-00 (ICS)

Sept. 2014

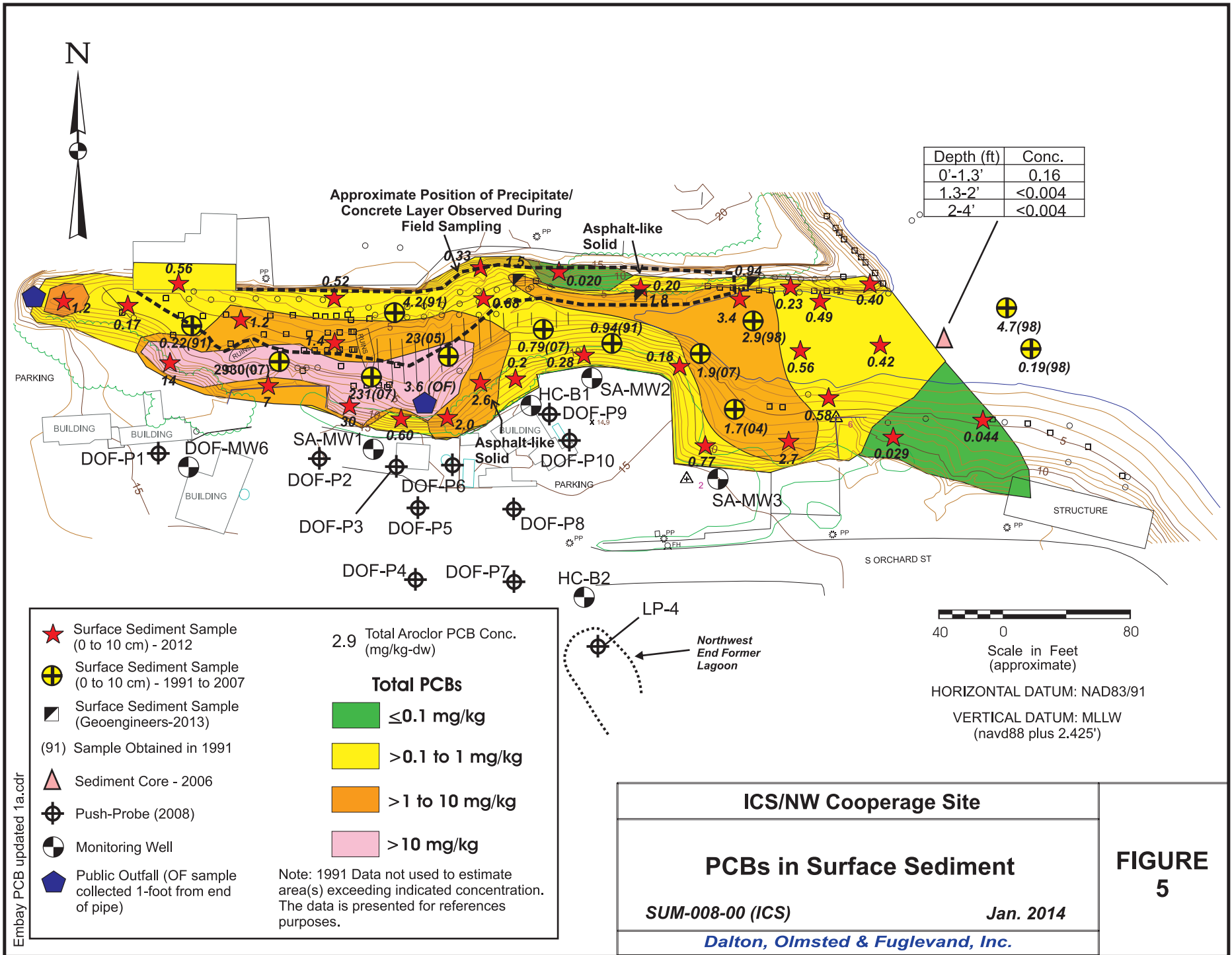
Dalton, Olmsted & Fuglevand, Inc.

**FIGURE
3**

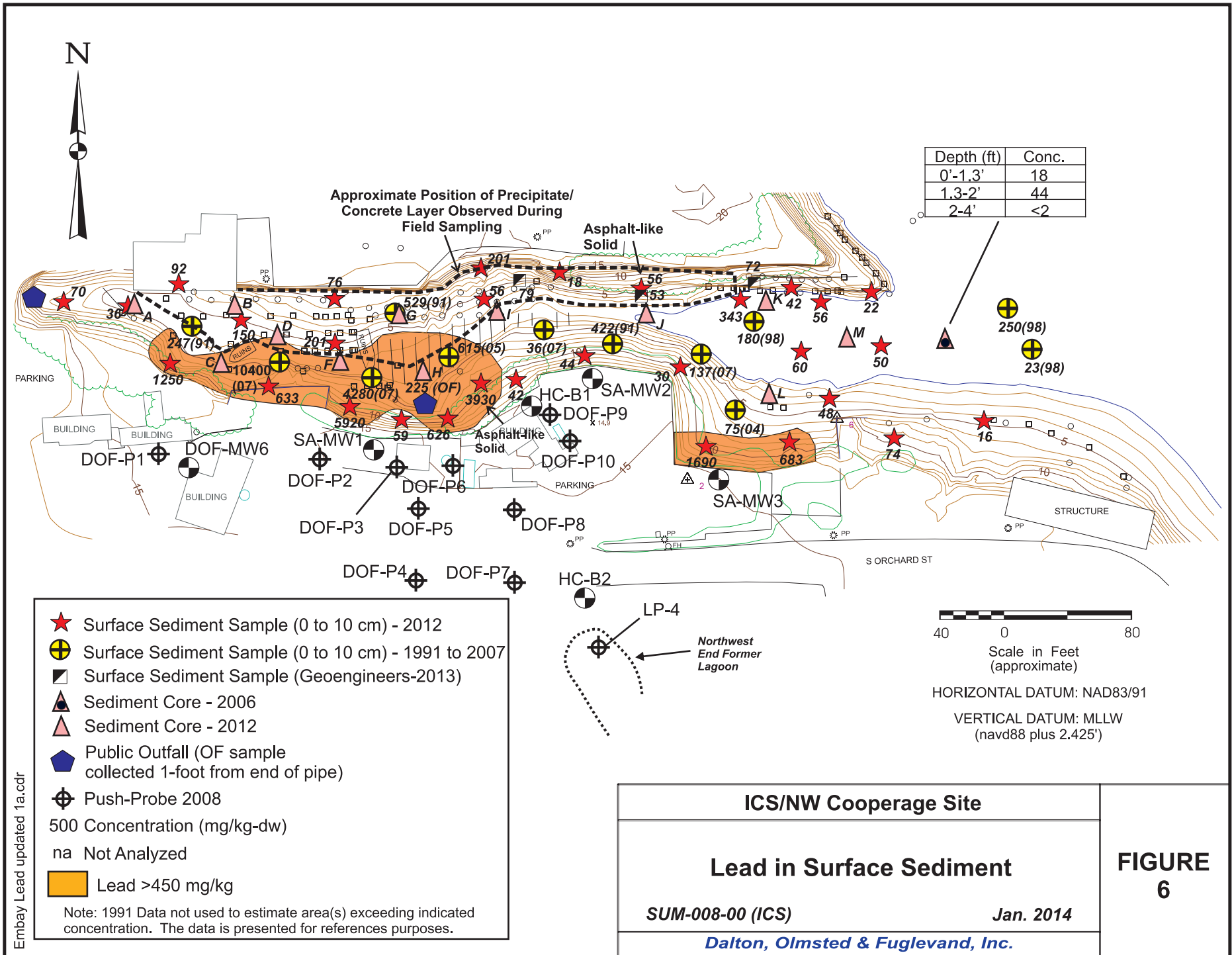


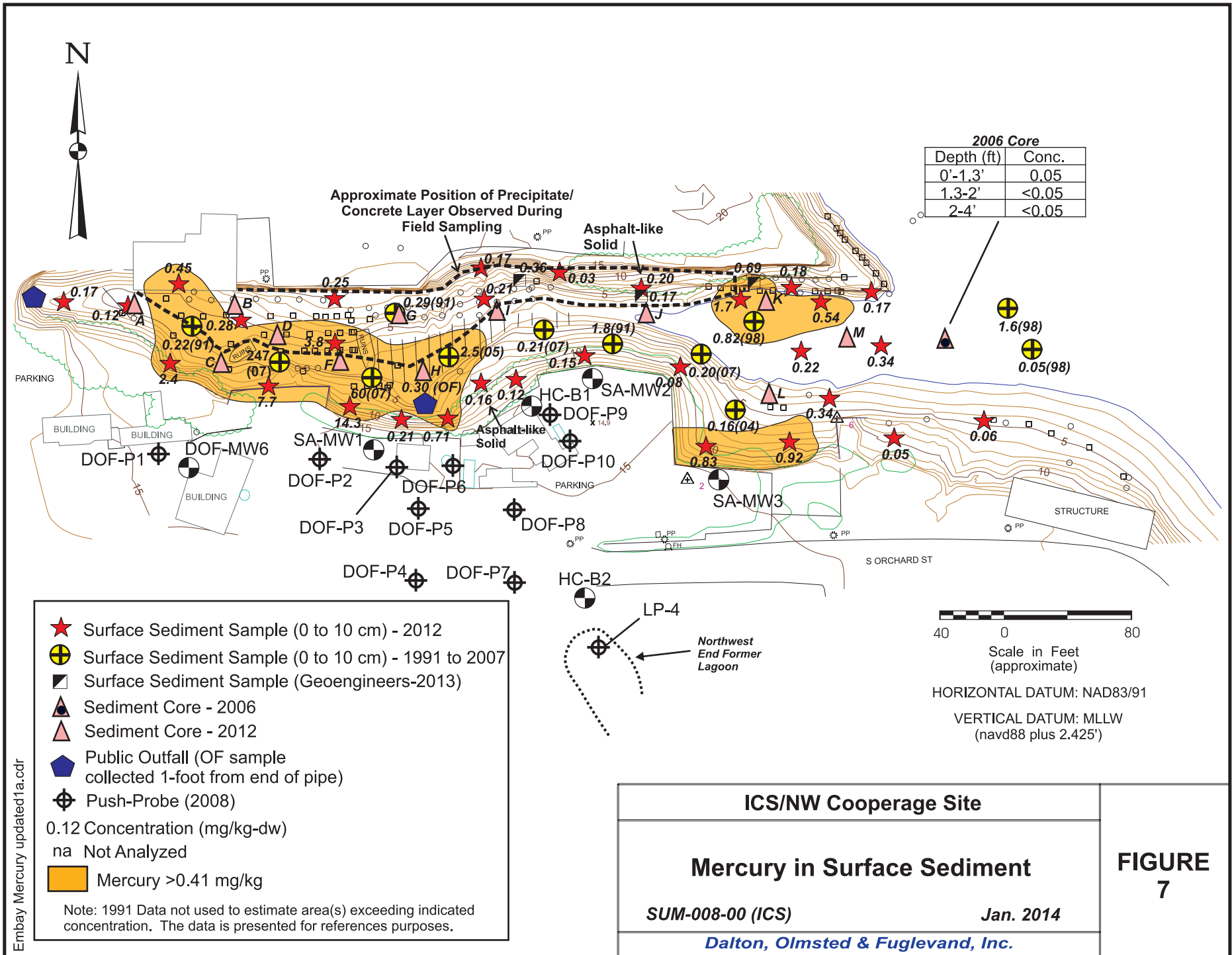
<p>Legend</p> <ul style="list-style-type: none"> ○ Pole/Piling □ Post PP Power Pole X 15.8 Spot Elevation (ft-MLLW) △ Photogrammetry Marker ▨ CB Catch Basin ◆ Public Outfall — Tax Parcel Boundary ⊕ Previous Surface Sediment Sample (0 to 10 cm) ▲ Previous Sediment Core ★ Surface Sediment Sample Location July 2012 (0 to 10 cn) 			<p>ICS/NW Cooperage Site</p> <p>Embayment Surface Sediment Sampling Locations</p> <p>SUM-008 (ICS) Mar. 2014</p> <p>Dalton, Olmsted & Fuglevand, Inc.</p>	<p>FIGURE 4</p>
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Note: WSDOT - Washington State Department of Transportation
 Ref: Embay Sur Spls Loc Recon Base Rev Jan 2012b.cdr

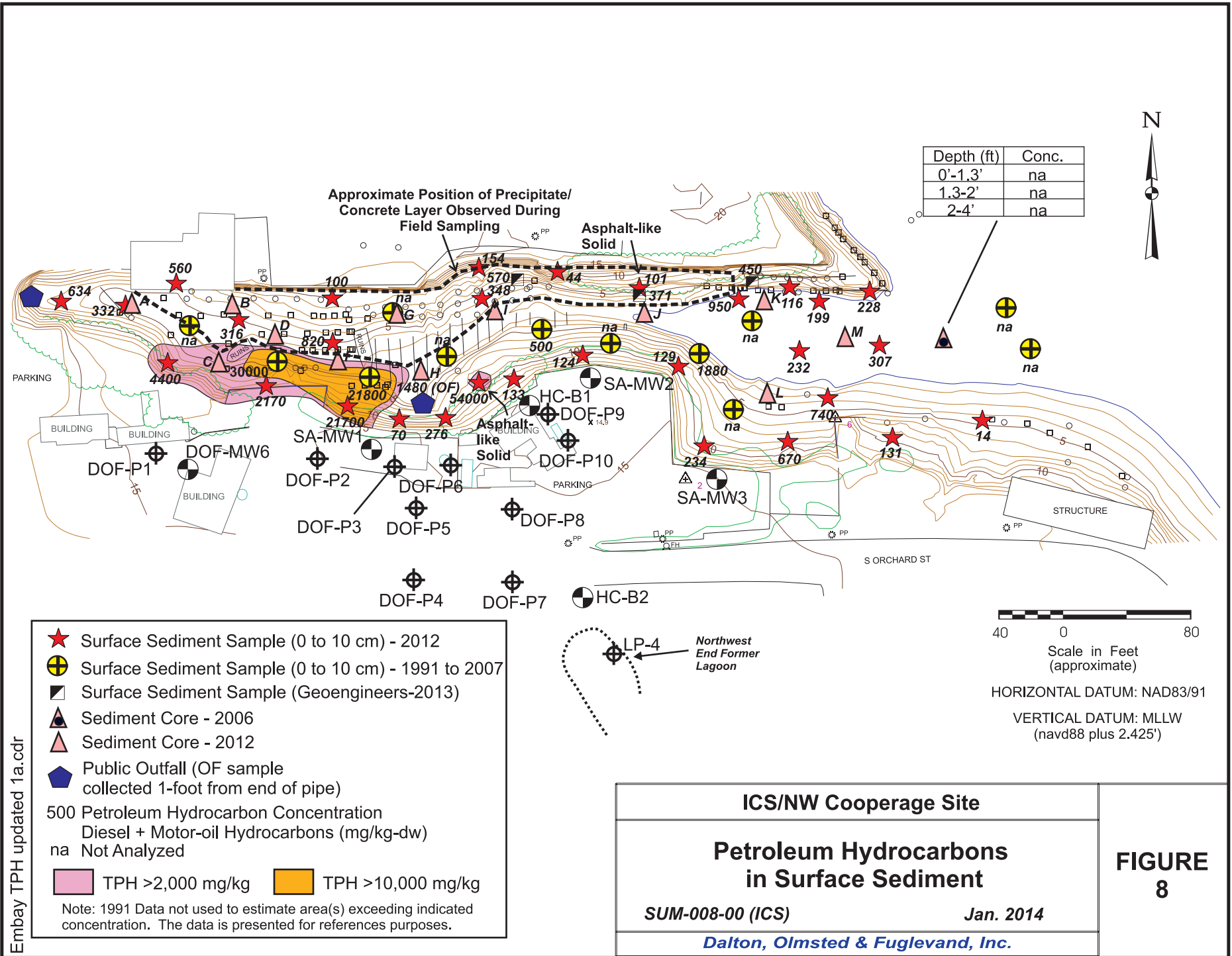


Embay PCB updated 1a.cdr

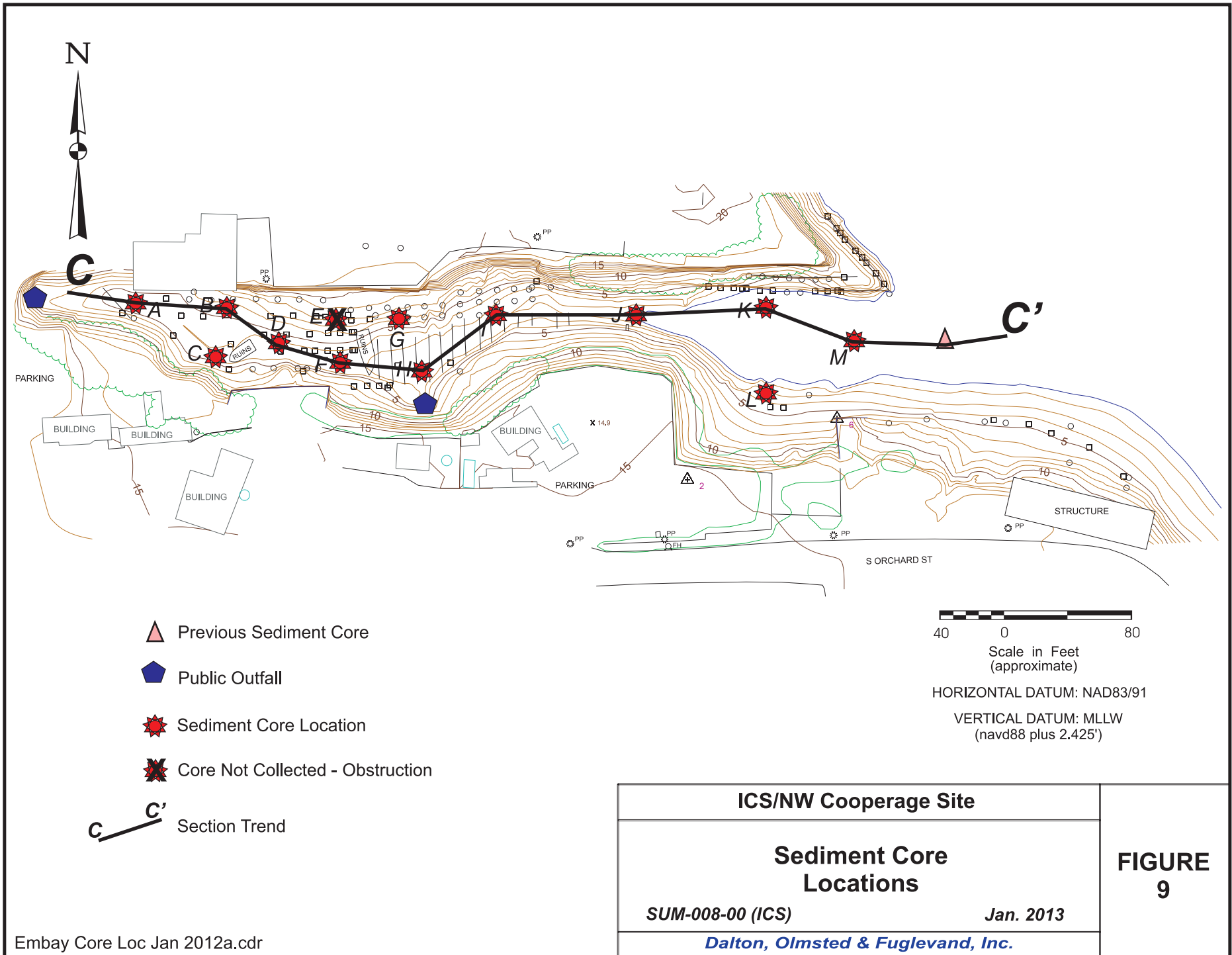


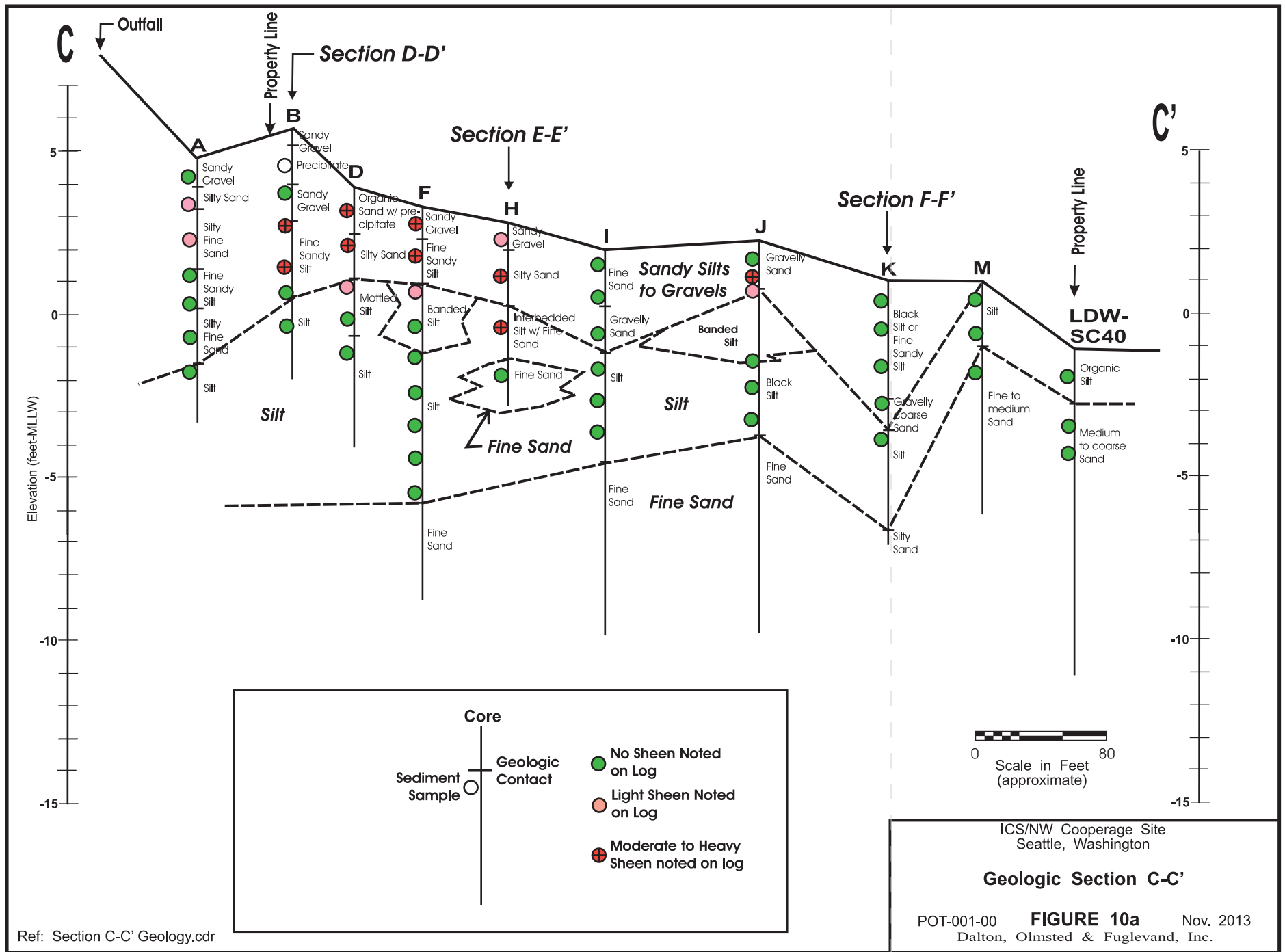


Embay Mercury updated1a.cdr



Embay TPH updated 1a.cdr





C

Outfall

Property Line

Section D-D'

Section E-E'

Section F-F'

C'

Property Line

LDW-SC40

Elevation (feet-MLLW)

5

0

-5

-10

-15

5

0

-5

-10

-15

Silt

Fine Sand

Fine Sand

Silt

Sandy Silts to Gravels

Gravelly Sand

Silt

Fine Sand

Fine Sand

Silt

Fine Sand

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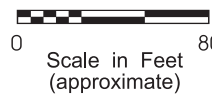
Silt

Core

Sediment Sample

Geologic Contact

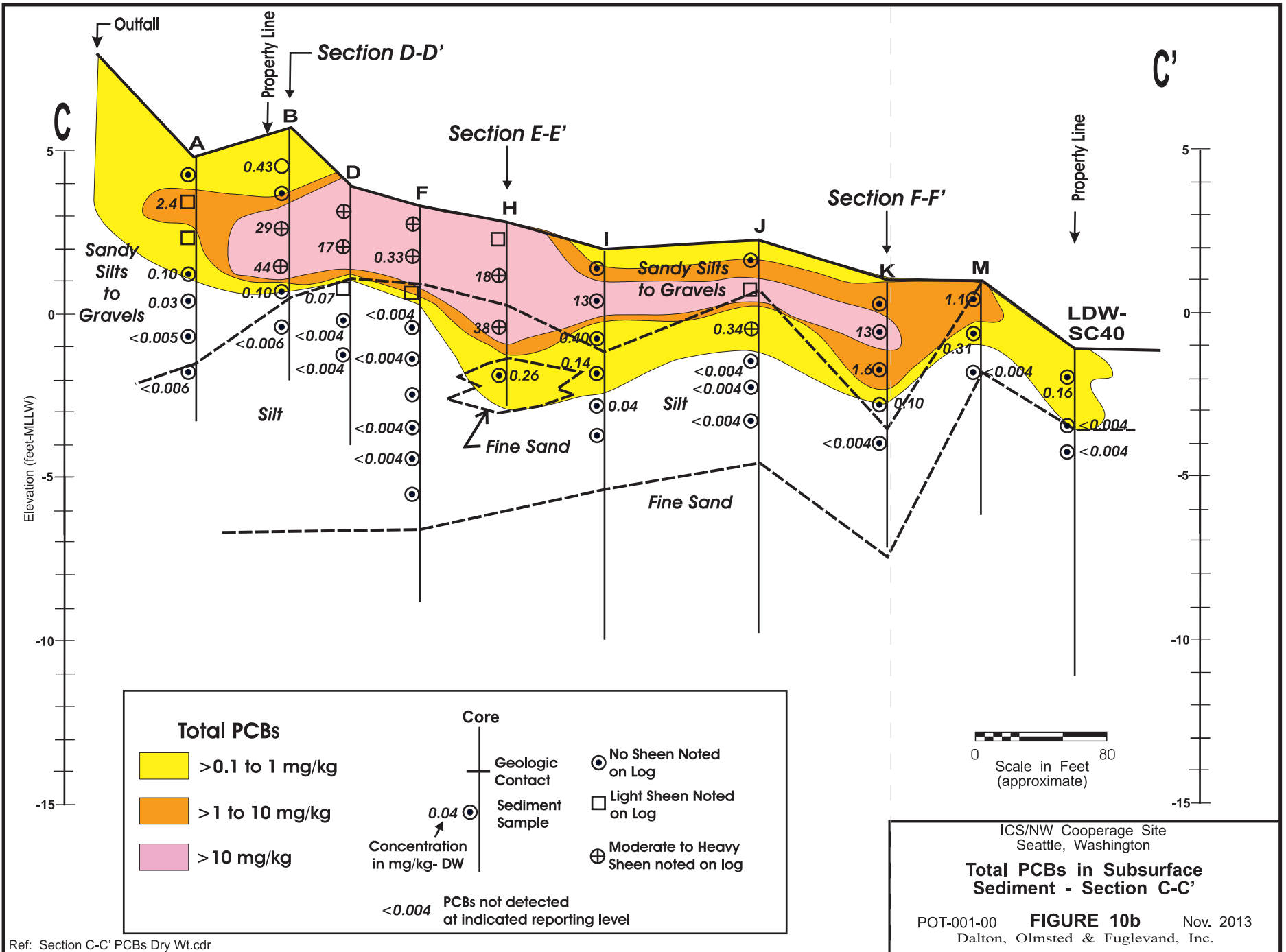
- No Sheen Noted on Log
- Light Sheen Noted on Log
- ⊕ Moderate to Heavy Sheen noted on log

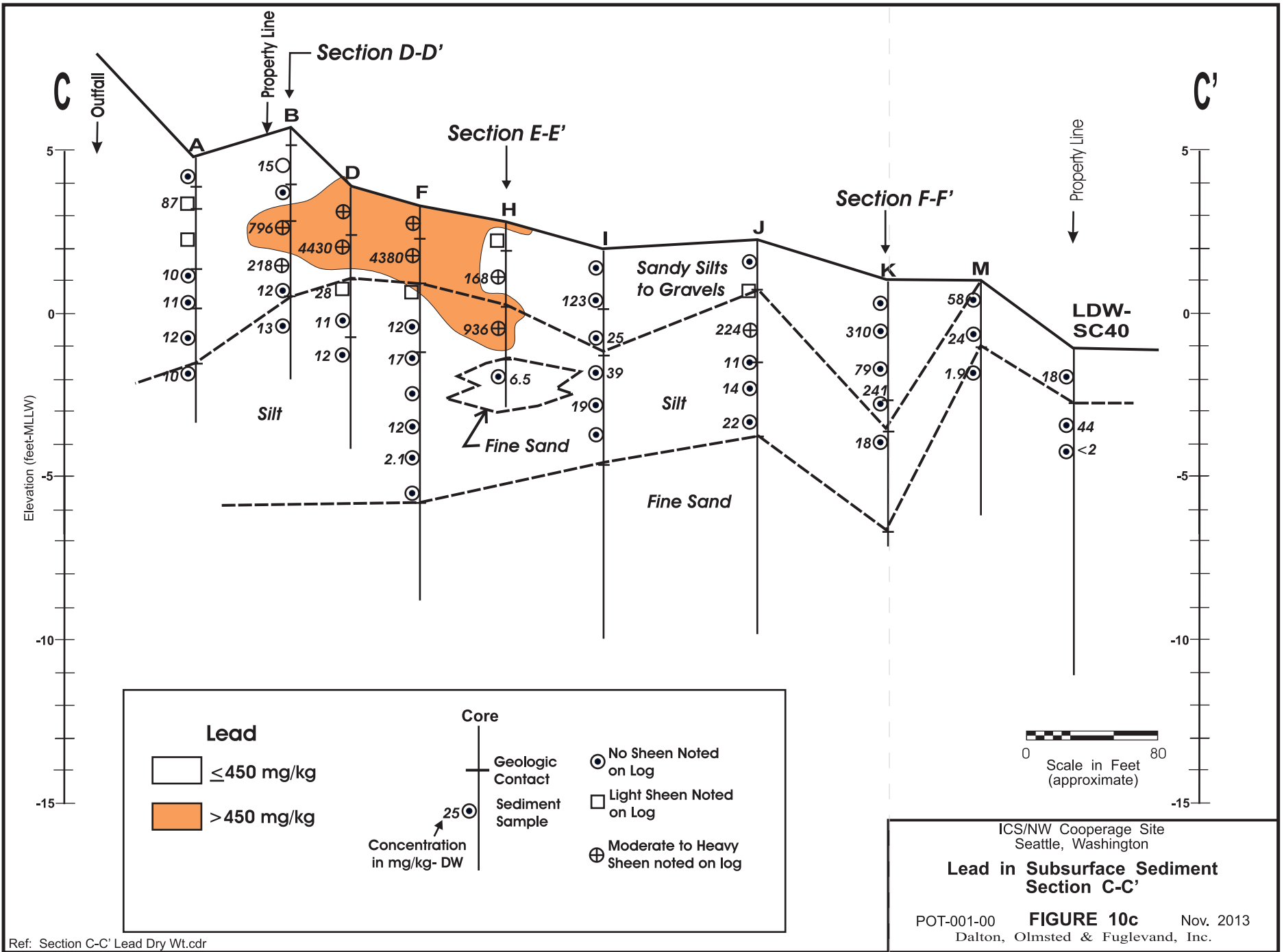


ICS/NW Cooperage Site
Seattle, Washington

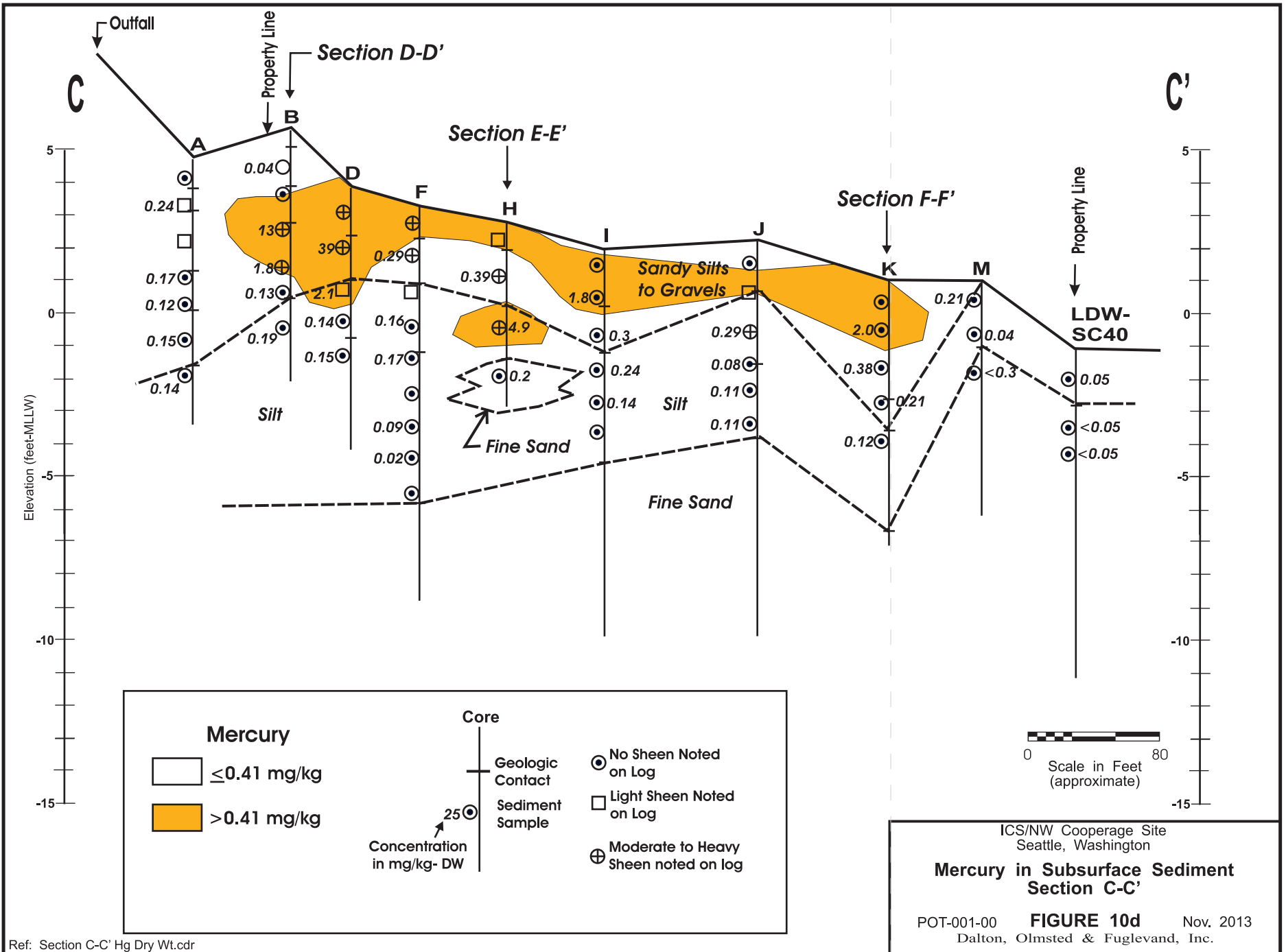
Geologic Section C-C'

POT-001-00 **FIGURE 10a** Nov. 2013
Dalton, Olmsted & Fuglevand, Inc.

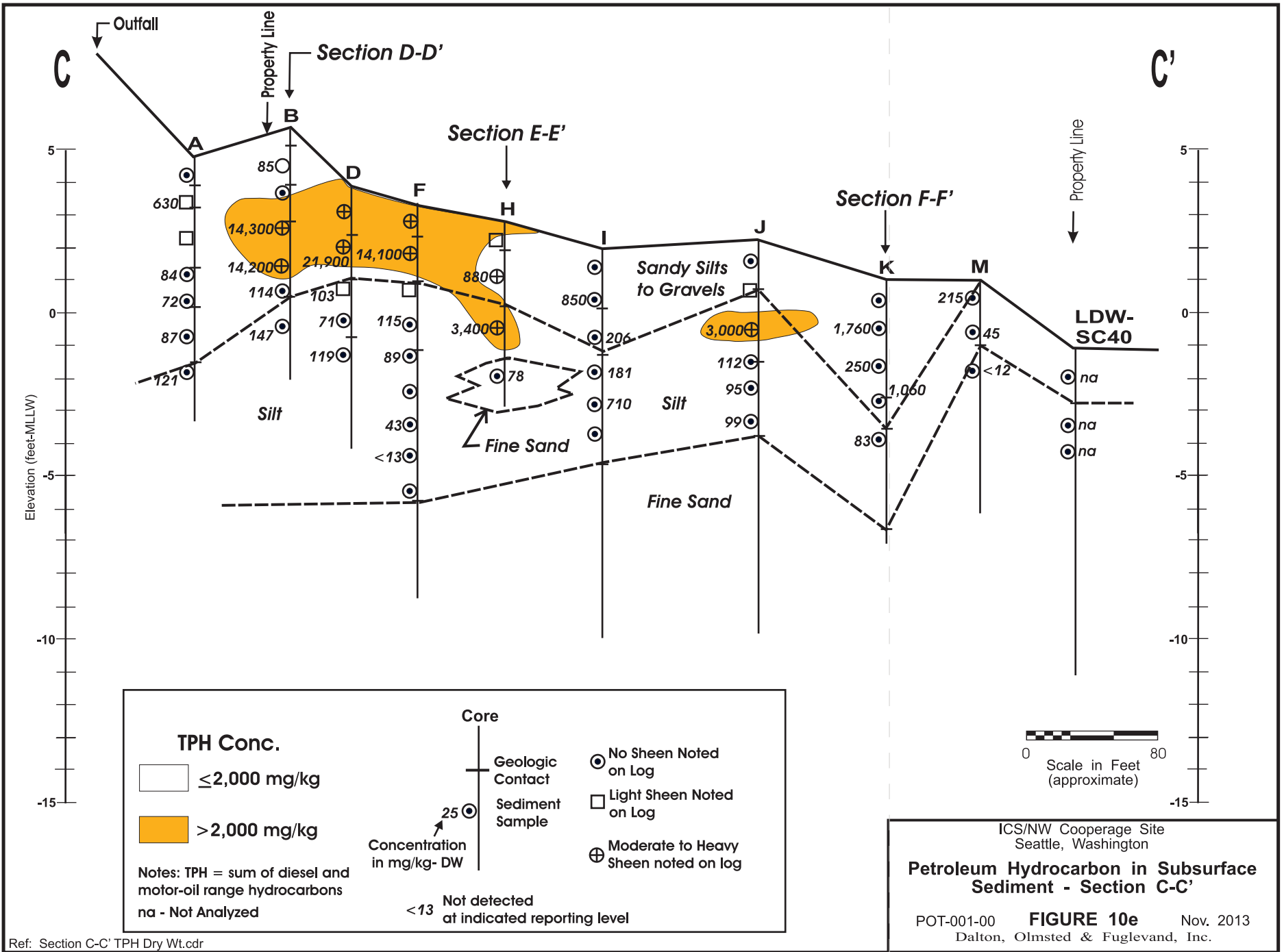


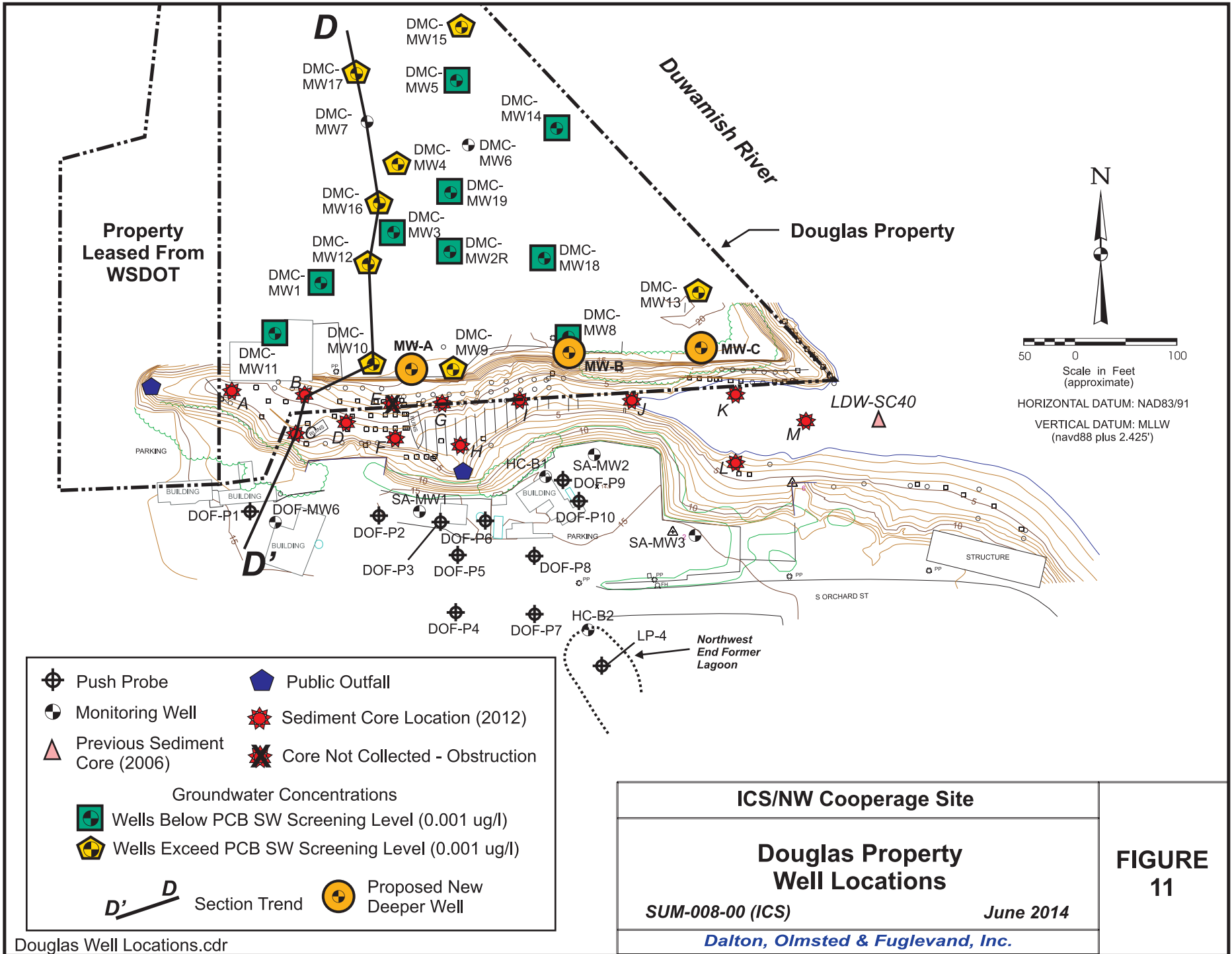


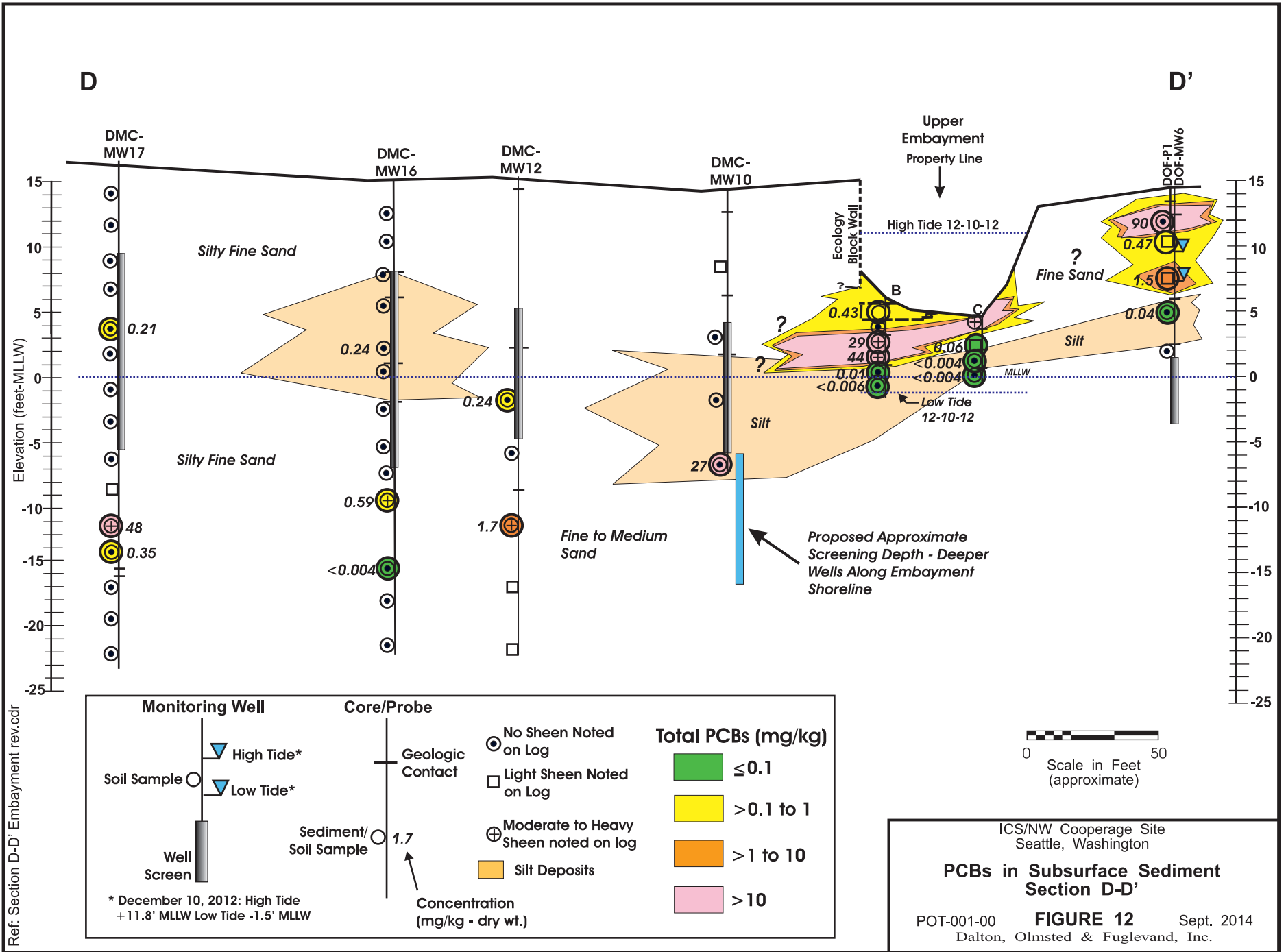
Ref: Section C-C' Lead Dry Wt.cdr



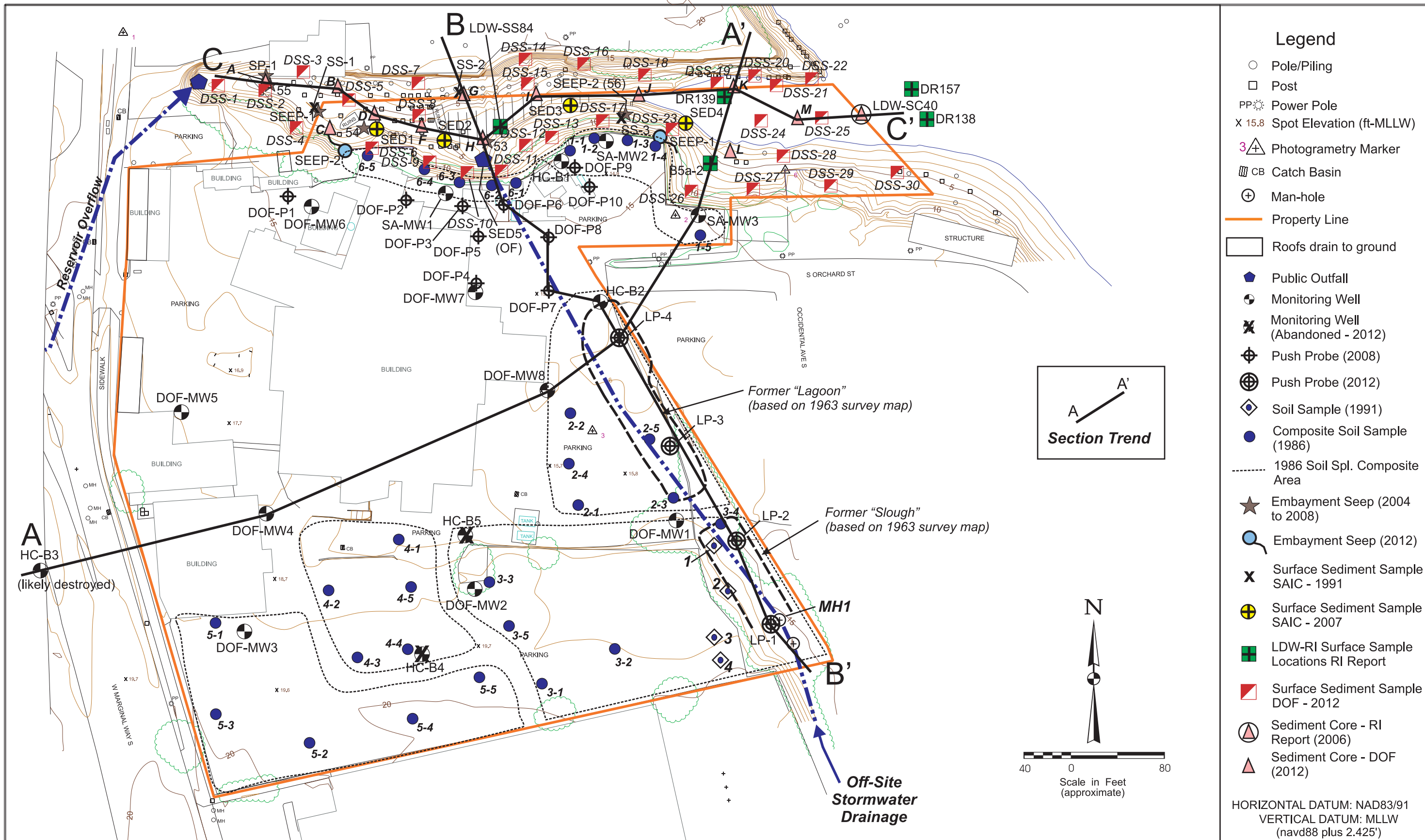
Ref: Section C-C' Hg Dry Wt.cdr







Ref: Section D-D' Embayment rev.cdr



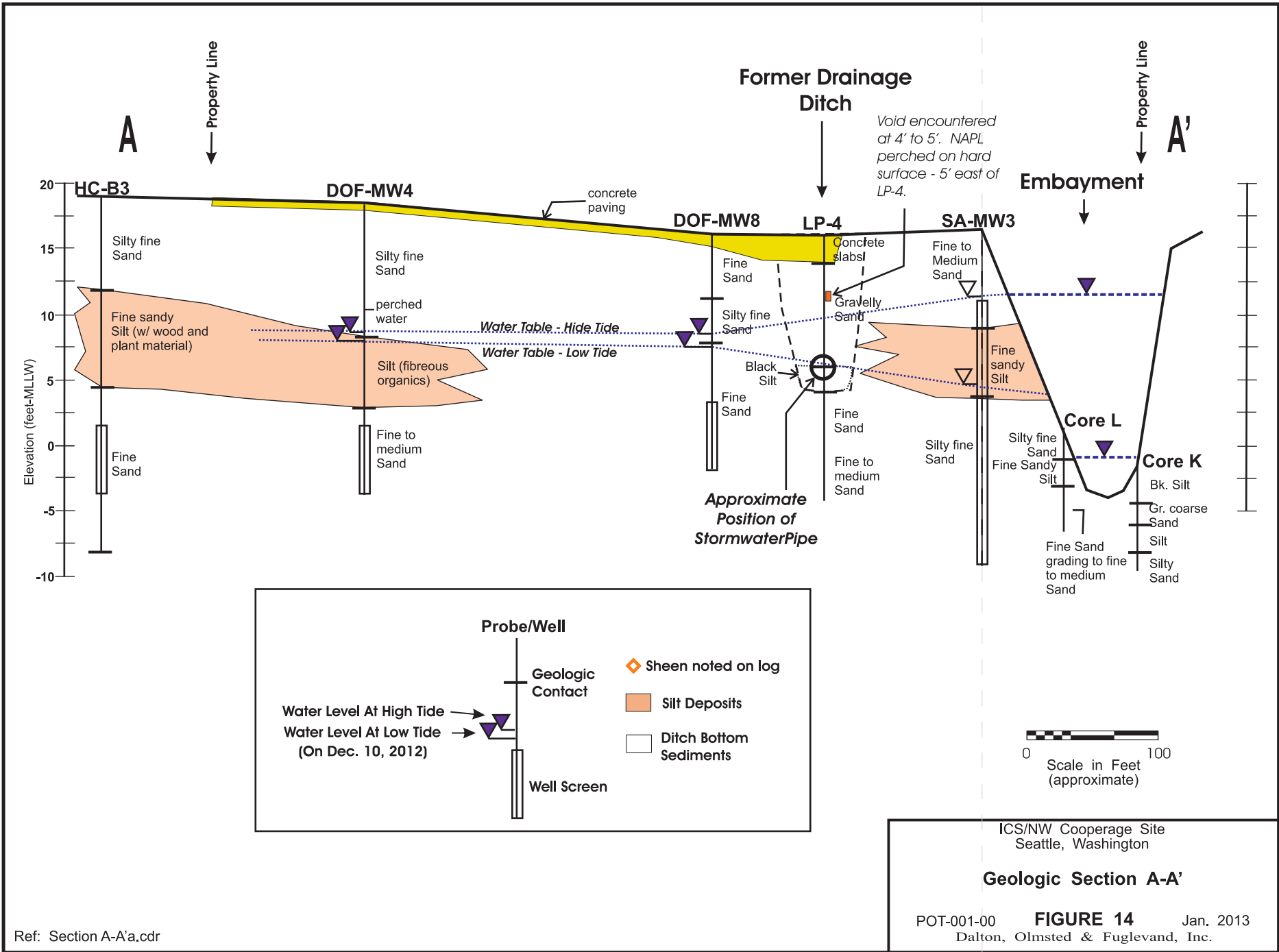
- ### Legend
- Pole/Piling
 - Post
 - PP Power Pole
 - X 15.8 Spot Elevation (ft-MLLW)
 - 3△ Photogrammetry Marker
 - ▨ CB Catch Basin
 - ⊕ Man-hole
 - Property Line
 - ▭ Roofs drain to ground
 - ◆ Public Outfall
 - ⊗ Monitoring Well
 - ⊗ Monitoring Well (Abandoned - 2012)
 - ⊕ Push Probe (2008)
 - ⊕ Push Probe (2012)
 - ◇ Soil Sample (1991)
 - Composite Soil Sample (1986)
 - 1986 Soil Spl. Composite Area
 - ★ Embayment Seep (2004 to 2008)
 - ⊗ Embayment Seep (2012)
 - X Surface Sediment Sample SAIC - 1991
 - ⊕ Surface Sediment Sample SAIC - 2007
 - ⊕ LDW-RI Surface Sample Locations RI Report
 - ▨ Surface Sediment Sample DOF - 2012
 - ⊕ Sediment Core - RI Report (2006)
 - △ Sediment Core - DOF (2012)
- HORIZONTAL DATUM: NAD83/91
 VERTICAL DATUM: MLLW (navd88 plus 2.425')

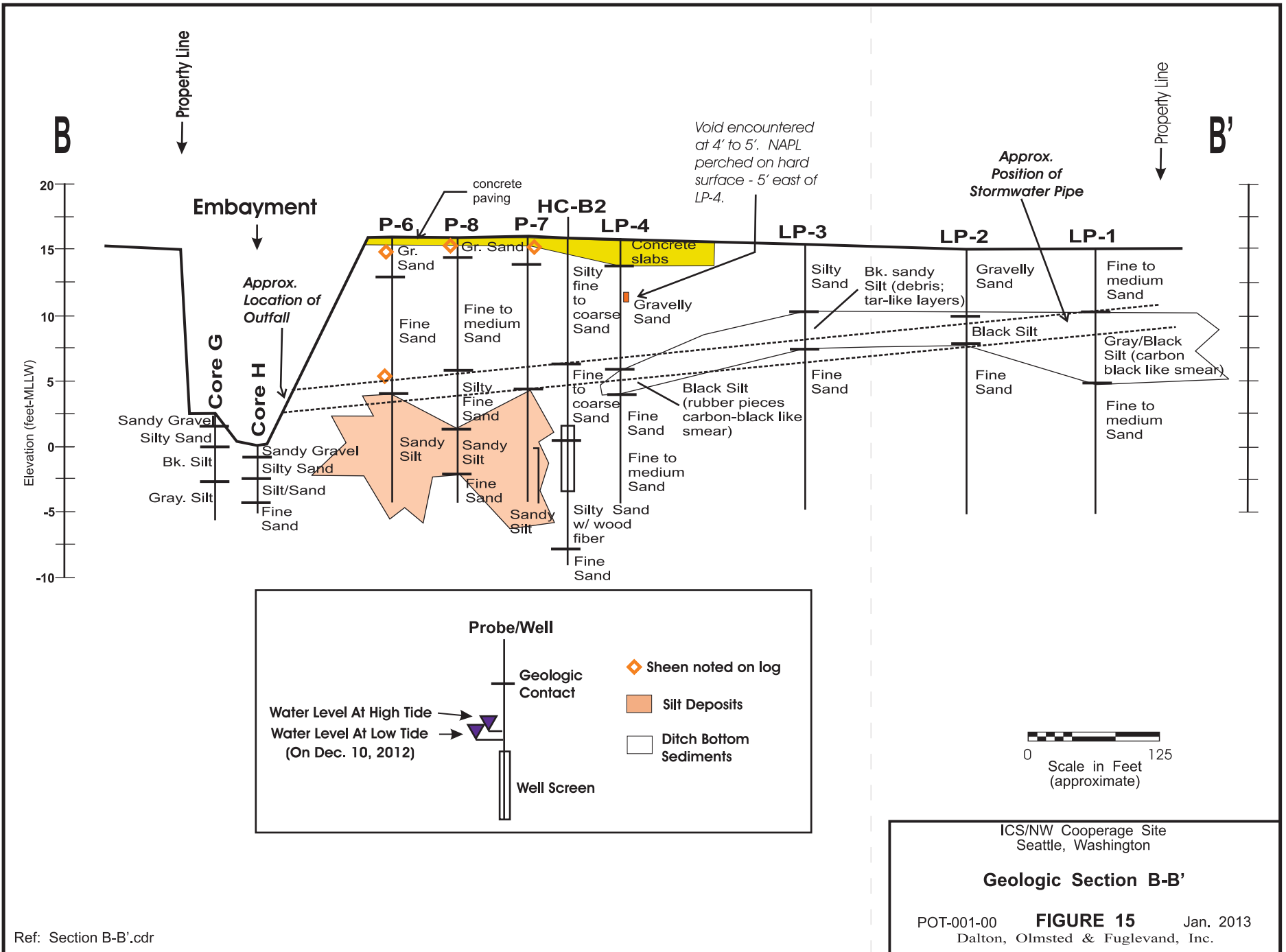
Notes:
 1) Property Survey by Continental Survey Co. (12-15-09)
 2) Topography by David C. Smith Associates (Flown 3-18-10)

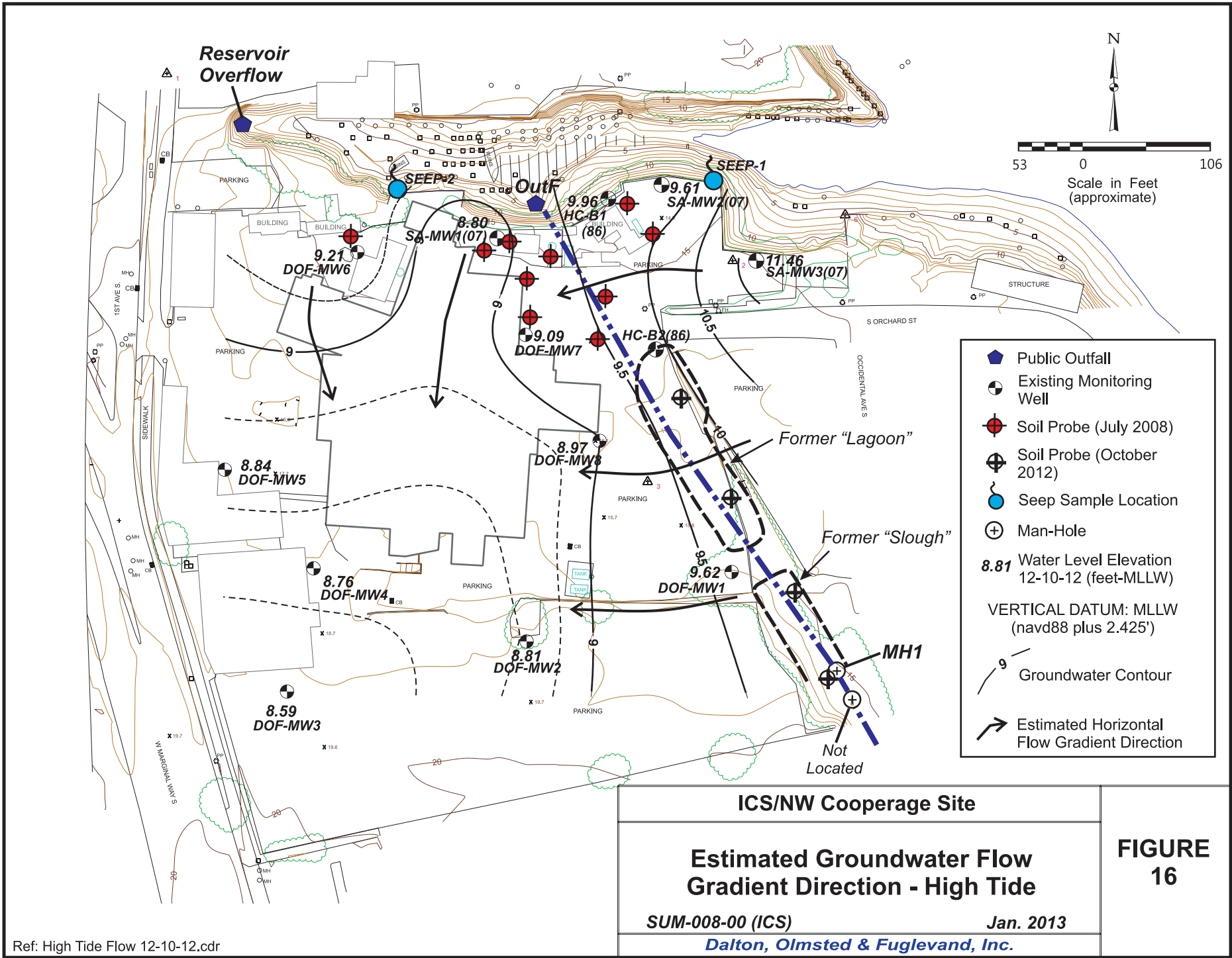
ICS/NW Cooperage Site
Upland and Embayment Sampling Locations
 SUM-008 (ICS) Jan. 2013
 Dalton, Olmsted & Fuglevand, Inc.

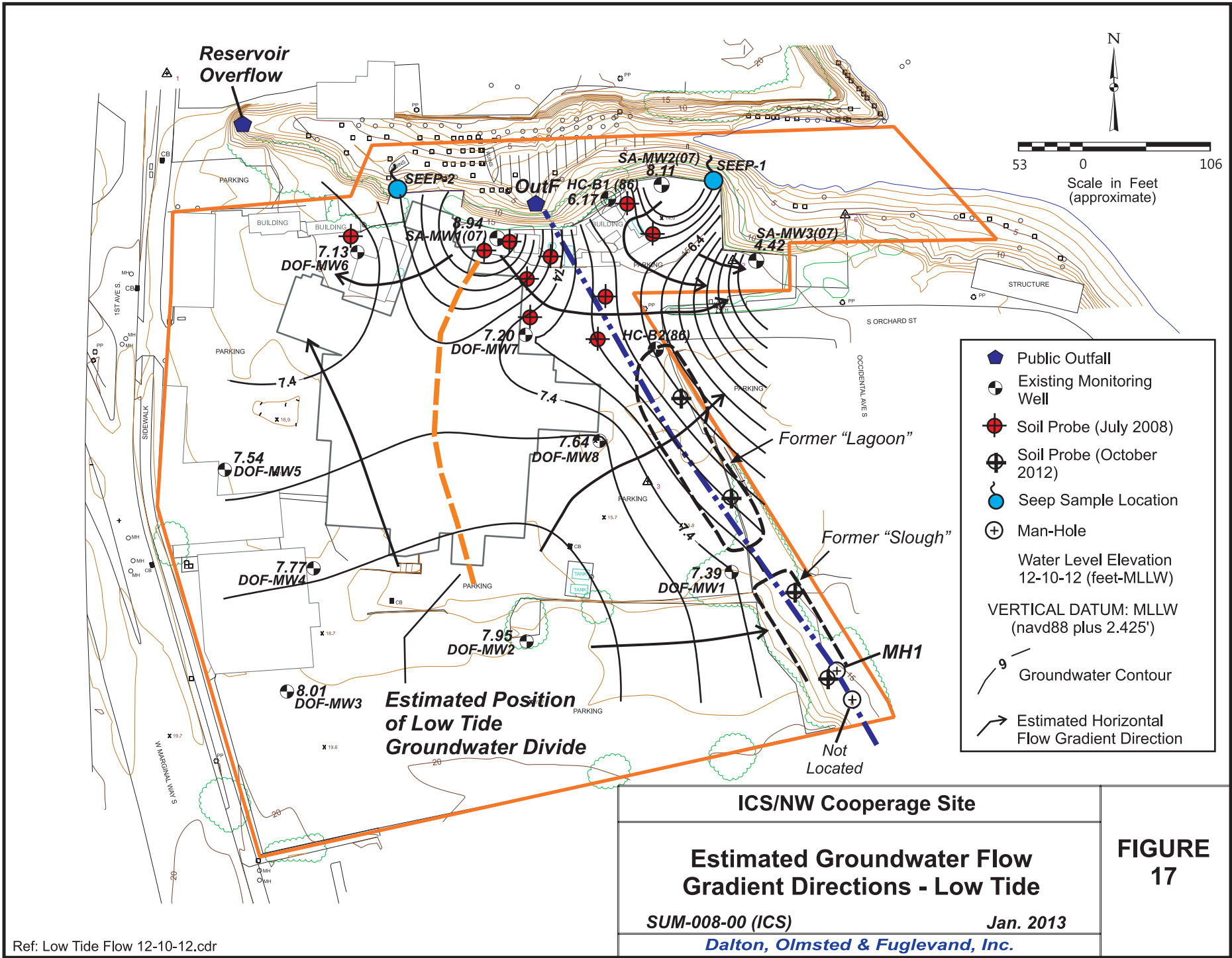
FIGURE 13

Ref: ICS-NW Cooperage Sample Loc 1-2013.cdr



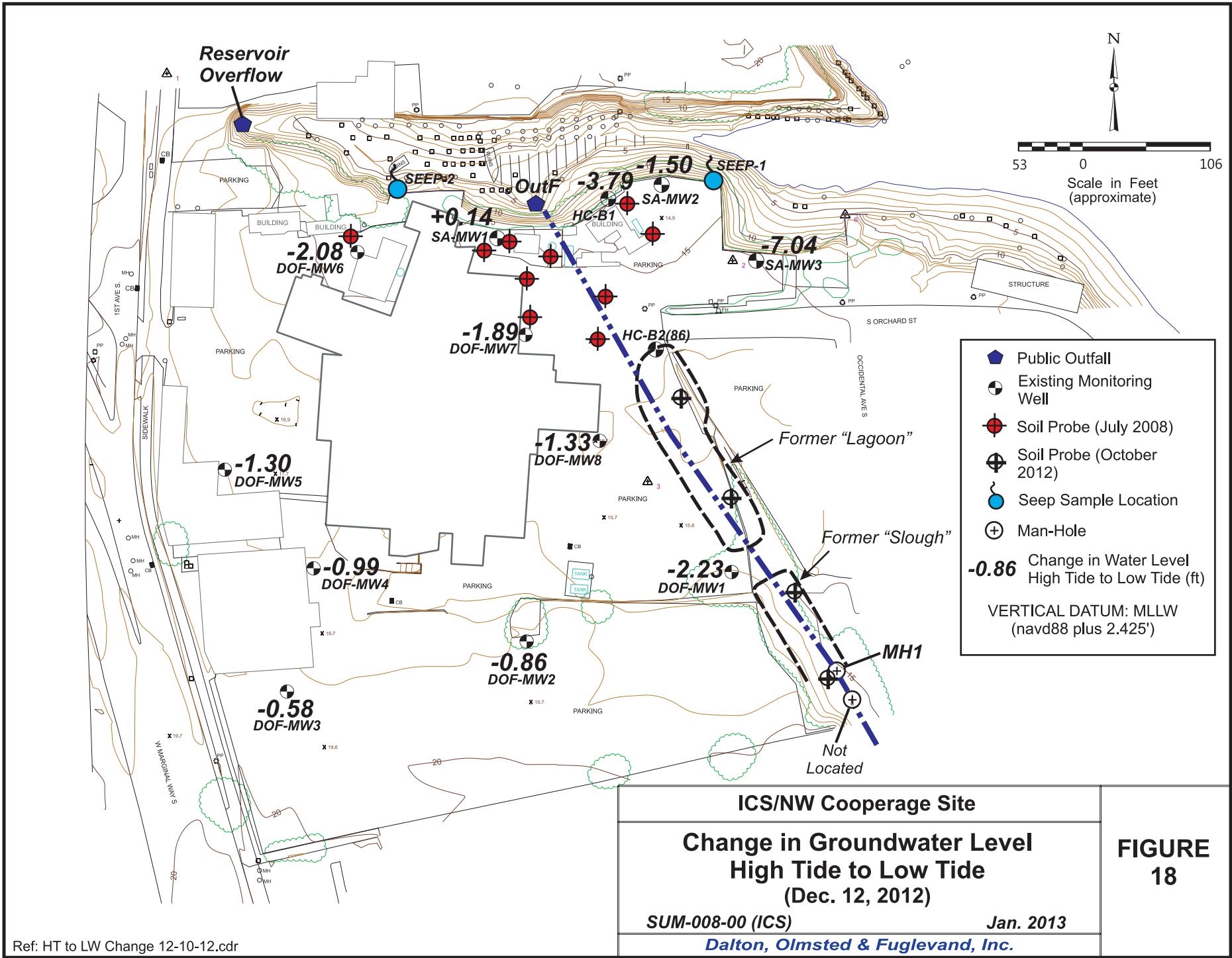






Ref: Low Tide Flow 12-10-12.cdr

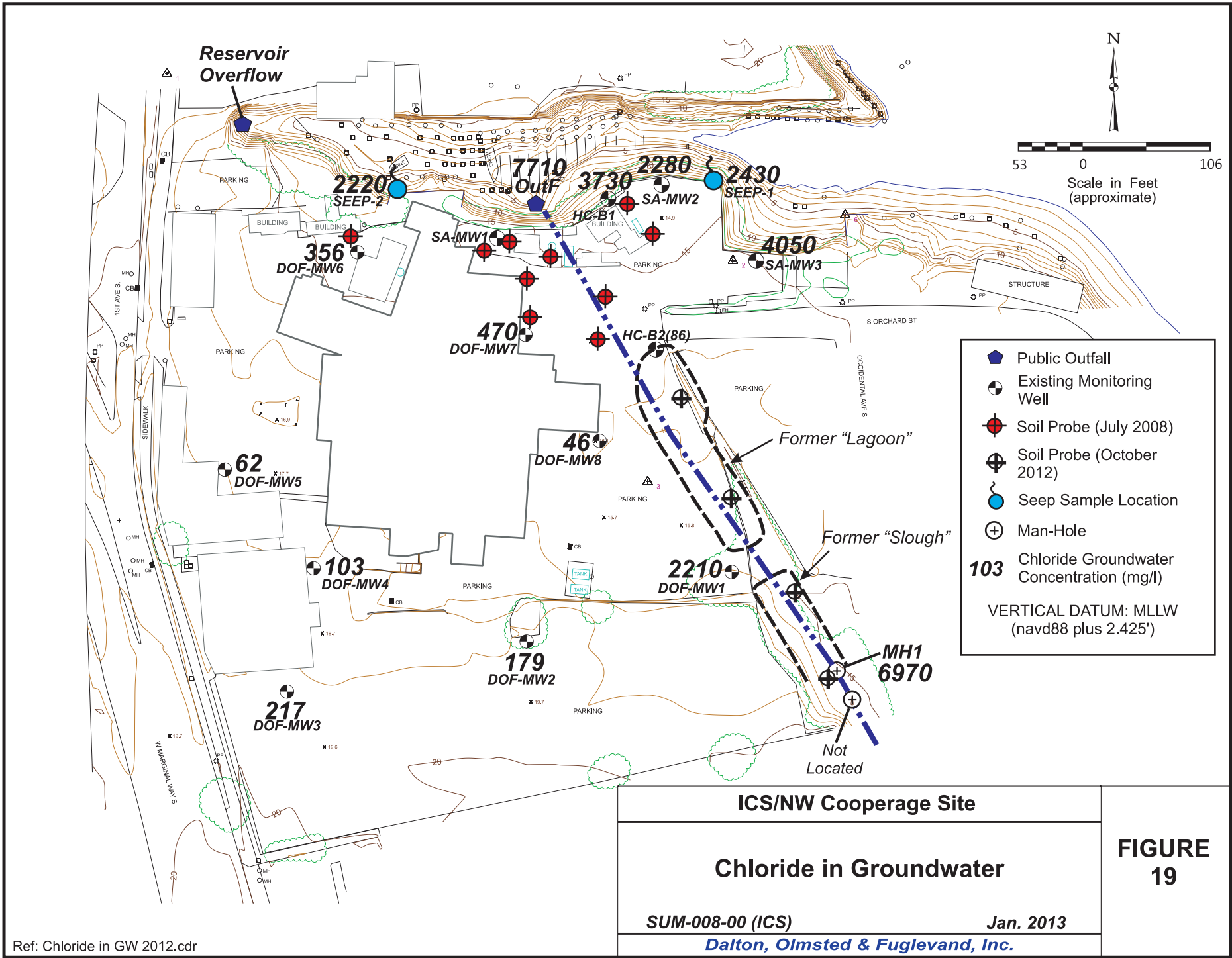
FIGURE 17



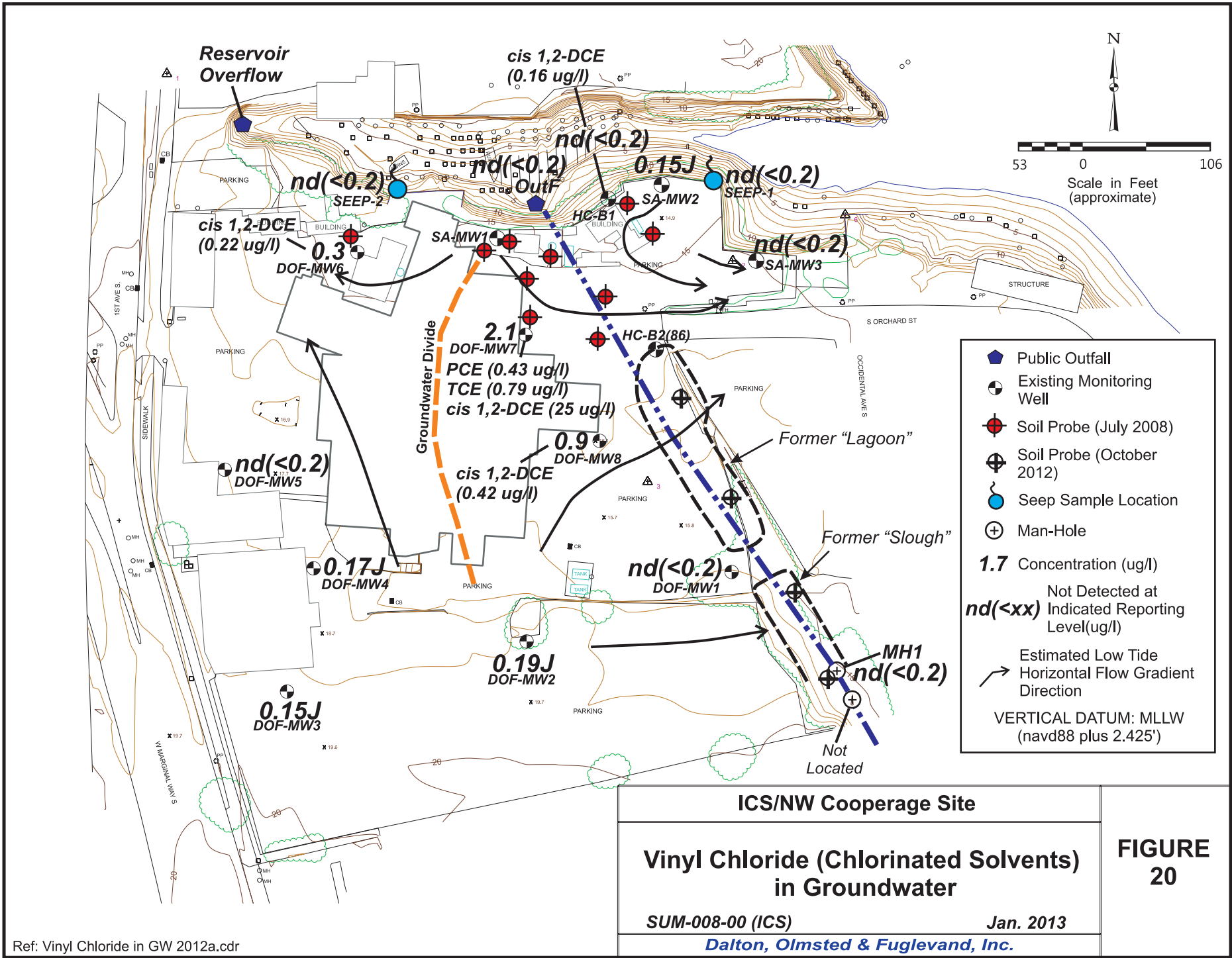
ICS/NW Cooperage Site
Change in Groundwater Level
High Tide to Low Tide
(Dec. 12, 2012)
 SUM-008-00 (ICS) Jan. 2013
Dalton, Olmsted & Fuglevand, Inc.

FIGURE
18

Ref: HT to LW Change 12-10-12.cdr

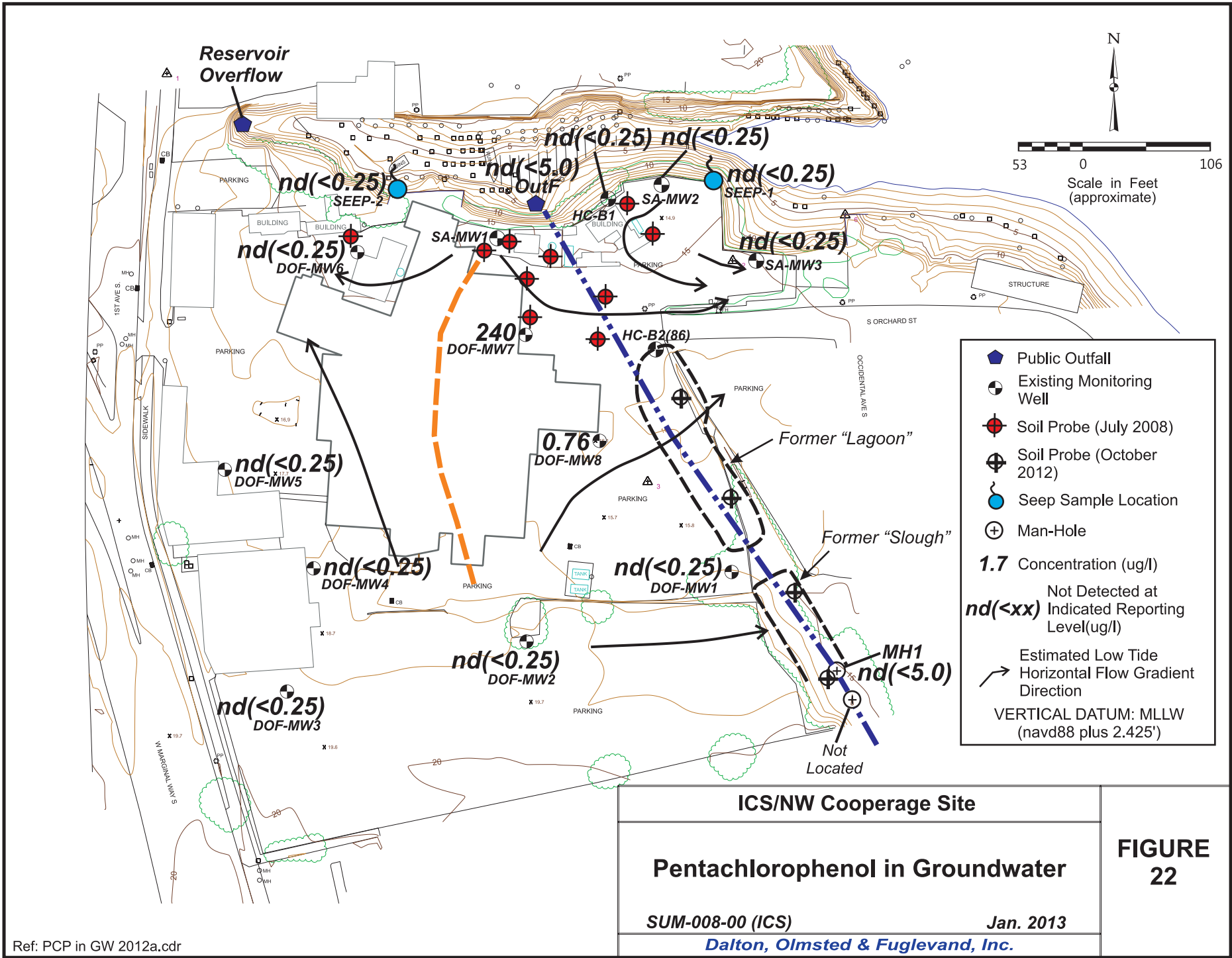


Ref: Chloride in GW 2012.cdr

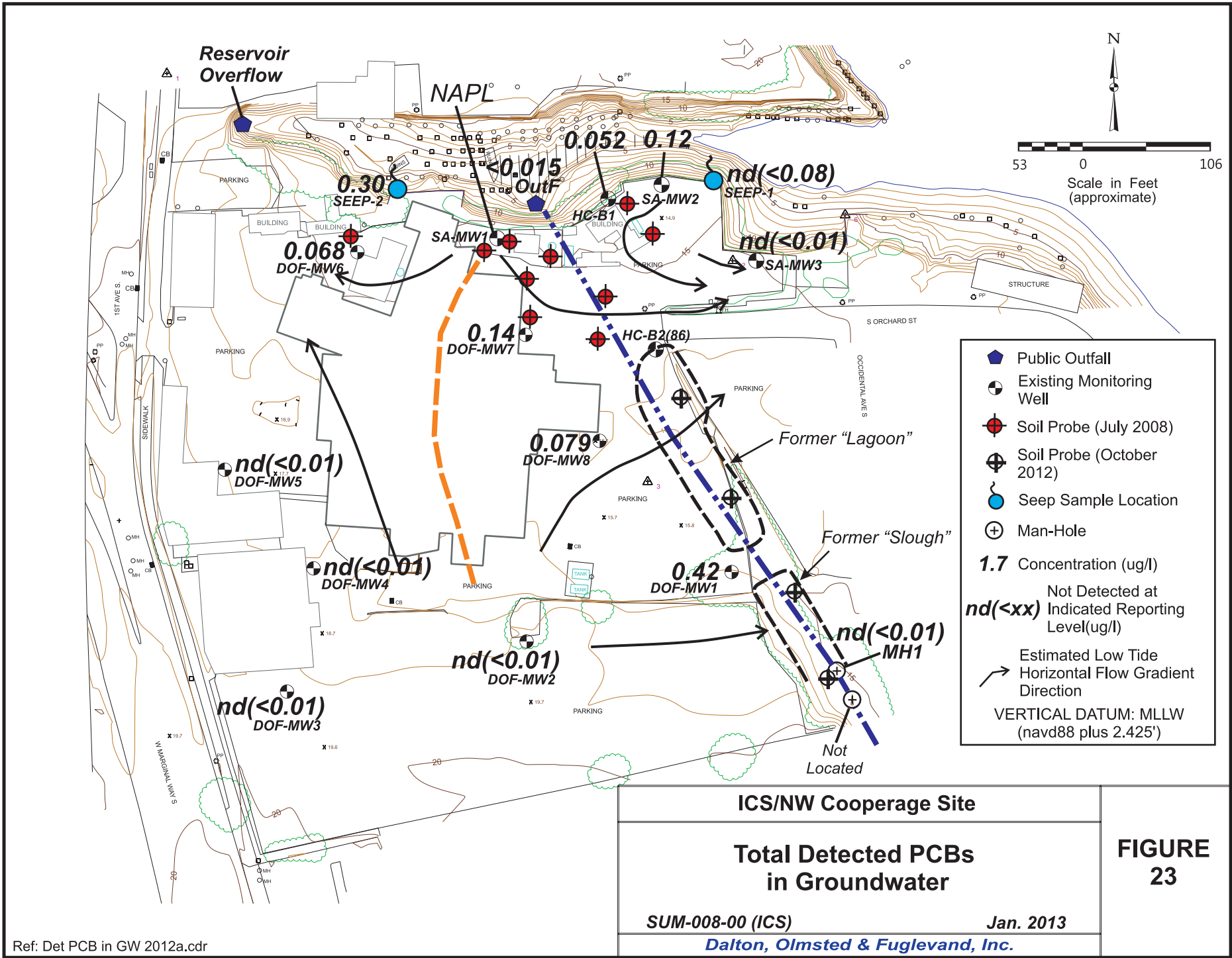


Ref: Vinyl Chloride in GW 2012a.cdr

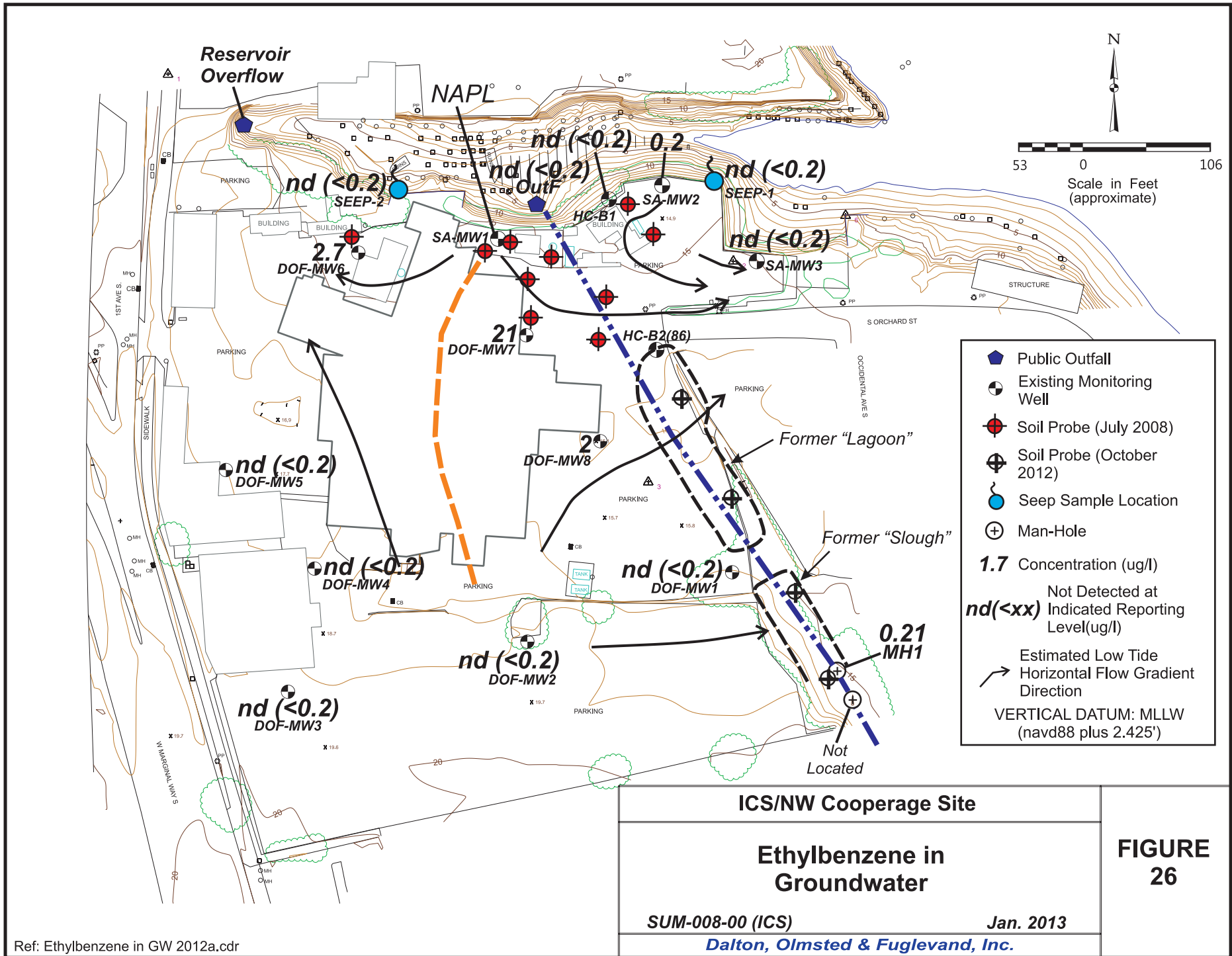
FIGURE 20

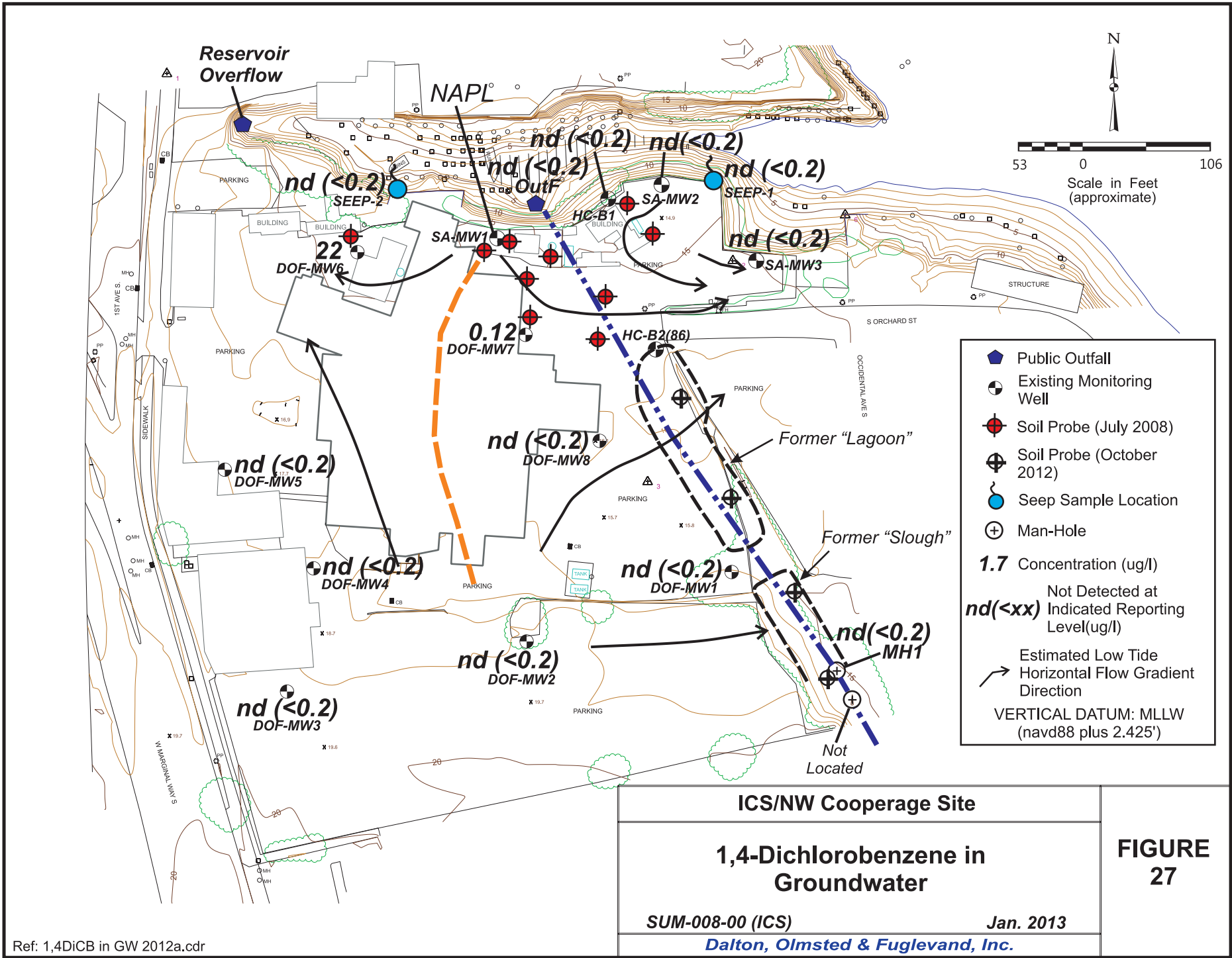


Ref: PCP in GW 2012a.cdr

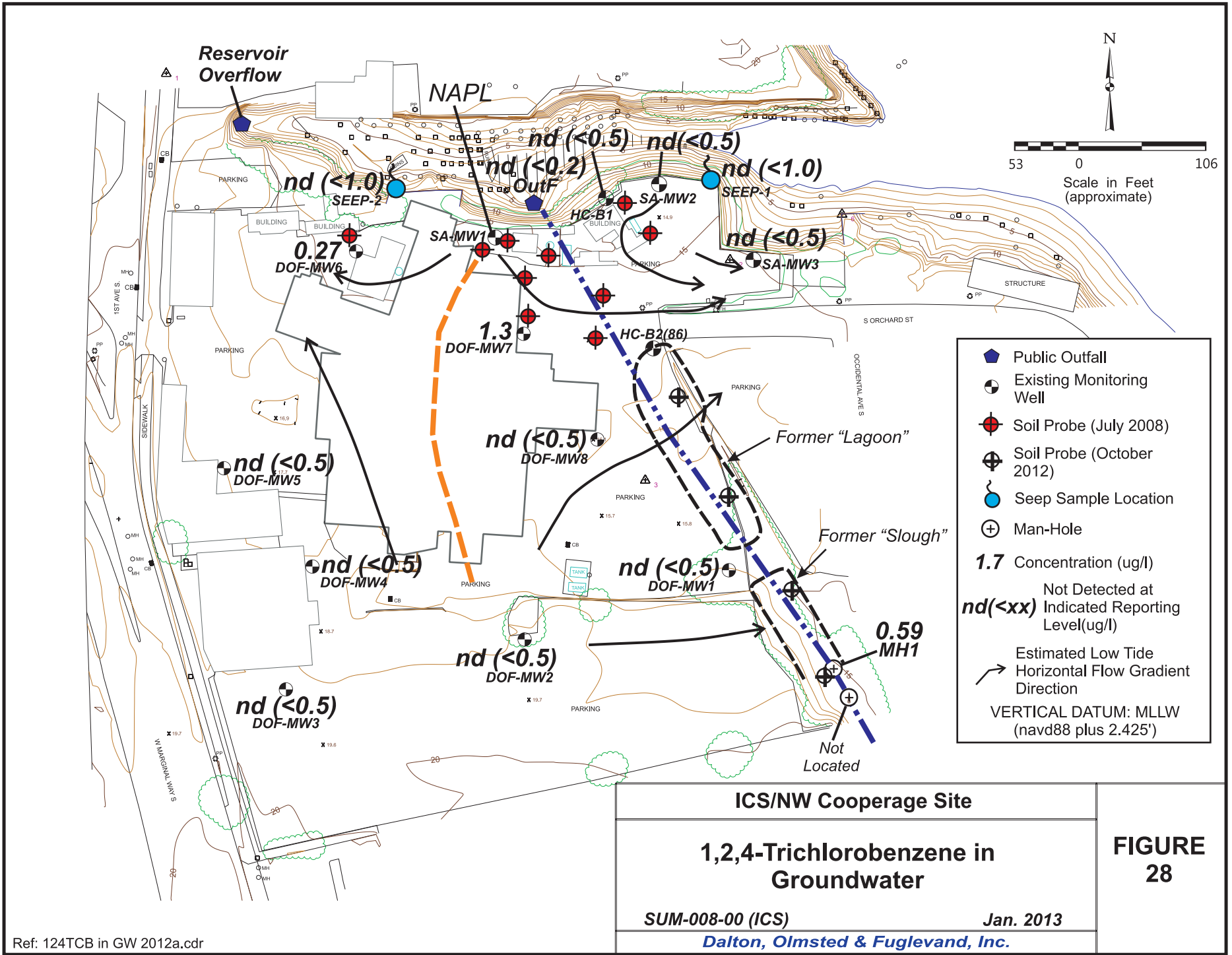


Ref: Det PCB in GW 2012a.cdr

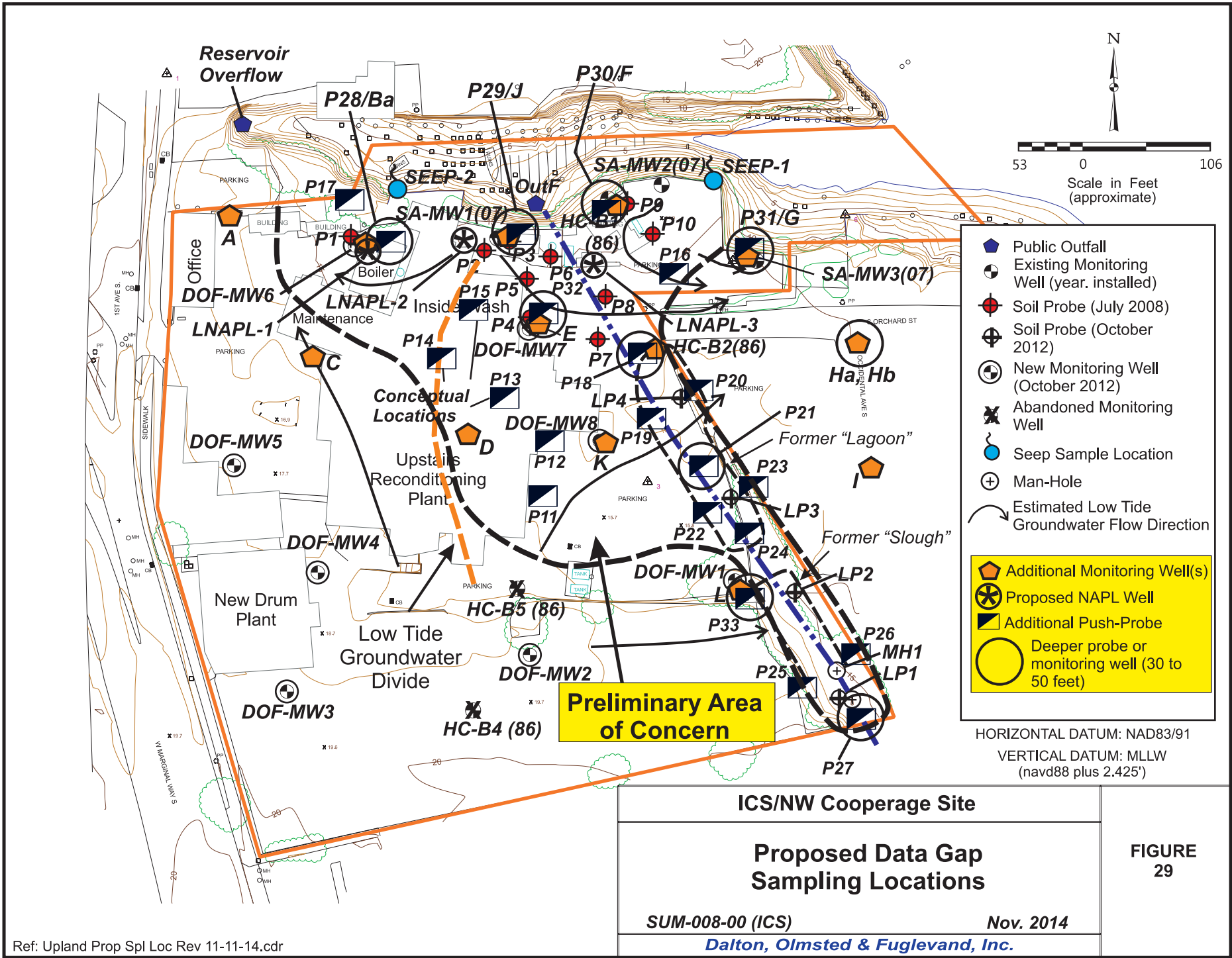




Ref: 1,4DiCB in GW 2012a.cdr



Ref: 124TCB in GW 2012a.cdr



	Public Outfall
	Existing Monitoring Well (year. installed)
	Soil Probe (July 2008)
	Soil Probe (October 2012)
	New Monitoring Well (October 2012)
	Abandoned Monitoring Well
	Seep Sample Location
	Man-Hole
	Estimated Low Tide Groundwater Flow Direction
	Additional Monitoring Well(s)
	Proposed NAPL Well
	Additional Push-Probe
	Deeper probe or monitoring well (30 to 50 feet)

HORIZONTAL DATUM: NAD83/91
 VERTICAL DATUM: MLLW
 (navd88 plus 2.425')

ICS/NW Cooperage Site

Proposed Data Gap Sampling Locations

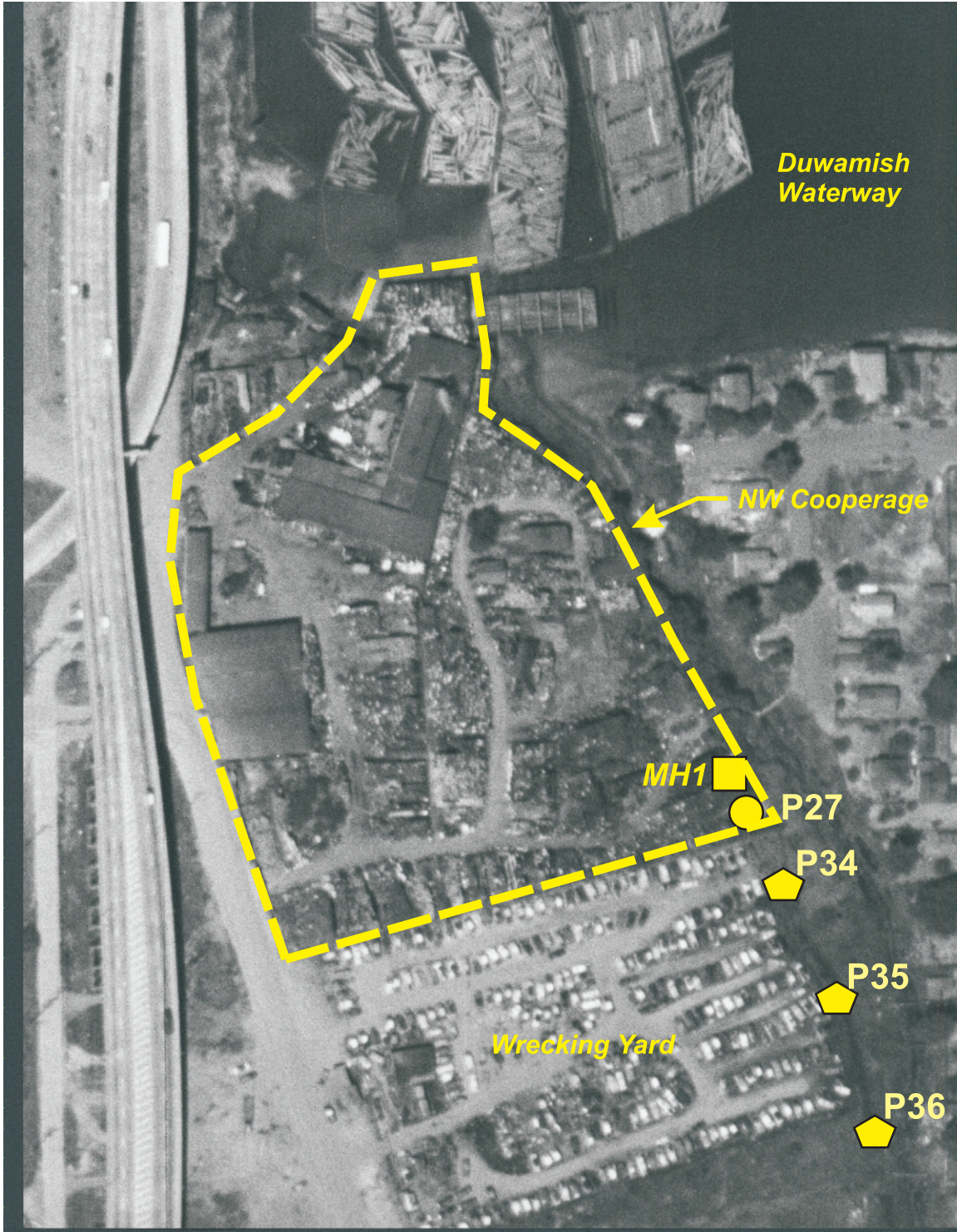
SUM-008-00 (ICS) Nov. 2014

Dalton, Olmsted & Fuglevand, Inc.

FIGURE 29

Ref: Upland Prop Spl Loc Rev 11-11-14.cdr

Ref: 1960 Photo Prop Off site probes rev 11-5-14.cdr



Proposed On-Site Probe **Proposed Off-Site Probe**

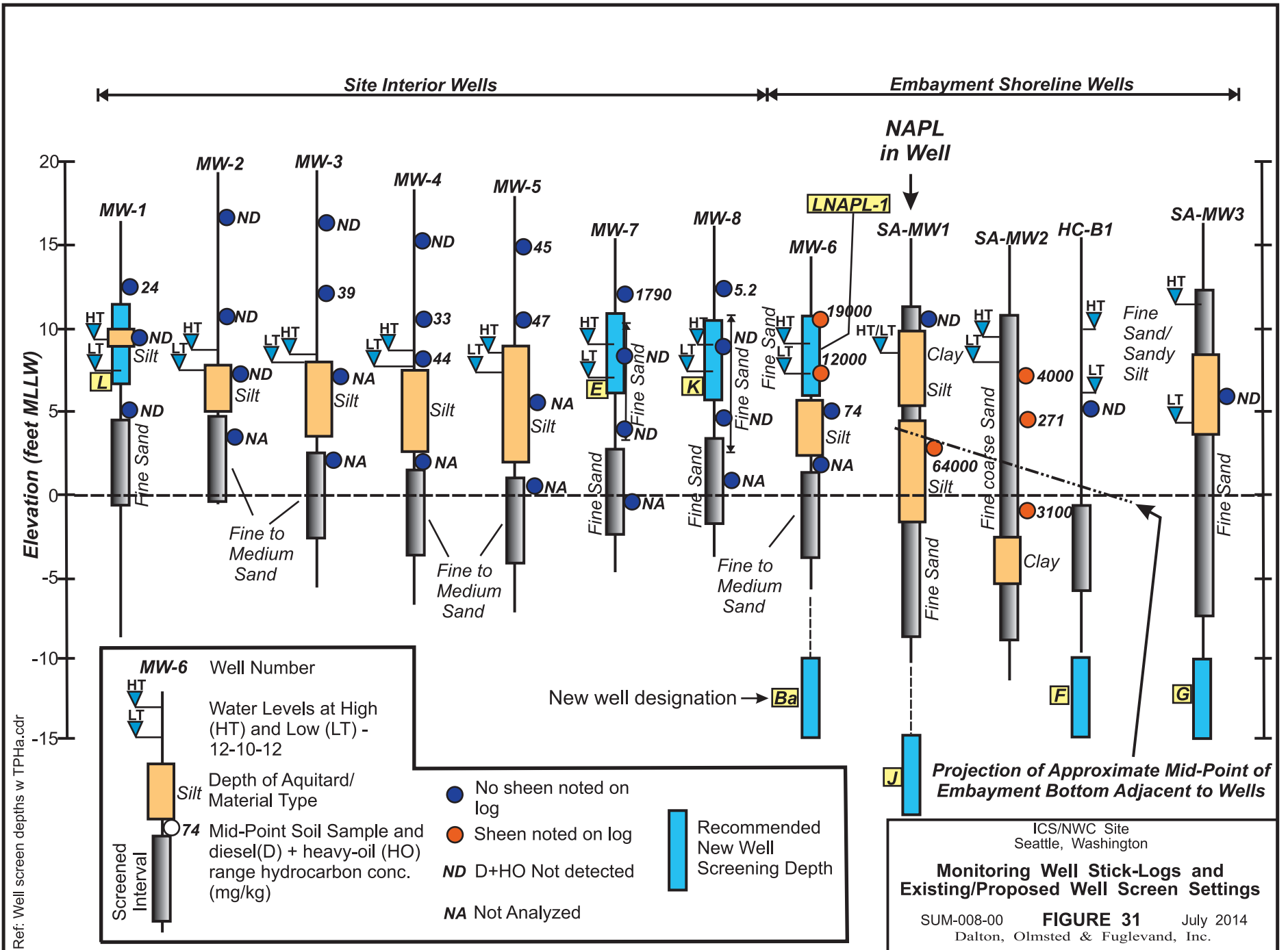
Air Photograph - 1960

Source: Aero-Metric



Scale in Feet
(approximate)

ICS/NW Cooperage Site		FIGURE 30
Proposed Conceptual Probe Locations South of Facility		
<i>SUM-008-00 (ICS)</i>	<i>Jan. 2013</i>	
<i>Dalton, Olmsted & Fuglevand, Inc.</i>		



ICS/NWC Site
Seattle, Washington

Monitoring Well Stick-Logs and Existing/Proposed Well Screen Settings

SUM-008-00 **FIGURE 31** July 2014
Dalton, Olmsted & Fuglevand, Inc.

FIGURE 32 - Data Gap Work Program Schedule

Task	2014				2015												2016					
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June
Phase 2a Field Work																						
Embayment Sediment Sampling	xxxx (Completed in mid-September 2014)																					
Install Douglas Property Wells																						
Arrange Access		xxxxxxxx																				
Install and Develop			xxxxxxxxxxxxxxxxxxxx																			
Sample Wells (4 Qtrs.)					xxxxxxx			xxxx				xxxx			xxxx							
Drill and Sample Soil Probes																						
Arrange Access (3 off-site probes)		xxxxxxxx																				
Drill and Sample (24 probes)			xxxxx	xxxxxxxx	xxxx																	
Remove Oil Buried Container				xxxx																		
Wet Weather Storm System Spl.			xxxx	xxxx																		
Phase 2a Laboratory Analysis/ Validation/ Upload to EIM																						
Sediment Samples		xxxxxxxx																				
Douglas Soil Samples (PCBs)				xxxx	xxxxx																	
Douglas GW Samples (3 spls)					xxxx	xxx		xxxx	xxxx		xxxx	xxxx			xxxx	xxxx						
Probe Soil and GW Samples			xxxx	xxxxxxxx	xxxxxxxx																	
Phase 2a Technical Memorandum																						
Prepare and Submit Draft Memo.				xxxx	xxxxxxxx	xxxxxxxx																
Ecology Review and Finalize Phase 2b Work Program						xxxxx	xxxxxxxx															
Phase 2b Field Program																						
Drill, Install, Develop and Survey Monitoring and NAPL Wells (15 wells)								xxxxxxx	xxxx													
Refine Groundwater Flow Gradients									xxxxxxx													
Assess Hydraulic Conductivity									xxxxxxx													
Collect GW Samples (quarterly)									xxxxxxx			xxxxxxx			xxxxxxx				xxxxxxx			
Storm System Spl. (High WT)								xxxx	xxxx													
Phase 2b Laboratory Analysis/ Validation/ Upload to EIM																						
Well Drilling Soil Samples									xxxxxxx													
Groundwater Samples										xxxxxxxx	xxxx		xxxxxxxx	xxxx		xxxxxxxx	xxxx		xxxxxxxx	xxxx		
Phase 2b Technical Memorandum																						
Prepare and Submit Draft Memo. (Present Data - Final Data Gap Review)															xxxx	xxxx						
Ecology Review/Resolve Issues as Needed																xxxx	xxxx					
Prepare RI																					According to AO Schedule	

Notes: Some projected schedule changes may occur depending on driller availability

**ATTACHMENT A
GPR and SEWER VIDEO SURVEY**

**DATA GAP TECHNICAL MEMORANDUM
ICS/NWC RI/FS
SEATTLE, WASHINGTON
October 2014**

6034 N Star Rd. • Ferndale, Washington 98248
Telephone (360) 380-0862 (FAX 360-380-0862)
Cell (206) 498-6616 e-mail: mdalton@dofnw.com
(Kirkland, WA Office – 425-827-4588)

MEMORANDUM

TO: Victoria Sutton – Department of Ecology

FROM: Matt Dalton/Dave Cooper

DATE: October 4, 2013

SUBJECT: GPR and Sewer Video Survey – RI Testing
ICS/NWC Site, Seattle, Washington

REF. NO: SUM-008-00

CC: Phil McCune/Ralph Palumbo – Summit Law Group
Steve Thiele – Stoel Rives

This memorandum summarizes the Remedial Investigation (RI) work completed in September 2013. The purpose of the work was to address a data gap identified in the Data Gap Memorandum (DOF 2013) and several of the review comments received in an e-mail from Ecology dated August 23, 2013 as follows:

- Previous RI testing identified a buried “*container*” with oily fluid at location LP4. A ground penetrating radar (GPR) survey of the LP4 location was conducted in an attempt to identify the size and type of the buried container, as it lies below paving.
- GPR was used to attempt to locate a suspected buried “*Outlet Box*” associated with the former lagoon. The outlet box is shown to be located near the southwest corner of the former lagoon on a design drawing by Dodd & Millegan prepared in 1962.
- GPR was used to attempt to locate the trend of the existing storm sewer pipe in relation to the former filled-in lagoon. Design drawings show the buried concrete pipe to trend along the southwest bank of the former lagoon.
- A video survey of the storm water piping system was completed to assess:
 - The possible cause of high chloride concentrations in samples from monitoring well MW-1 (i.e. exfiltration through separated pipe joints or cracks when saline water enters the pipe during high tides),
 - Whether groundwater potentially could infiltrate into the pipe and be discharged to the embayment,

- The horizontal position of the buried piping, and
- The general interior pipeline condition.

The results of this work will be used, in part, to prepare a Data Gap Work Plan to collect additional information necessary to complete the RI for the site.

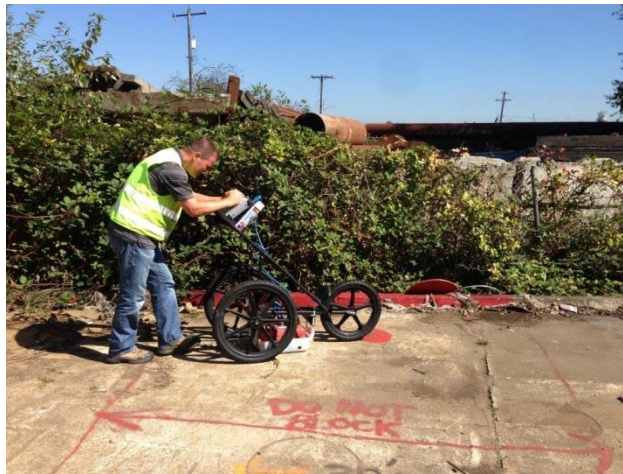
In addition to the above objectives, the existing monitoring wells and control structures were professionally surveyed to firmly establish the site elevation datum as NAVD88. The NAVD88 datum is required to upload monitoring well and groundwater analytical data to Ecology's EIM data base.

GROUND PENETRATING RADAR (GPR) SURVEY

APS Locates (North Bend, WA) was retained to provide ground penetrating radar (GPR) services to attempt to locate/assess:

- The size and type of the buried container with oil discovered during the initial attempt of drilling probe LP4. The oil was discovered in an apparent void located 4 to 5 feet below ground level (see log of LP-4 in DOF 2013).
- The location of an outlet box identified on the 1962 Plat Plan by Dodd & Milligan.
- Horizontal position of the buried sewer line trend and width of the former lagoon.

Steve Brown with APS arrived on-site on September 9, 2013 and met with David Cooper of Dalton, Olmsted & Fuglevand, Inc. (DOF). Mr. Cooper laid out a series of transect lines (A thru E on Figure 1) and identified potential target areas to survey (shaded areas on Figure 1). APS proceeded to scan the areas using a SIR 3000 GPR system equipped with a 400MHz antenna, as illustrated in the following photograph.



GPR survey equipment – September 9, 2013.

The equipment is generally capable of scanning the subsurface to a depth of approximately 5 feet. Multiple passes were made in a logical pattern to attempt to discern subsurface anomalies. The operator observed scan patterns on a monitor in real-time as the equipment was rolled along. Potential anomalies were approached in perpendicular directions to isolate them and the location painted on the ground.

The results of the GPR survey are summarized below:

- No void, pipe or underground container was detected in the vicinity of LP4.
- The only anomaly detected in the surveyed areas was near the suspected location of the outlet box, where two linear features were observed approximately ten feet north of monitoring well MW1. However, no connecting features indicating a buried box or structure were detected.
- No anomalies were detected during the traverse surveys of the lagoon area.

The APS summary letter is included as Attachment A to this memorandum.

STORM SEWER EVALUATION

DOF subcontracted APS locates to provide a robotic camera to video survey the 2nd Avenue storm sewer pipe crossing the project area to its outfall in the intertidal embayment located on the north side of the site. The objectives of the video survey were as follows:

- Determine the general integrity of the pipeline, i.e. identify any cracks, joint separations, or other obvious damage.
- Confirm the horizontal trend of the buried pipeline.
- Observe differences in flow volume, if any, indicating possible groundwater infiltration or high tide pipeline exfiltration.
- Assist in locating several buried structures; buried man-hole/control structure (MH-2) and buried outlet box associated with the former lagoon.

APS first attempted to video the pipeline on September 4, 2013. The pipeline was accessed via Manhole 1 (MH1), the southernmost manhole in the southeast corner of the property. The camera revealed the pipeline at that point to consist of 30-inch diameter corrugated metal pipe (CMP), consistent with available design drawings. The pipe contained up to 3 to 4 inches of sediment and standing water to a depth of 6 to 8 inches, above the bottom of the CMP. The robotic camera was too small and was only able to penetrate the first 40 feet of CMP pipe. The attempt was aborted and rescheduled to use a larger robotic camera.

On September 17, 2013, Pro-Vac Services, under subcontract to APS, arrived on-site with larger equipment capable of traversing sediment and equipped with an articulated robotic camera that could “see” above standing water in the 30-inch CMP. The robot was also equipped with a sonde used to detect the horizontal position of the camera. DOF also subcontracted Ron’s Earth Works to provide a backhoe to assist in locating the second sewer control structure shown on available drawings, the top of which appeared to be buried. The camera was launched at 0830 hours during a predicted low tide of +0.1 feet Mean Lower Low Water (MLLW) @ 0953 hours, providing a window of opportunity (drained pipeline), until the tide would reach the outfall invert at +3 feet (approximately noon). The inside of the pipelines were viewed in real time on a video monitor and recorded. The equipment used to complete the survey is shown below.



Video camera support truck and monitor



In Pipe Robotic Camera

The camera was initially deployed into the accessible control structure (MH1) and advanced north. Progress was measured in feet (as indicated on the video monitor) from the control structure, with the following observations (a CD with the video survey is included in Attachment C):

- The pipeline consisted of a 30-inch diameter CMP, with no discernible perforations or indication of collapse.
- A belly or low-spot was observed in the line at station +50 feet (50 feet north of MH1).
- The pipe had standing water throughout, and up to 6 inches of sediment at the low-point.
- A slight flow to the north was observed; estimated to be less than 1 gallon per minute (GPM).
- The CMP segment of the pipeline ended at station +80 feet at a second control structure (buried manhole MH2).

The camera position adjacent to the second (buried) control structure was located at the surface. The backhoe was used to scrape away surficial soils at the indicated control structure locationⁱ. The second manhole or control structure (MH2) was revealed approximately two feet below current grade. Soils were cleared and sloped away to provide access to MH2. The control structure was observed to have standing water approximately 5.3 feet below the rim which was coincident with the invert of the outlet pipeline to the north. The base of the control structure was filled with sediment to a depth of approximately 2.5 feet.

The robotic camera was retrieved and redeployed from MH2 to survey the remaining pipeline. The camera was launched at 1000 hours and advanced north from MH2, measured in feet of progress from the control structure, with the following observations:

- The second pipeline consisted of 24-inch reinforced concrete pipe (RCP), consistent with available design drawings. The pipe was observed to be generally clear of sediment.
- A belly or low-spot, with standing water was observed from station +25 to +115 feet (as measured north of MH2). The lower slip-joints appeared to have pulled apart 1 to 2 inches, but still appeared to overlap. No voids or surrounding soils were observed.
- 6-8 inches of debris consisting of gravel, cobbles and shells was observed from station +42 to +50 feet.

ⁱ The design drawings indicated a distance of 65 feet between the two man-holes as compared to the actual distance of approximately 80 feet (see survey drawing in Attachment B).

- An 8-inch diameter lateral pipeline was observed on the west side at station +97 to +98 feet (Figure 2). This likely represents the connection to the former outlet box. The location was marked on the surface (shown on Figure 1). Horizontal coordinates are included in Attachment B.
- The remainder of the RCP pipeline was videotaped and located, ending at the outfall to the embayment at approximate station +404 feet at 1130 hours.
- The RCP generally appeared to be in good condition. With no discernible cracks or collapse. No additional joint separations were observed.
- The same flow of water was observed in the 24-inch RCP as was observed within the upstream 30-inch CMP. There was no discernible difference in flow volume.
- The trace of the pipeline was marked in paint at the surface. Horizontal coordinates of the marks were later established using a GeoXH GPS (the trace and coordinates are included in Attachment B).
- No tide gates or weirs were observed in the pipes or control structures.

Observed pooling water (at low tide) in the 30-inch CMP located between MH1 and MH2, is governed by the invert of the 24-inch RCP as it exits MH2. The 24-inch pipe MH2 exit invert elevation is at a slightly higher elevation than the invert elevation of the 30-inch pipe inlet.

The control structure invert elevations were determined in relation to the manhole rim elevations as shown on the Tye Surveyors drawing, based on a survey completed on September 24, 2013, included in Attachment B. The low tide depth to water in each structure was subtracted from the rim elevation to determine the invert elevations as follows:

- Invert elevation MH1 – +7.2 feet NAVD88ⁱⁱ (9.6 feet MLLW)
- Invert elevation MH2 – +7.05 feet NAVD88 (9.4 feet MLLW)
- Invert elevation of Outfall – +0.83 feet NAVD88 (3.3 feet MLLW)

Using a 24-inch RCP length of 404 feet and the MH2 and Outfall invert elevations, an average pipeline slope of 1.5% is calculated ($(7.05 \text{ feet} - 0.83 \text{ feet}) / 404 \text{ feet} \times 100 = 1.54\%$).

DISCUSSION OF RESULTS

General Observations. The estimated vertical position of the 2nd Avenue storm sewer is shown on Figure 3. A 30-inch CMP connects upstream sources to MH1 and a 30-inch CMP is present between MH1 and MH2. A 24-inch RCP connects MH2 to the

ⁱⁱ To convert NAVD88 elevations to MLLW elevations, add 2.43 feet (e.g. 0 feet MLLW = +2.43 NAVD88).

embayment outfall. Pooling water is present in the manholes and sediment has accumulated in the manholes, as the bottoms of the structures are below the invert elevations. Pooling water and sediment are also present in the 30-inch CMP between MH1 and MH2 because of differences in the invert elevations. Upstream storm water and sediment that enters the property currently discharges to the embayment. Other than a historical pipe connection for the lagoon outlet box, no other connections to the storm water system were observed, confirming that no ICS/NWC storm water has entered the system since the outlet box ceased to be used and was covered over.

High Chloride Concentrations in DOF-MW1. With the exception of one short section of the 24-inch RCP, no cracks, joint separations, etc. were observed. Flow entering the property near MH1 appears to be similar to flow observed in the pipelines and at the outfall based on the video survey and visual observations in the control structures. These observations indicate that at the time of the video survey, no groundwater was entering the buried pipeline system.

Pooling water was present in a low elevation portion of the 24-inch RCP, approximately 40 to 50 feet downstream of MH2. The cause of the pooling water appears to be pipe line settlement where joints have separated 1 to 2 inches. A water level measurement made in monitoring well DOF-MW1 located adjacent to the low elevation portion of the pipeline (Figure 1) indicated a water table elevation of 3.6 feet NAVD88. As shown on Figure 3, the water table was below the bottom of the pipeline at the time of the video survey.

Anomalously high chloride concentrations were detected in groundwater samples from DOF-MW1 (see Figure 10 in Date Gap Report). The coincident location of the observed pipe joint separations and the DOF-MW1 monitoring wellⁱⁱⁱ indicate that the high chloride concentrations are likely related to leakage from the pipeline during higher tides when saline river water enters and flows into the pipeline system.

Using the average slope of the pipeline (1.5%), invert elevations and accounting for some settlement of the pipeline where the water is pooling, the bottom of the pipeline in the area where the joints have separated has an elevation of approximately 5.0 to 5.5 feet NAVD88 or approximately 7.4 to 7.9 feet MLLW. High tides range up to approximately 13 feet MLLW in Puget Sound, so when tidal levels are above approximately 8 feet MLLW, saline river water would enter the pipe and flow upstream to and beyond where the low area was observed in the video survey. Such saline water would leak from the pipe into the groundwater system, as there would be a positive gradient from inside the pipe to the groundwater system.

ⁱⁱⁱ The relative position of the pipeline and DOF-MW1 were refined based on the video survey and are plotted on attached Figure 1.

Location of the Outlet Box. The outlet box and its connection to the 24-inch RCP is shown on a portion of the 1962 design drawing prepared by Dodd & Millegan (Figure 4). The video survey found the connection with the existing sewer pipeline to be approximately 98 feet down stream of MH2 (Figure 1). If the design drawing is representative of what was constructed, the outlet box should lie 5 to 10 feet south and southeast of the pipe connection. The design drawing shows the outlet box to be constructed of concrete and approximately 7.5 feet x 5 feet in plan view and 6 feet deep.

OTHER SURVEY INFORMATION

The Tyee survey completed on September 24, 2013 also established the monitoring well top of casing (TOC) elevations to the NAVD88 datum. The survey data is presented in Attachment B. Updated coordinate locations and elevations for sample locations are presented in attached Table 1.

CLOSING

The services described in this memorandum were performed consistent with generally accepted professional consulting principles and practices. No other warranty, expressed or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this document.

REFERENCES

DOF (Dalton, Olmsted & Fuglevand, Inc.), 2013, Data Gap Memorandum, ICS/NWC Remedial Investigation Testing, Seattle, Washington, Agency Review Draft: February 14, 2013.

Attachments

Table 1 – Updated Survey Information – September 2013
Figure 1 – GPR and Storm Water Sewer Survey Locations
Figure 2 – Outlet Box Pipe Connection to 24-Inch RCP
Figure 3 – Storm Sewer Section
Figure 4 – Outlet Box Location
Attachment A – APS – GPR Letter Report (September 9, 2013)
Attachment B – Survey Information
Attachment C – Video Survey (on CD)

TABLE 1 - Sample Location Survey Data - September 2013**SURFACE SEDIMENT SAMPLE LOCATIONS**

Sample #	Northing	Easting
DSS-01	200361	1269757
DSS-02	200359	1269797
DSS-03	200373	1269829
DSS-04	200323	1269823
DSS-05	200350	1269867
DSS-06	200304	1269886
DSS-07	200363	1269925
DSS-08	200336	1269926
DSS-09	200296	1269935
DSS-10	200288	1269967
DSS-11	200289	1269996
DSS-12	200311	1270016
DSS-13	200318	1270038
DSS-14	200382	1270016
DSS-15	200363	1270018
DSS-16	200380	1270065
DSS-17	200331	1270081
DSS-18	200370	1270116
DSS-19	200363	1270177
DSS-20	200370	1270209
DSS-21	200361	1270227
DSS-22	200367	1270258
DSS-23	200324	1270140
DSS-24	200331	1270215
DSS-25	200334	1270265
DSS-26	200272	1270156
DSS-27	200274	1270208
DSS-28	200302	1270233
DSS-29	200277	1270273
DSS-30	200288	1270328
DSS-31	200320	1269997
DSS-32	200323	1270015

Notes:

NAD 83/96 - Based on DOF survey using GeoXH GPS

TABLE 1 - Sample Location Survey Data - September 2013

EMBAYMENT CORE LOCATIONS

Core	Northing	Easting	Comment
A	200360	1269800	
B	200357	1269857	
C	200352	1269851	
D	200325	1269895	refusal
E	200349	1269926	
F	200322	1269928	
G	200350	1269965	
H	200317	1269980	
I	200354	1270036	
J	200348	1270100	
K	200357	1270196	
L	200303	1270196	
M	200337	1270246	

Notes:

NAD 83/96 - Based on DOF survey using GeoXH GPS

SEEP / STORMWATER SAMPLE LOCATIONS

Sample #	Northing	Easting
SEEP1	200332	1270124
SEEP2	200306	1269864
2nd Ave Outfall	200294	1269982
2nd Ave Manhole 1	199896	1270253

Notes:

NAD 83/96 - Based on DOF survey using GeoXH

UPLAND PROBE LOCATIONS

Probe	Northing	Easting
P1	200332	1269819
P2	200250	1269935
P3	200258	1269958
P4	200191	1269974
P5	200228	1269976
P6	200246	1269991
P7	200177	1270037
P8	200208	1270040
P9	200296	1270057
P10	200273	1270082
LP1	199889	1270243
LP2	199970	1270215
LP3	200044	1270155
LP4	200125	1270110

Notes:

NAD 83/96 - Based on DOF survey using GeoXH

TABLE 1 - Sample Location Survey Data - September 2013

MONITORING WELL LOCATIONS

Well	Northing	Easting	Ground Surface Elevation	TOC Elevation
DOF-MW1	199988	1270151	14.05	13.74
DOF-MW2	199928	1269979	17.12	16.8
DOF-MW3	199878	1269775	17.15	16.79
DOF-MW4	199985	1269797	15.86	15.54
DOF-MW5	200064	1269721	15.51	15.14
DOF-MW6	200248	1269827	11.88	11.53
DOF-MW7	200184	1269970	13.02	12.67
DOF-MW8	200098	1270037	13.84	13.51
SA-MW1	200268	1269944	13.03	12.57
SA-MW2	200311	1270090	12.33	11.97
SA-MW3	200249	1270174	13.04	12.57
HC-B1	200304	1270043	17.0	18.01
HC-B2	200174	1270080	13.5	13.95

Notes:

Horizontal Datum - Washington State Plane NAD 83 / 91

Vertical Datum - NAVD88

Based on Tye Surveyors September 2013 - Seattle Benchmarks 49360/49358

STORMWATER LOCATIONS

Sample #	Northing	Easting	Invert Elevation	Notes
South Manhole (MH 1)	199896	1270253	7.20	to water level *
North Manhole (MH 2)	199948	1270190	7.05	to water level *
2nd Ave Outfall End	200293	1269981	0.827	to pipe invert

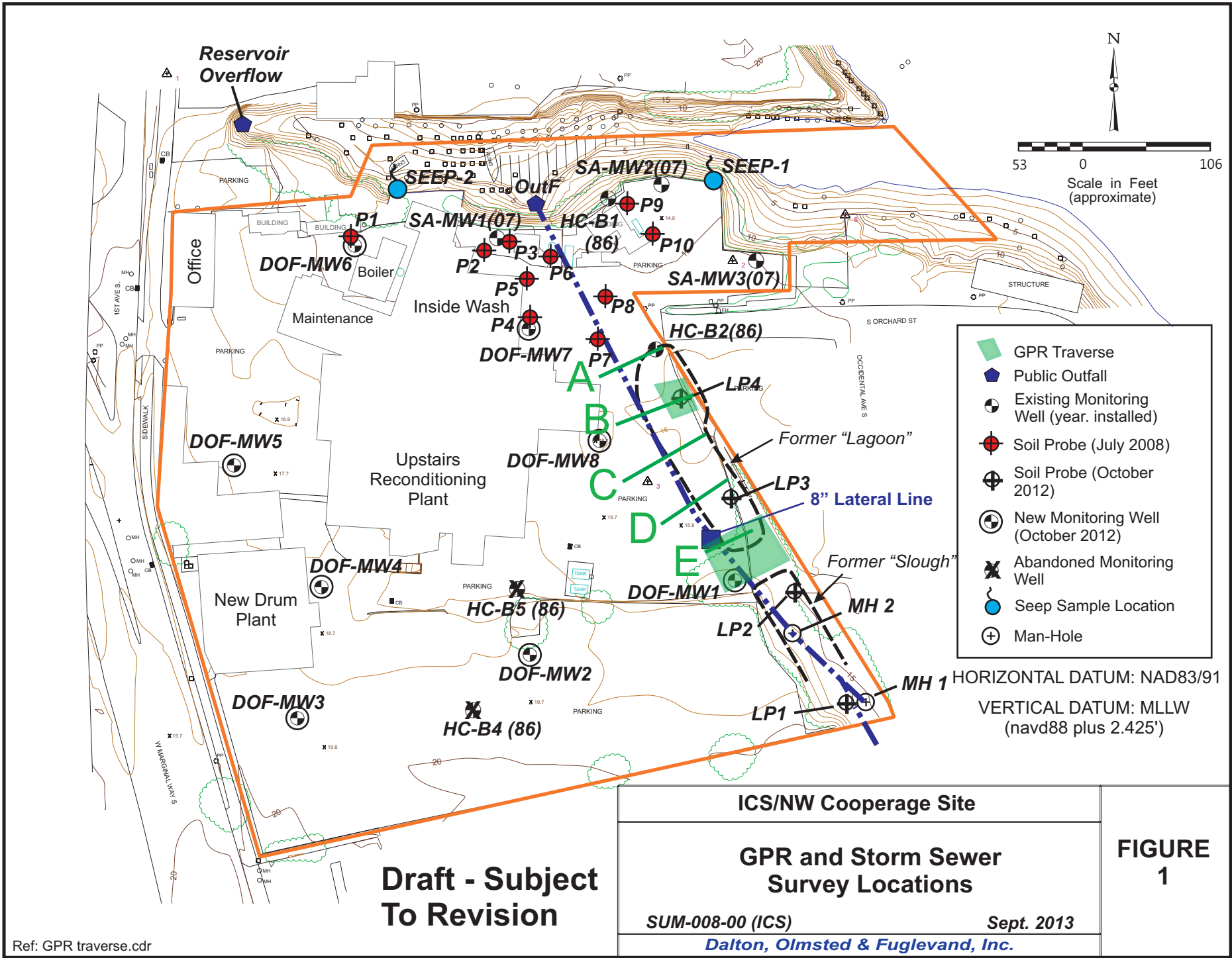
Notes:

* governed by inlet of 24" outfall exiting MH 2

Horizontal Datum - Washington State Plane NAD 83 / 91

Vertical Datum - NAVD88

Based on Tye Surveyors September 2013 - Seattle Benchmarks 49360/49358



Draft - Subject To Revision

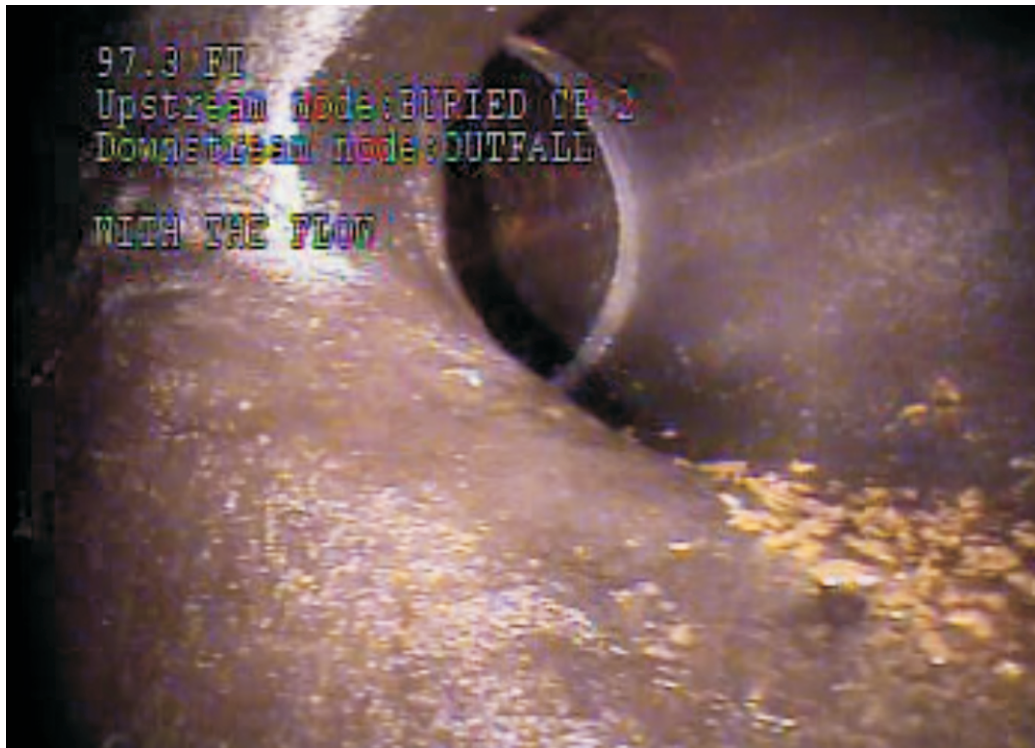
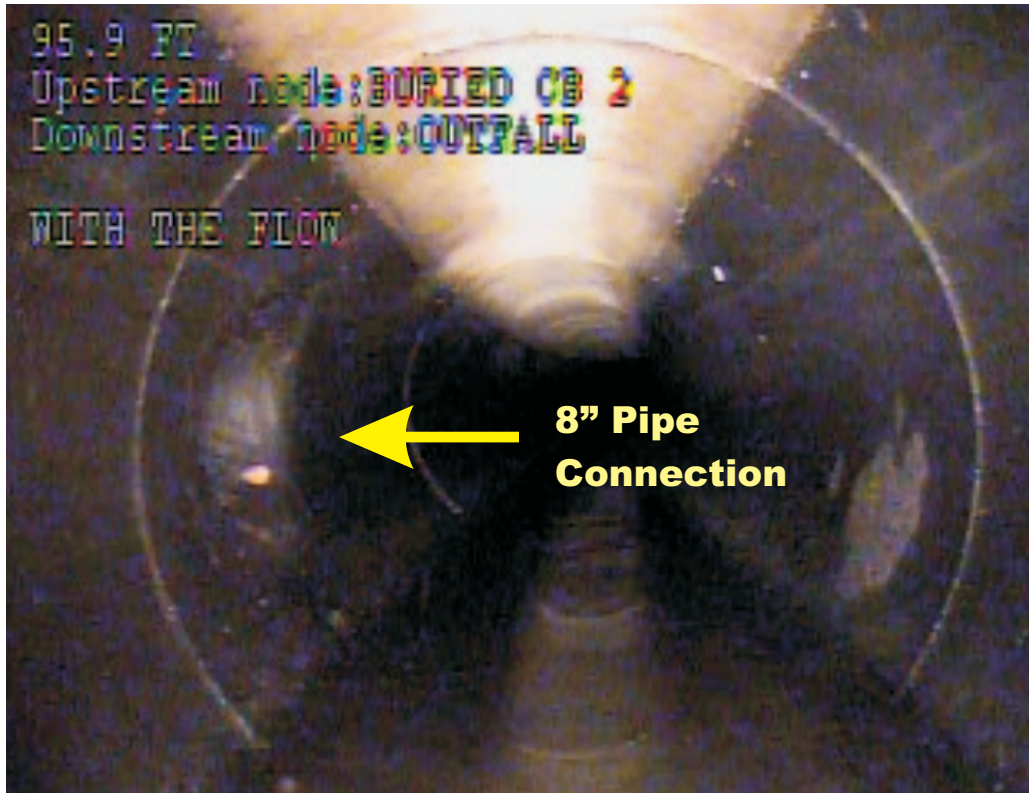
ICS/NW Cooperage Site

GPR and Storm Sewer Survey Locations

SUM-008-00 (ICS) Sept. 2013
 Dalton, Olmsted & Fuglevand, Inc.

FIGURE 1

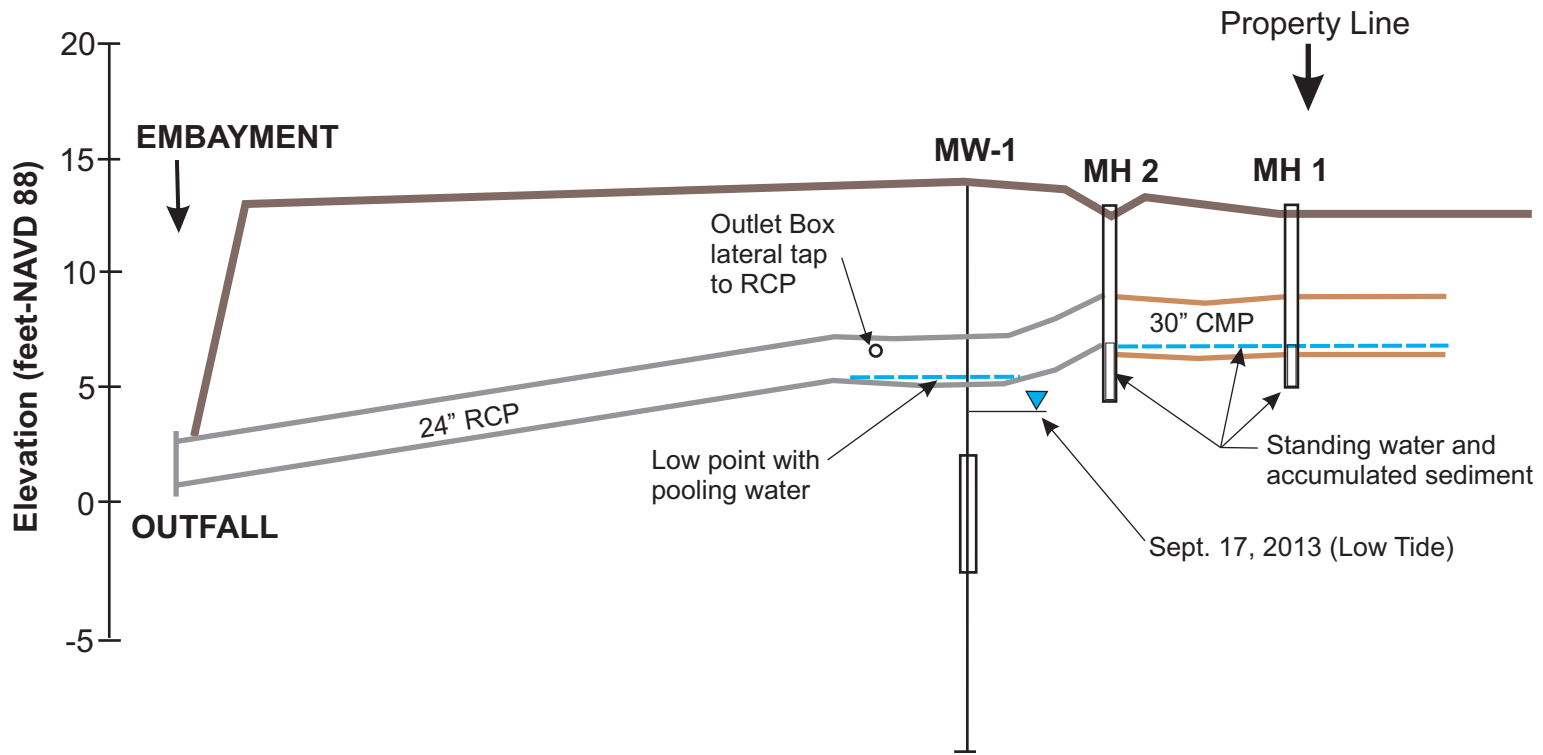
Ref: GPR traverse.cdr



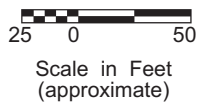
ICS/NWC Site
Seattle, Washington

**Outlet Box Pipe Connection
to 24-Inch RCP**

SUM-008-00 **FIGURE 2** October 2013
Dalton, Olmsted & Fuglevand, Inc.



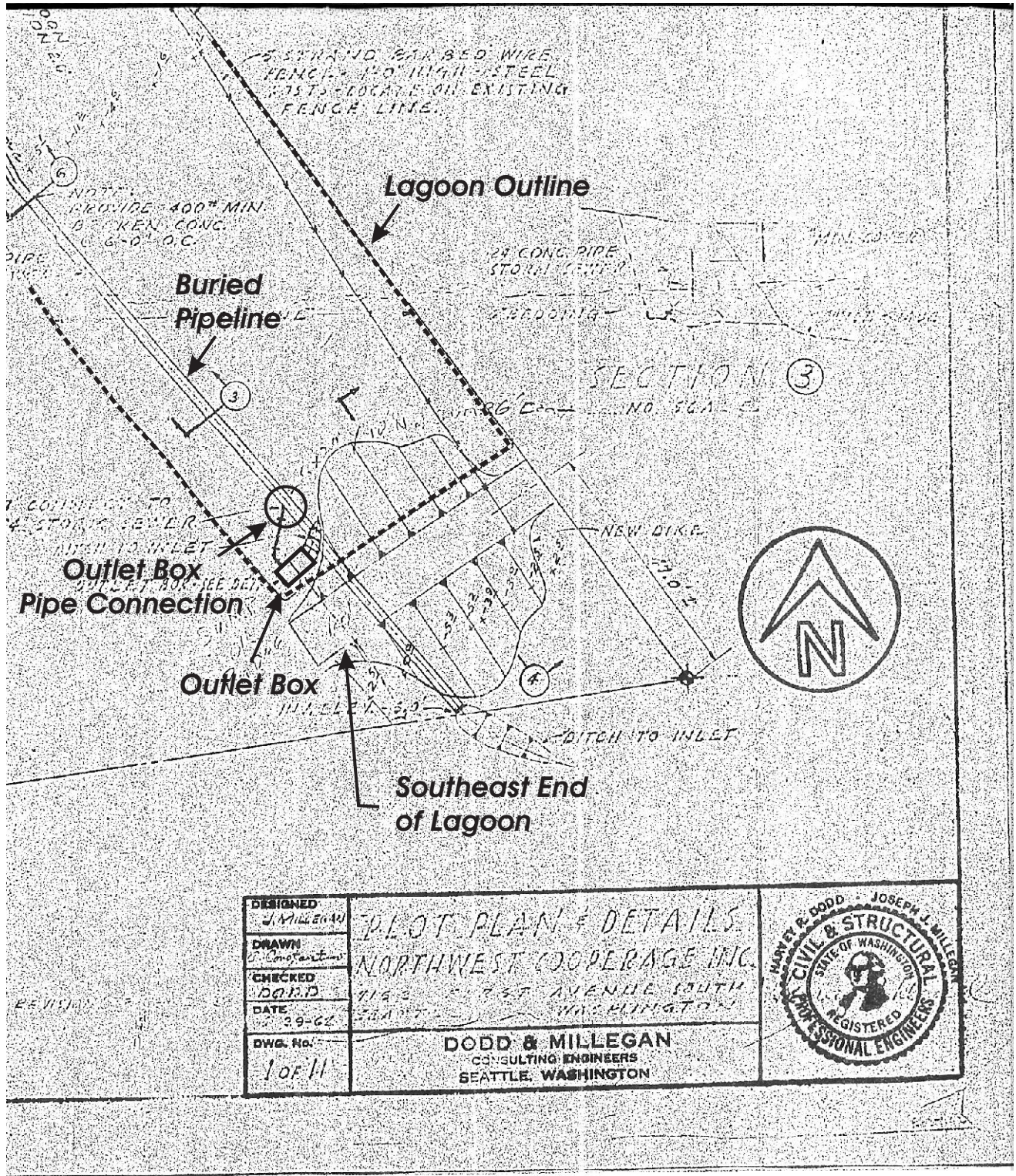
CMP - Corrugated Metal Pipe
 RCP - Reinforced Concrete Pipe



ICS/NW Cooperage Site

Storm Sewer Section

SUM-008-00 **FIGURE 3** Oct. 2013
 Dalton, Olmsted & Fuglevand, Inc.



0 20 Scale in Feet (approximate)

ICS/NW Cooperage Site
Seattle, WA

Outlet Box Location

ATTACHMENT A
APS – GPR LETTER REPORT
ICS/NWC Site, Seattle, Washington

September 9, 2013



DOF Environmental
10827 NE 68th, Suite B
Kirkland, WA 98033

September 9th, 2013

Attn: David Cooper

Re: GPR Survey: ICS. Seattle, WA

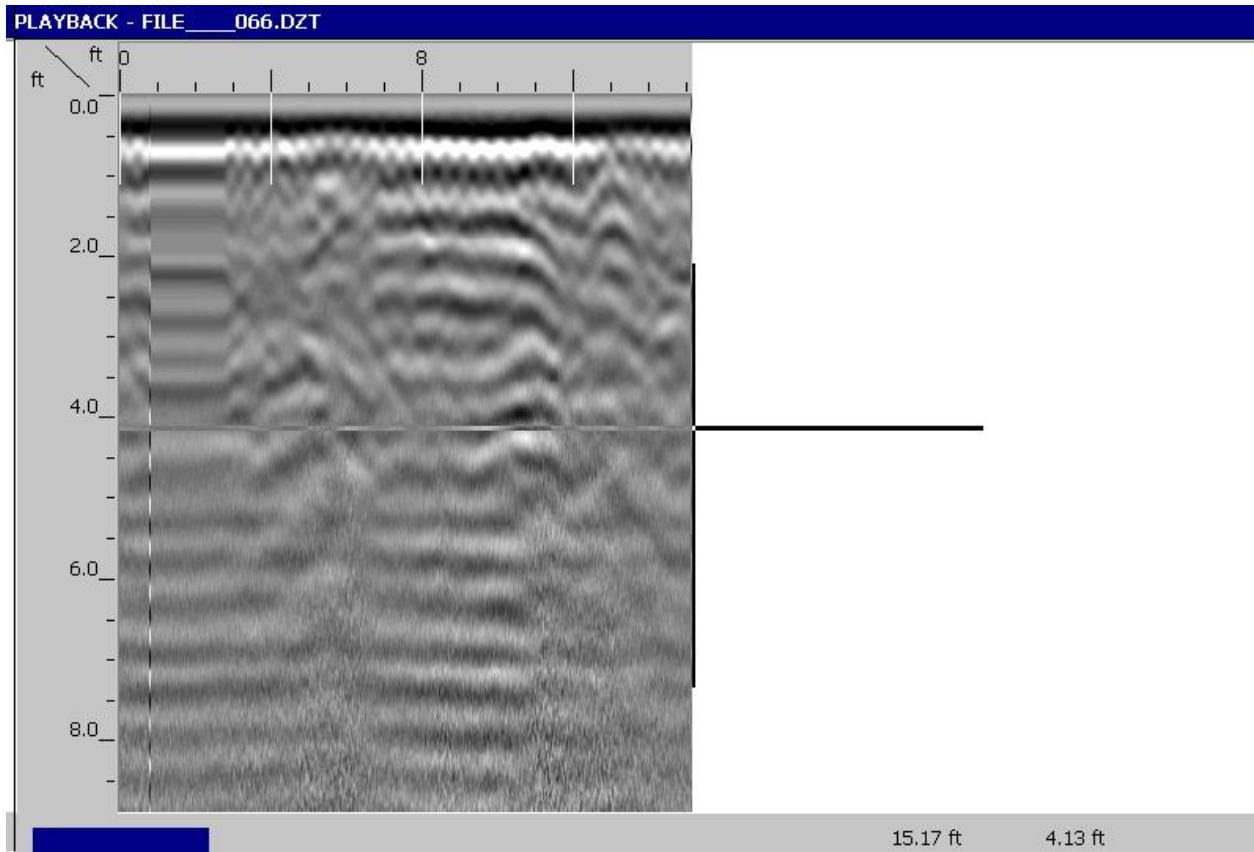
APS utilized a 400 MHz (Model 5103) antenna and the SIR system 3000 control unit manufactured by Geophysical Survey Systems to scan the defined work area for vaults, former lagoons and any other unknown utilities or objects. The scan included 5 transects labeled A-E across the former lagoon area. There was no significant change in lithology. A scan of area LP-4 produced no apparent UST or other object. A scan of the former sump area, roughly 50' x 50', produced a faint reflection in the E-W direction (screen shot provided). A magnetometer sweep of the area where a missing manhole is believed to be returned multiple signals but most were found to be buried scrap metal or deeper than 2'.

Sincerely,

A handwritten signature in cursive script that reads "Steve B Brown".

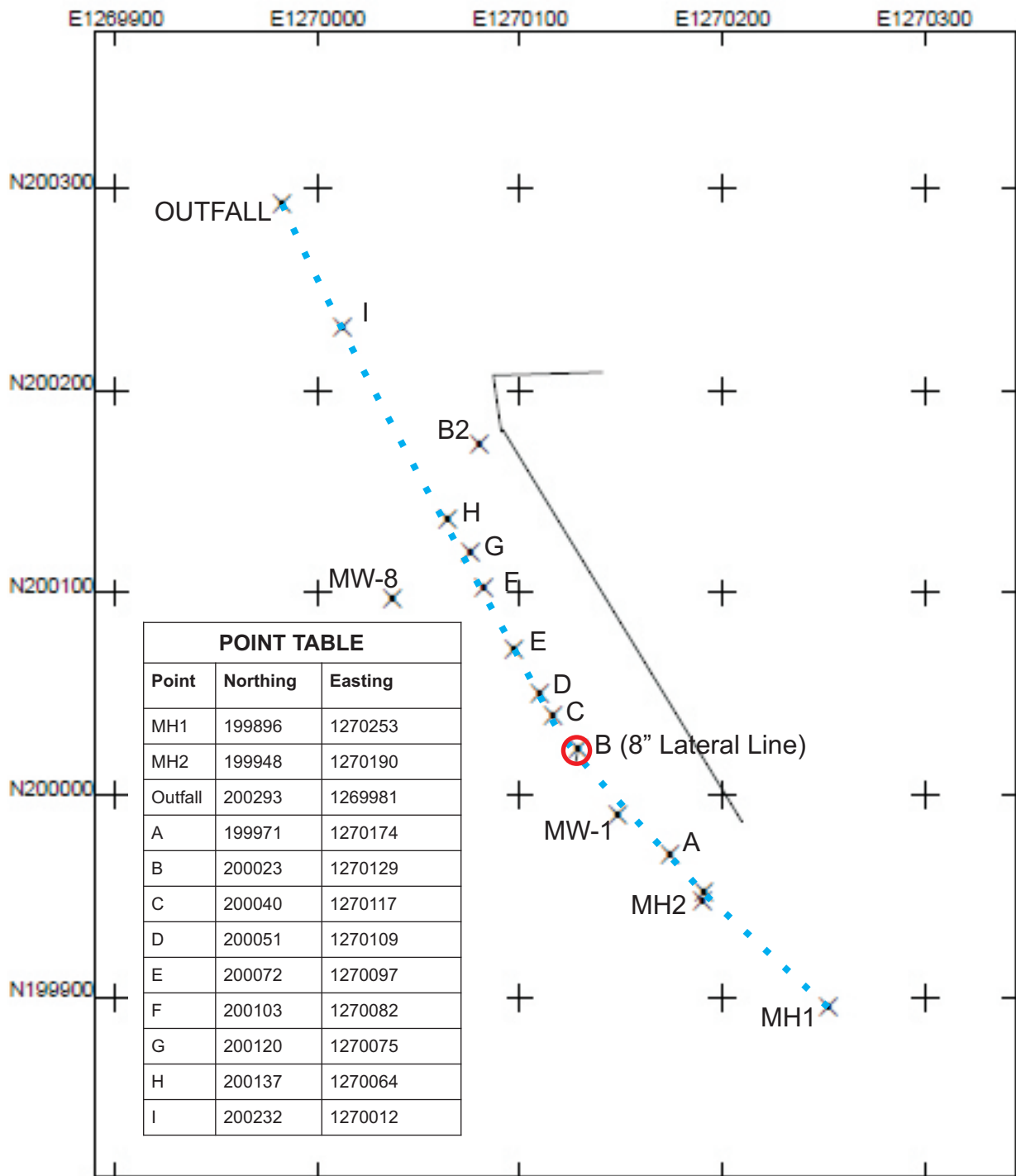
Steve B Brown
Vice President

APS GPR SCREEN SHOT
SUMP AREA
September 9, 2013



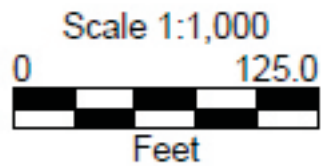
ATTACHMENT B
Survey Information
ICS/NWC Site, Seattle, Washington

September 2013



ICS Storm Sewer Trace

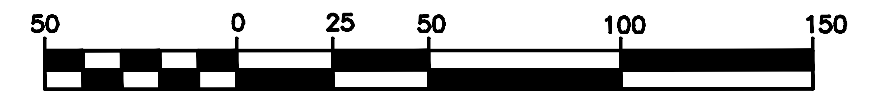
US State Plane 1983
Washington North 4601
NAD 1983 (Conus) CORS96



ICS STORM 9-17-13.cor
10/1/2013

GPS Pathfinder[®] Office
 Trimble.

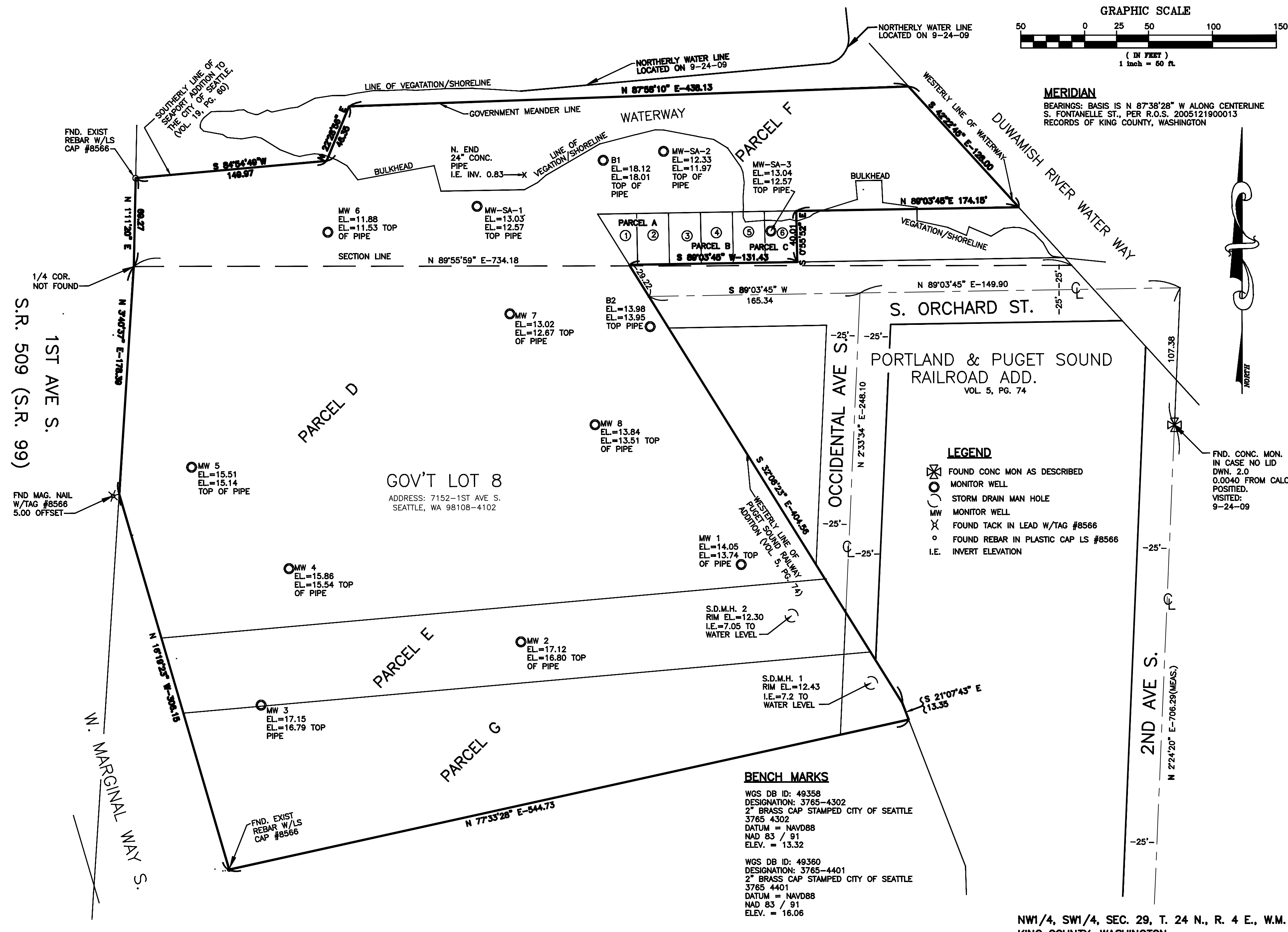
GRAPHIC SCALE



(IN FEET)
1 inch = 60 ft.

MERIDIAN

BEARINGS: BASIS IS N 87°38'28" W ALONG CENTERLINE
S. FONTANELLE ST., PER R.O.S. 2005121900013
RECORDS OF KING COUNTY, WASHINGTON



S.R. 509 (S.R. 99)
1ST AVE S.

FND MAG. NAIL
W/TAG #8566
5.00 OFFSET

FND. EXIST
REBAR W/LS
CAP #8566

1/4 COR.
NOT FOUND

N. MARGINAL WAY S.

GOV'T LOT 8
ADDRESS: 7152-1ST AVE S.
SEATTLE, WA 98108-4102

S. ORCHARD ST.
PORTLAND & PUGET SOUND
RAILROAD ADD.
VOL. 5, PG. 74

OCCIDENTAL AVE S.

2ND AVE S.

LEGEND

- FOUND CONC MON AS DESCRIBED
- MONITOR WELL
- STORM DRAIN MAN HOLE
- MONITOR WELL
- FOUND TACK IN LEAD W/TAG #8566
- FOUND REBAR IN PLASTIC CAP LS #8566
- INVERT ELEVATION

FND. CONC. MON.
IN CASE NO LID
DWN. 2.0
0.0040 FROM CALC'D
POSTED.
VISITED:
9-24-09

BENCH MARKS

WGS DB ID: 49358
DESIGNATION: 3765-4302
2" BRASS CAP STAMPED CITY OF SEATTLE
3765 4302
DATUM = NAVD88
NAD 83 / 91
ELEV. = 13.32

WGS DB ID: 49360
DESIGNATION: 3765-4401
2" BRASS CAP STAMPED CITY OF SEATTLE
3765 4401
DATUM = NAVD88
NAD 83 / 91
ELEV. = 16.06

GENERAL NOTES

1. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE ON THE DATE INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.
2. THIS MAP DOES NOT PURPORT TO SHOW EASEMENTS OF RECORD, IF ANY.
3. NO PROPERTY CORNERS WERE SET IN CONJUNCTION WITH THIS SURVEY.
4. REFER TO RECORD OF SURVEY IN VOL 274 OF SURVEYS, PG(S) 034-037 RECORDING NO. 20100806900003 FOR ADDITIONAL SURVEY CONTROL.



SITE PLAN for DOF ENVIRONMENTAL		
10827 NE 68TH SUITE B KIRKLAND, WASHINGTON 98053		
Tyee Surveyors PROFESSIONAL LAND SURVEYORS 10007 GREENWOOD AVE N., SEATTLE, WA 98133 (206)525-3660		
DRAWN BY: NP	DATE: 9-24-13	JOB NO.: 13188
CHKD BY: TG	SCALE: 1" = 50'	SHEET: 1 OF 1



ATTACHMENT C
Storm Sewer Video Survey (on CD)
ICS/NWC Site, Seattle, Washington

September 17, 2013

**ATTACHMENT B
DATA VALIDATION REPORTS
BY DMD, INC.**

**DATA GAP TECHNICAL MEMORANDUM
ICS/NWC RI/FS
SEATTLE, WASHINGTON
October 2014**



D.M.D., Inc.

Environmental & Toxicological Services

13706 SW Caster Road, Vashon, WA 98070-7428 (206) 463-6223 fax: (206) 463-4013

MEMORANDUM

TO: Matt Dalton (DOF)

FROM: Raleigh Farlow

DATE: November 2, 2012

SUBJECT: Data Evaluation/Assessment for 33 Sediment Samples Collected during July 2012 from the ICS / [former] NW Cooperage Site, Seattle, WA

Thirty three sediment samples were collected by Dalton, Olmsted & Fuglevand (DOF) staff during July 2-3 of 2012 for the evaluation of sediment quality. All sediment samples were delivered in two delivery groups to Analytical Resources Inc. (ARI) of Tukwila, Washington on the same day of collection. Samples were received on ice at temperatures between 1.6 and 6.0 degrees C, and maintained at the project laboratory at 4 degrees C prior to analyses. No chemical preservatives were specified nor required.

Sample collection, handling, and analyses were conducted in accordance with the project sampling and analysis plan (SAP) (*Sampling and Analysis Plan to Complete Remedial Investigation Sampling ICS / Former NW Cooperage Site, Seattle, Washington*, prepared by DOF, February 2012). All analyses were performed by methods presented in Table SAP-3 of the SAP.

specific gravity	ASTM D854	Atterberg limits	ASTM D4318
grain size	ASTM D422/D421	bulk density	ASTM D7263
moisture content	ASTM D2216	TOC	Plumb, 1981 (PSEP)
SVOC's	SW846-M.8270	chlor. pesticides	SW846-M.8081
PCB's as Aroclors	SW846-M.8082	metals (exc Hg)	SW846-M.6020A
Hg	SW846-M.7471A	chlor. dioxins/furans	U.S. EPA 1613B
TBT	Krone/8270-SIM	total petroleum HC's	NWTPH-Dx

Atterberg limits are not reported in the attached data/results table. Semivolatile organic compound (SVOC's) analyses were performed by SW846 M.8270 in full-scan mode, and selected analytes were further analyzed and reported from analyses performed in the (M.8270D) SIM mode to improve/lower the reporting limits. These selected analytes include 1,4-dichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,2,4-trichlorobenzene, 2-methylphenol, 2,4-dimethylphenol, N-nitrosodiphenylamine (as diphenylamine), benzyl alcohol, and pentachlorophenol. Results for detected analytes were reported from the full-scan analyses or from the mode that yielded non-qualified data. For nondetected analytes, the lowest reporting limit between the two analytical modes was reported in the attached results table; generally from the SIM mode of analyses.

Samples were relinquished by DOF under chain-of-custody (C-O-C) procedure. All analyses for parameters reported in the attached results table were completed within the technical holding time requirements identified in the project SAP (table SAP-2) and/or within the recommended maximum holding times recommended by the U.S. EPA. Sample holding times/conditions are determined to be within acceptable technical limits and/or within SAP specifications.

Generally, [lower] **reporting limits** were consistent with specified-limits presented in the SAP (table SAP-3) and achieved the sediment PQL goals when contaminant levels allowed it. Exceptions are noted principally for organic compound analytes due to presence of chemical interferences and elevated levels of other target analytes. Specifically, samples 02, 04 (and its blind duplicate), 09 and 12 required extract dilutions due to elevated levels of organic contaminants resulting in the elevation of some analyte nondetection reporting limits. Sample 04, and its blind duplicate, exhibited elevated levels of petroleum hydrocarbons. Sample 12, for example, exhibited elevated levels of both target analytes and petroleum hydrocarbons necessitating extract dilutions in order to prevent instrumental overloading. Most of the elevated nondetects for the chlorinated pesticides are due to chemical interferences and elevated backgrounds for samples 04 (and its blind duplicate), 05, 06, 09, 12, 17, 19 and 27. Some Aroclors (commercial PCB mixtures) were reported with elevated reporting limits or nondetects due to elevated levels of other detected Aroclors that have the potential to contribute overlapping signals. Considerable effort was made by the analysts to achieve the specified lower reporting limits when the sample matrix and chemical interferences would allow it. Analyte concentrations reported at less than the lower reporting limit or the established linear concentration range are qualified as estimated with the “J” qualifier code.

Method blanks were analyzed and reported for all analytical parameters and groups (analytical groups are ≤ 20 samples). All method blanks reported nondetects, with the exception of *bis*(2-ethylhexyl)phthalate in both analytical groups at 15 and 41 $\mu\text{g}/\text{kg}$. *bis*(2-Ethylhexyl)phthalate results were qualified with the “B” qualifier code when results have the potential to be significantly impacted by laboratory background levels. Only two sample results required “B” qualification. No other data required qualification due to method blanks performance.

No field equipment **rinsate blanks** were specified in the project SAP nor were any collected.

Laboratory control sample (**LCS/LCSD**) and matrix spike (**MS/MSD**) recoveries were within acceptable ranges for most analytes. Some recoveries were nonevaluable due to high native levels of analyte interfering with [low] spike levels, such as Aroclor 1260 in sample 07, and Hg in sample 19. 2,4-Dimethylphenol MS and MSD recoveries in sample 23 (analytical group VB00) were reported at 13.6% and 21.1%. Associated samples with positive hits were previously qualified as estimated (“J” qualifier code) due to levels less than the lower verifiable calibration point. 2,4-Dimethylphenol LCS/LCSD recoveries were all within the acceptance range. MS/MSD recoveries for chlorinated pesticides in sample 29 were generally high and associated with elevated background interferences. LCS recoveries for heptachlor epoxide, 4,4'-DDE, and *trans*-chlordane were also high. No significant adverse effect on data quality is anticipated as a consequence. Antimony (Sb) matrix spike recoveries are reported consistently low in samples 13 and 19 at 7.2% and 1.7%, respectively. Sb LCS and SRM recoveries are determined to be acceptable. This behaviour for Sb is typical due to formation of Sb-SiO_4

complexes in the presence of soil minerals; however, positive hits for Sb are thus qualified with the “J_R” qualifier code to indicate results are considered estimates (biased low) due to low matrix spike recoveries. The polychlorinated dibenzo-*p*-dioxins and dibenzofurans (PCDD/PCDF) OPR check sample exhibited good performance and acceptable recoveries. Recoveries of spike analytes for all analyses were determined to be acceptable, with the exceptions noted above for 2,4-dimethylphenol and antimony; in the case of antimony, requiring qualification of associated results as estimates with the “J_R” code.

Surrogate compound recoveries (for organic analytes) were evaluated for SVOC’s, TPH-Dx, tributyl tin, chlorinated pesticides (including hexachlorobutadiene [HCBd] and hexachlorobenzene [HCB]), PCB’s, and polychlorinated dibenzo-*p*-dioxins and dibenzofurans (PCDD/PCDF’s). PCDD/PCDF recovery performance is evaluated by the use of stable isotope labeled (¹³C) compounds for each of the reported target analytes as well as a representative ³⁷Cl-labeled compound. Tetrachloro-*meta*-xylene (TCMX) and decachlorobiphenyl (DCBP) were utilized as the surrogates for evaluation of chlorinated pesticides and PCB’s analytical performance. Tributyl tin recovery performance is evaluated by the use of tripropyl and triphenyl tin chlorides. *o*-Terphenyl was utilized as the surrogate for the TPH-Dx analyses. SVOC recoveries were evaluated with the use of four labeled phenols and four labeled neutral compounds. The SVOC surrogate, d₁₄-terphenyl, showed low recoveries for the initial extract in samples 03, DUP-02, 05 and 06, while the diluted reruns showed compliant recoveries. The surrogates, TCMX and DCBP, for the analyses of PCB’s in sample 15 showed slightly elevated recoveries likely due to moderate levels of interferences manifested as an elevated chromatographic baseline. DCBP, only, showed moderately elevated responses in samples 04, DUP-02, 11, and 25 likely due to relatively high levels of Aroclor 1260, but not sufficient to adversely affect PCB’s data quality (Aroclor 1260 contains small amounts of DCBP). The TPH-Dx surrogate, *o*-terphenyl, exhibited slightly low recoveries (45% and 49%) in samples DUP-02 and 06 (acceptance range = 50-150% recovery). Sample 04 and its duplicate (DUP-02) exhibited good replication for TPH-Dx with less than 15 relative percent difference (RPD). Consequently, the noncompliant (slightly low) surrogate recoveries are considered sufficiently minor to not require qualification of associated TPH-Dx results. No qualification of results was required due to surrogate compounds performance.

SVOC continuing calibration verification (CCV) checks revealed elevated responses for phenol and butylbenzylphthalate (7/13/12), and butylbenzylphthalate (7/16/12, 7/19/12 & 7/20/12), and low for pentachlorophenol (7/13/12, 7/19/12, 7/23/12 & 7/25/12). Sample 19 was employed for MS/MSD evaluation and was also potentially affected by the noncompliant CCV for phenol and butylbenzylphthalate; where the MS/MSD recovery for phenol was 76.9% and 72.6% and the recovery for butylbenzylphthalate was 108% and 93.9% - all acceptable recoveries. In spite of the noncompliant CCVs, the actual recoveries for phenol and butylbenzylphthalate are well within acceptable ranges and thus the reported values for these analytes are considered acceptable. Reported data associated with noncompliant CCV’s are nonetheless qualified as estimates with the “J_Q” code, even though the data quality, by other measures, is within acceptance limits.

Two pairs of blind **field duplicate** samples were collected and submitted for analyses for the assessment of monitoring variability. Duplicate pairs are identified in the attached table of

sample results. Variability in terms of relative percent difference (RPD) for all parameters generally averaged 30% for duplicate pairs. Greatest RPDs (up to 100 & 140) were observed for organic contaminants, such as fluoranthene and pyrene, in sample 04 and its associated blind duplicate. Laboratory duplicate analyses were generally less than 20 RPD (within SAP specifications). Grain size triplicate analyses were performed on a nonproject sample and yielded acceptable performance.

TPH-Dx analyses indicate the principal recognizable pattern is associated with the lube-range of hydrocarbons, which most resembles motor oil or lubricant. Bold type values are associated with the patterns that most likely identify the hydrocarbon mixture present, such as diesel fuel and/or motor/lubricant oil. Sample 12 also shows presence of weathered gasoline (pre n-C₁₂), which is not included in the quantitation of TPH reported in the attached results table.

Examination of the raw GC/MS (M.8270) data files reveals considerable amount of coelution of selected pesticides with PCB congeners in project samples. Also, additional nontarget pesticide compounds and phosphate/thiophosphate esters showed interference with pesticide target analytes. The PCB congener and nontarget chemical interferences elevated the reporting limits and interfered with accurate reporting of the following target analytes by M.8081: 4,4'-DDD, 4,4'-DDT, and the two Chlordane isomers. The DDT and benzo(a)pyrene GC/MS response factors were applied for estimating the levels of selected analytes where interferences were demonstrated to exist. Estimated concentrations (by M.8270) are reported in the attached results table with the "J_M" qualifier code.

Sample results reported here are determined to be in general compliance with method and SAP requirements. Most deviations of data quality from SAP and method specifications are associated with generally elevated levels of multiple contaminants in site sediments. All reported data for sediment samples (attached) are considered usable for the intended purposes of the project.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Sediment Analyses, July 2012

Field I.D.	Matrix	Collection Date	Comments	Lab I.D.	% solids	Specific gravity	Wet density	Moisture content	Dry density	TOC	Antimony 7440-36-0	Arsenic 7440-38-2	Beryllium 7440-41-7	Cadmium 7440-43-9
					%	SU	lb/ft ³	%	lb/ft ³	%	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry
ICS-DSS-19-SE-070212	sediment	7/2/2012		1212564-VB00A	48	2.61	88.8	105.7	43.2	2.93	0.8 J_R	16.4	0.4 U	1.3
ICS-DSS-21-SE-070212	sediment	7/2/2012		1212565-VB00B	53					1.92	0.4 U	10.4	0.4 U	0.4
ICS-DSS-20-SE-070212	sediment	7/2/2012		1212566-VB00C	65					1.54	0.3 U	12.1	0.4	0.2
ICS-DSS-22-SE-070212	sediment	7/2/2012		1212567-VB00D	68					1.22	0.3 U	7.0	0.4	0.3
ICS-DSS-28-SE-070212	sediment	7/2/2012		1212568-VB00E	64					2.24	0.3 U	14.5	0.5	0.6
ICS-DSS-30-SE-070212	sediment	7/2/2012		1212569-VB00F	80	2.73	102.5	21.6	84.3	0.442	0.2 U	5.4	0.2 U	0.1 U
ICS-DSS-29-SE-070212	sediment	7/2/2012		1212570-VB00G	78					1.93	0.2 U	8.9	0.2 U	0.3
ICS-DSS-26-SE-070212	sediment	7/2/2012		1212571-VB00H	70					2.63	0.6 J_R	12.6	0.3 U	1.6
ICS-DSS-27-SE-070212	sediment	7/2/2012		1212572-VB00I	69					2.92	0.3 U	17.1	0.3 U	0.6
ICS-DSS-17-SE-070212	sediment	7/2/2012		1212573-VB00J	74	2.69	111.7	30.8	85.4	2.32	0.3 U	8.3	0.3	0.1 U
ICS-DSS-23-SE-070212	sediment	7/2/2012		1212574-VB00K	82					1.42	0.2 U	3.1	0.2 U	0.2
ICS-DSS-14-SE-070212	sediment	7/2/2012		1212575-VB00L	62					4.96	0.5 J_R	23.2	0.3 U	0.5
ICS-DSS-16-SE-070212	sediment	7/2/2012		1212576-VB00M	83					1.05	0.2 U	14.9	0.2 U	0.1
ICS-DSS-18-SE-070212	sediment	7/2/2012		1212577-VB00N	70					2.66	0.3 U	21.0	0.3 U	0.3
ICS-DSS-13-SE-070312	sediment	7/3/2012		1212707-VB16A	77					1.85	0.2 U	3.4	0.3	0.2
ICS-DUP-01-SE-070312	sediment	7/3/2012	field dup of 13	1212708-VB16B	79					1.55	0.2 U	3.3	0.3	0.1
ICS-DSS-12-SE-070312	sediment	7/3/2012		1212709-VB16C	69					30.9	2.2 J_R	8.3	0.3 U	4.3
ICS-DSS-10-SE-070312	sediment	7/3/2012		1212710-VB16D	79					0.553	0.3 U	4.2	0.3 U	0.3
ICS-DSS-11-SE-070312	sediment	7/3/2012		1212711-VB16E	69					2.73	0.3 J_R	8.1	0.3 U	1.0
ICS-DSS-24-SE-070312	sediment	7/3/2012		1212712-VB16F	45					2.64	0.4 U	11.1	0.5	0.2 U
ICS-DSS-25-SE-070312	sediment	7/3/2012		1212713-VB16G	44					3.48	0.4 U	9.7	0.4 U	0.4
ICS-DSS-15-SE-070312	sediment	7/3/2012		1212714-VB16H	59					4.25	0.3 U	19.1	0.4	0.4
ICS-DSS-08-SE-070312	sediment	7/3/2012		1212715-VB16I	76		106.4	11.3	95.6	2.92	0.3 J_R	13.9	0.3 U	0.9
ICS-DSS-09-SE-070312	sediment	7/3/2012		1212716-VB16J	71					18.1	1.9 J_R	13.0	0.3 U	8.2
ICS-DSS-07-SE-070312	sediment	7/3/2012		1212717-VB16K	76					3.34	0.3 U	10.6	0.3 U	0.2
ICS-DSS-02-SE-070312	sediment	7/3/2012		1212718-VB16L	76		137.1	17.0	117.2	3.24	0.2 U	10.0	0.2 U	0.2
ICS-DSS-03-SE-070312	sediment	7/3/2012		1212719-VB16M	49					3.45	0.4 U	17.2	0.4 U	0.6
ICS-DSS-04-SE-070312	sediment	7/3/2012		1212720-VB16N	64	2.60	103.6	55.1	66.8	2.83	0.7 J_R	13.2	0.3 U	5.3
ICS-DUP-02-SE-070312	sediment	7/3/2012	field dup of 04	1212721-VB16O	61					7.86	1.2 J_R	17.6	0.3 U	7.4
ICS-DSS-05-SE-070312	sediment	7/3/2012		1212722-VB16P	65					2.62	0.5 J_R	28.8	0.3 U	0.7
ICS-DSS-06-SE-070312	sediment	7/3/2012		1212723-VB16Q	62					5.55	0.5 J_R	7.1	0.3 U	2.6
ICS-DSS-31-SE-070312	sediment	7/3/2012		1212724-VB16R	61									
ICS-DSS-32-SE-070312	sediment	7/3/2012		1212725-VB16S	35									

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Sediment Analyses, July 2012

Field I.D.	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc	Total Petroleum Hydrocarbons		Phenol	2-Chloro-phenol	1,3-Dichloro-benzene
	7440-47-3	7440-50-8	7439-92-1	7439-97-6	7440-02-0	7440-22-4	7440-66-6	Diesel-range	Lube-range	108-95-2	95-57-8	541-73-1
	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry
ICS-DSS-19-SE-070212	65	103	343	1.73	26	1.2	318	240	710	140 J _Q	20 U	12
ICS-DSS-21-SE-070212	29	54.4	55.9	0.54	20.5	0.4 U	146	49	150	67 J _Q	19 U	2.5 J
ICS-DSS-20-SE-070212	26	37.4	42.3	0.18	18.0	0.3 U	109	28	88	44 J _Q	19 U	4.7 U
ICS-DSS-22-SE-070212	21	33.4	22.3	0.17	18.2	0.3	81	58	170	11 J	19 U	4.8 U
ICS-DSS-28-SE-070212	33	55.5	47.5	0.34	25.7	0.60	121	170	570	28 J _Q	19 U	5.6
ICS-DSS-30-SE-070212	13.2	17.4	16.3	0.06	10.5	0.2 U	62	6.3 U	14	19 U	19 U	4.8 U
ICS-DSS-29-SE-070212	15.7	30.3	74.1	0.05	17.7	0.2 U	100	11	120	18 U	18 U	4.6 U
ICS-DSS-26-SE-070212	268	182	1690	0.83	70.8	0.4	1340	54	180	190 J _Q	18 U	4.6 U
ICS-DSS-27-SE-070212	39.6	120	683	0.92	26.5	0.5	242	150	520	35 J _Q	18 U	4.6 U
ICS-DSS-17-SE-070212	32	40.3	44.4	0.15	28.7	0.3 U	75	24	100	16 J	18 U	4.6 U
ICS-DSS-23-SE-070212	24.3	38.9	29.5	0.08	26.9	0.2 U	58	34	95	20 U	20 U	4.9 U
ICS-DSS-14-SE-070212	36.1	70.8	201	0.17	34.9	0.3 U	188	24	130	31 J _Q	20 U	4.9 U
ICS-DSS-16-SE-070212	15.3	24.6	18.0	0.03	23.5	0.2 U	66	8.5	35	19 U	19 U	4.8 U
ICS-DSS-18-SE-070212	21.2	46.8	55.5	0.20	24.7	0.3 U	150	18	83	12 J	19 U	4.7 U
ICS-DSS-13-SE-070312	25.0	24.8	42.1	0.12	25.3	0.2 U	52	43	90	14 J	19 U	2.4 J
ICS-DUP-01-SE-070312	20.1	22.5	48.3	0.11	21.6	0.2 U	55	40	67	14 J	19 U	4.8 U
ICS-DSS-12-SE-070312	1110	115	3930	0.16	151	0.4	3820	12,000	42,000	5700	1700 U	440 U
ICS-DSS-10-SE-070312	28.4	24.5	59.0	0.21	25.2	0.3 U	74	14	56	18 U	18 U	4.6 U
ICS-DSS-11-SE-070312	90.6	67.1	626	0.71	31.8	0.3 U	281	56	220	66	19 U	4.8 U
ICS-DSS-24-SE-070312	27	53	59.7	0.22	19	0.4 U	117	52	180	19 U	19 U	4.8 U
ICS-DSS-25-SE-070312	28	58	50.4	0.34	22	0.4 U	130	77	230	32	20 U	4.9 U
ICS-DSS-15-SE-070312	23.2	49.4	55.5	0.21	20.5	0.3 U	168	68	280	28	20 U	5.0 U
ICS-DSS-08-SE-070312	70.5	91.1	201	3.8	26.7	0.3	195	200	620	55	19 U	4.8 U
ICS-DSS-09-SE-070312	288	260	5920	14.3	39.1	1.3	1220	6700	15,000	650 J	720 U	900
ICS-DSS-07-SE-070312	24.0	36.1	75.6	0.25	26.6	0.3 U	141	17	83	19 U	19 U	4.7 U
ICS-DSS-02-SE-070312	26.4	88.3	35.5	0.12	32.1	0.2 U	98	52	280	55 U	55 U	14 U
ICS-DSS-03-SE-070312	37	90	92.3	0.45	27	0.4 U	289	120	440	28	19 U	4.8 U
ICS-DSS-04-SE-070312	167	217	1250	2.42	27.7	0.3	1270	1400	3000	83 U	83 U	21 U
ICS-DUP-02-SE-070312	298	224	2190	2.20	32.8	0.5	1590	1400	2600	50 J	84 U	21 U
ICS-DSS-05-SE-070312	84.6	144	150	0.28	41.3	0.3 U	190	76	240	18 J	20 U	5.0 U
ICS-DSS-06-SE-070312	612	115	633	7.7	25.9	1.3	400	570	1600	88	20 U	5.0 U
ICS-DSS-31-SE-070312												
ICS-DSS-32-SE-070312												

J = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Sediment Analyses, July 2012

Field I.D.	1,4-Dichloro- benzene 106-46-7 µg/kg, dry	Benzyl alcohol 100-51-6 µg/kg, dry	1,2-Dichloro- benzene 95-50-1 µg/kg, dry	2-Methyl- phenol 95-48-7 µg/kg, dry	4-Methyl- phenol 106-44-5 µg/kg, dry	N-Nitroso-di-N- propylamine 621-64-7 µg/kg, dry	Hexachloro- ethane 67-72-1 µg/kg, dry	Nitrobenzene 98-95-3 µg/kg, dry	Isophorone 78-59-1 µg/kg, dry	2,4-Dimethyl- phenol 105-67-9 µg/kg, dry	Benzoic acid 65-85-0 µg/kg, dry	2,4-Dichloro- phenol 120-83-2 µg/kg, dry
ICS-DSS-19-SE-070212	30	110	17	22	90	20 U	20 U	20 U	22	20 J	380 J	200 U
ICS-DSS-21-SE-070212	8.1	200	3.0 J	18	29 J	19 U	19 U	19 U	19 U	8.9 J	360 J	190 U
ICS-DSS-20-SE-070212	4.7 U	52	4.7 U	4.7 U	11 J	19 U	19 U	19 U	19 U	3.0 J	1200	190 U
ICS-DSS-22-SE-070212	4.6 J	9.6 J	4.8 U	4.8 U	38 U	19 U	19 U	19 U	19 U	3.0 J	380 U	190 U
ICS-DSS-28-SE-070212	5.8	51	2.4 J	4.7 U	17 J	19 U	19 U	19 U	19 U	3.7 J	120 J	190 U
ICS-DSS-30-SE-070212	4.8 U	10 J	4.8 U	4.8 U	38 U	19 U	19 U	19 U	19 U	19 U	380 U	190 U
ICS-DSS-29-SE-070212	4.6 U	7.3 J	4.6 U	4.6 U	37 U	18 U	18 U	18 U	18 U	18 U	370 U	180 U
ICS-DSS-26-SE-070212	8.5	33	16	43	71	18 U	18 U	18 U	500	13 J	610	20 J
ICS-DSS-27-SE-070212	4.4 J	19	3.6 J	6.6	17 J	18 U	18 U	18 U	21	5.7 J	220 J	180 U
ICS-DSS-17-SE-070212	4.6 U	7.4 J	4.6 U	21	12 J	18 U	18 U	18 U	18 U	3.4 J	370 U	180 U
ICS-DSS-23-SE-070212	4.9 U	8.2 J	4.9 U	4.9 U	39 U	20 U	20 U	20 U	20 U	20 U	390 U	200 U
ICS-DSS-14-SE-070212	4.9 U	40	4.9 U	2.8 J	39 U	20 U	20 U	20 U	20 U	20 U	230 J	200 U
ICS-DSS-16-SE-070212	4.8 U	8.5 J	4.8 U	4.8 U	39 U	19 U	19 U	19 U	19 U	19 U	390 U	190 U
ICS-DSS-18-SE-070212	4.7 U	21	4.7 U	4.7 U	38 U	19 U	19 U	19 U	19 U	19 U	380 U	190 U
ICS-DSS-13-SE-070312	3.9 J	7.3 J	4.1 J	4.7 U	38 U	19 U	19 U	19 U	19 U	19 U	380 U	190 U
ICS-DUP-01-SE-070312	2.5 J	8.8 J	4.8 U	4.8 U	38 U	19 U	19 U	19 U	19 U	19 U	380 U	190 U
ICS-DSS-12-SE-070312	440 U	20,000	1000	440 U	3500 U	14,000	1700 U	1700 U	1700 U	4400	35,000 U	17,000 U
ICS-DSS-10-SE-070312	4.6 U	7.1 J	4.6 U	4.6 U	37 U	18 U	18 U	18 U	18 U	18 U	370 U	180 U
ICS-DSS-11-SE-070312	4.8	18 J	9.4	12	42	19 U	19 U	19 U	14 J	14 J	330 J	190 U
ICS-DSS-24-SE-070312	3.5 J	84	4.8 U	3.5 J	14 J	19 U	19 U	19 U	19 U	3.0 J	190 J	190 U
ICS-DSS-25-SE-070312	5.4	170	3.8 J	4.9 U	18 J	20 U	20 U	20 U	20 U	3.1 J	250 J	200 U
ICS-DSS-15-SE-070312	4.3 J	30	4.3 J	3.8 J	27 J	20 U	20 U	20 U	20 U	3.2 J	120 J	200 U
ICS-DSS-08-SE-070312	12	12 J	13	4.9	14 J	19 U	19 U	19 U	19 U	4.8 J	210 J	190 U
ICS-DSS-09-SE-070312	7600	640 J	12,000	620	1900	720 U	720 U	720 U	1400 U	830	14,000 U	1100 J
ICS-DSS-07-SE-070312	4.7 U	9.0 J	3.4 J	4.7 U	37 U	19 U	19 U	19 U	19 U	19 U	370 U	190 U
ICS-DSS-02-SE-070312	14 U	55 U	14 U	14 U	110 U	55 U	55 U	55 U	55 U	55 U	1100 U	550 U
ICS-DSS-03-SE-070312	4.1 J	62	4.8 U	4.6 J	13 J	19 U	19 U	19 U	19 U	4.8 J	160 J	190 U
ICS-DSS-04-SE-070312	21 U	83 U	21 U	21 U	79 J	83 U	83 U	83 U	50 J	50 J	1700 U	830 U
ICS-DUP-02-SE-070312	21 U	34 J	21 U	12 J	46 J	84 U	84 U	84 U	50 J	34 J	940 J	840 U
ICS-DSS-05-SE-070312	4.4 J	29	5.0 U	5.0 U	14 J	20 U	20 U	20 U	20 U	20 U	400 U	200 U
ICS-DSS-06-SE-070312	3.4 J	25	6.3	16	32 J	20 U	20 U	20 U	20 U	11 J	250 J	200 U
ICS-DSS-31-SE-070312												
ICS-DSS-32-SE-070312												

J = estimate associated with value less than the verifiable lower quantitation limit.

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Sediment Analyses, July 2012

Field I.D.	1,2,4-Trichloro- benzene 120-82-1 <u>µg/kg, dry</u>	Naphthalene 91-20-3 <u>µg/kg, dry</u>	4-Chloro-3- methylphenol 59-50-7 <u>µg/kg, dry</u>	2-Methyl- naphthalene 91-57-6 <u>µg/kg, dry</u>	2,4,6-Trichloro- phenol 88-06-2 <u>µg/kg, dry</u>	2,4,5-Trichloro- phenol 95-95-4 <u>µg/kg, dry</u>	2-Chloro- naphthalene 91-58-7 <u>µg/kg, dry</u>	Dimethyl- phthalate 131-11-3 <u>µg/kg, dry</u>	Acenaph- thylene 208-96-8 <u>µg/kg, dry</u>	Acenaphthene 83-32-9 <u>µg/kg, dry</u>	Dibenzo-furan 132-64-9 <u>µg/kg, dry</u>
ICS-DSS-19-SE-070212	22	92	98 U	120	98 U	98 U	20 U	68	25	49	33
ICS-DSS-21-SE-070212	2.9 J	41	94 U	35	94 U	94 U	19 U	20	15 J	44	24
ICS-DSS-20-SE-070212	4.7 U	18 J	93 U	17 J	93 U	93 U	19 U	2900	10 J	19 U	15 J
ICS-DSS-22-SE-070212	4.8 U	64	96 U	21	96 U	96 U	19 U	19 U	12 J	31	20
ICS-DSS-28-SE-070212	3.6 J	21	94 U	21	94 U	94 U	19 U	19 U	19 U	19 U	14 J
ICS-DSS-30-SE-070212	4.8 U	19 U	96 U	19 U	96 U	96 U	19 U	19 U	19 U	19 U	19 U
ICS-DSS-29-SE-070212	4.6 U	18 U	92 U	18 U	92 U	92 U	18 U	18 U	18 U	18 U	18 U
ICS-DSS-26-SE-070212	36	180	93 U	150	93 U	93 U	18 U	82	12 J	36	52
ICS-DSS-27-SE-070212	7.0	78	92 U	68	92 U	20 J	18 U	100	54	10 J	27
ICS-DSS-17-SE-070212	4.6 U	130	92 U	35	92 U	92 U	18 U	12 J	11 J	18 U	34
ICS-DSS-23-SE-070212	4.6 J	110	98 U	36	98 U	98 U	20 U	9.8 J	20 U	190	220
ICS-DSS-14-SE-070212	4.9 U	20	97 U	18 J	97 U	97 U	20 U	9.7 J	11 J	20 U	20 U
ICS-DSS-16-SE-070212	4.8 U	19 U	97 U	19 U	97 U	97 U	19 U	19 U	19 U	19 U	19 U
ICS-DSS-18-SE-070212	4.7 U	19 U	94 U	19 U	94 U	94 U	19 U	19 U	19 U	19 U	19 U
ICS-DSS-13-SE-070312	12	110	94 U	62	94 U	94 U	19 U	19 U	17 J	13 J	30
ICS-DUP-01-SE-070312	8.4	82	96 U	45	96 U	96 U	19 U	19 U	11 J	19 U	21
ICS-DSS-12-SE-070312	440 U	120,000	8700 U	50,000	8700 U	8700 U	1700 U	1700 U	8700	39,000	26,000
ICS-DSS-10-SE-070312	4.6 U	62	92 U	12 J	92 U	92 U	18 U	18 U	18 U	18 U	18 U
ICS-DSS-11-SE-070312	15	130	96 U	100	96 U	96 U	19 U	60	19 U	19 U	60
ICS-DSS-24-SE-070312	4.8 U	20	97 U	14 J	97 U	97 U	19 U	19 U	13 J	9.7 J	14 J
ICS-DSS-25-SE-070312	3.0 J	20	99 U	15 J	99 U	99 U	20 U	20 U	20 U	20 U	11 J
ICS-DSS-15-SE-070312	5.0 U	15 J	99 U	15 J	99 U	99 U	20 U	20 U	20 U	20 U	20 U
ICS-DSS-08-SE-070312	3.6 J	47	96 U	52	96 U	96 U	19 U	500	12 J	19 U	12 J
ICS-DSS-09-SE-070312	1400	12,000	3600 U	13,000	3600 U	3600 U	720 U	720 U	650 J	4600	3800
ICS-DSS-07-SE-070312	4.7 U	19 U	93 U	19 U	93 U	93 U	19 U	19 U	19 U	19 U	19 U
ICS-DSS-02-SE-070312	14 U	55 U	270 U	55 U	270 U	270 U	55 U	55 U	55 U	100	30 J
ICS-DSS-03-SE-070312	19 U	18 J	97 U	16 J	97 U	97 U	19 U	19 U	31	22	18 J
ICS-DSS-04-SE-070312	15 J	79 J	420 U	75 J	420 U	420 U	83 U	180	58 J	83 U	83 U
ICS-DUP-02-SE-070312	20 J	96	420 U	100	420 U	420 U	84 U	67 J	50 J	84 U	84 U
ICS-DSS-05-SE-070312	5.0 U	20 U	99 U	20 U	99 U	99 U	20 U	11 J	23	20 U	20 U
ICS-DSS-06-SE-070312	6.8	43	99 U	80	99 U	99 U	20 U	54	11 J	20 U	20 U
ICS-DSS-31-SE-070312											
ICS-DSS-32-SE-070312											

J = estimate associated with value less than the verifiable lower quantitation limit.

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Sediment Analyses, July 2012

Field I.D.	2,6-Dinitro- toluene 606-20-2 <u>µg/kg, dry</u>	2,4-Dinitro- toluene 121-14-2 <u>µg/kg, dry</u>	Diethyl- phthalate 84-66-2 <u>µg/kg, dry</u>	4-Chlorophenyl- phenylether 7005-72-3 <u>µg/kg, dry</u>	Fluorene 86-73-7 <u>µg/kg, dry</u>	N-Nitrosodi- phenylamine 86-30-6 <u>µg/kg, dry</u>	Pentachloro- phenol 87-86-5 <u>µg/kg, dry</u>	Phenanthrene 85-01-8 <u>µg/kg, dry</u>	Carbazole 86-74-8 <u>µg/kg, dry</u>	Anthracene 120-12-7 <u>µg/kg, dry</u>	Di-n-butyl- phthalate 84-74-2 <u>µg/kg, dry</u>	Fluoranthene 206-44-0 <u>µg/kg, dry</u>
ICS-DSS-19-SE-070212	98 U	98 U	36 J	20 U	51	20 U	400	330	49	100	130	500
ICS-DSS-21-SE-070212	94 U	94 U	47 U	19 U	41	19 U	65 J	430	31	90	38	540
ICS-DSS-20-SE-070212	93 U	93 U	47 U	19 U	16 J	3.1 J	47 U	100	20	33	320	290
ICS-DSS-22-SE-070212	96 U	96 U	48 U	19 U	18 J	19 U	48 U	110	11 J	28	19 U	190
ICS-DSS-28-SE-070212	94 U	94 U	47 U	19 U	18 J	19	47 U	55	19 U	26	14 J	160
ICS-DSS-30-SE-070212	96 U	96 U	48 U	19 U	19 U	19 U	48 U	18 J	19 U	19 U	19 U	24
ICS-DSS-29-SE-070212	92 U	92 U	46 U	18 U	18 U	18 U	46 U	18 J	18 U	18 U	10 J	41
ICS-DSS-26-SE-070212	93 U	93 U	46 U	18 U	40	42	400	380	50	68	220	410
ICS-DSS-27-SE-070212	92 U	92 U	46 U	18 U	12 J	7.8 J	140 J	170	29	62	31	410
ICS-DSS-17-SE-070212	92 U	92 U	46 U	18 U	18 U	2.9 J	24 J	110	10 J	23	18 U	98
ICS-DSS-23-SE-070212	98 U	98 U	49 U	20 U	400	20 U	49 U	150	14 J	70	20 U	510
ICS-DSS-14-SE-070212	97 U	97 U	49 U	20 U	20 U	3.5 J	21 J	60	16 J	18 J	20 U	120
ICS-DSS-16-SE-070212	97 U	97 U	48 U	19 U	19 U	19 U	48 U	19 U	19 U	19 U	19 U	11 J
ICS-DSS-18-SE-070212	94 U	94 U	39 J	19 U	19 U	3.4 J	15 J	24	22	11 J	22	63
ICS-DSS-13-SE-070312	94 U	94 U	47 U	19 U	25	11 J	45 J	180	19 U	40	19 U	180
ICS-DUP-01-SE-070312	96 U	96 U	48 U	19 U	18 J	8.4 J	27 J	130	19 U	29	19 U	130
ICS-DSS-12-SE-070312	8700 U	8700 U	4400 U	1700 U	58,000	4800	1000 J	380,000	48,000	78,000	44,000	390,000
ICS-DSS-10-SE-070312	92 U	92 U	46 U	18 U	18 U	18 U	48 J _Q	28	18 U	18 U	18 J	29
ICS-DSS-11-SE-070312	96 U	96 U	48 U	19 U	14 J	14 J	290	200	15 J	36	43	160
ICS-DSS-24-SE-070312	97 U	97 U	48 U	19 U	16 J	19 U	18 J	230	20	35	19 U	370
ICS-DSS-25-SE-070312	99 U	99 U	49 U	20 U	12 J	2.7 J	28 J	90	16 J	28	13 J	200
ICS-DSS-15-SE-070312	99 U	99 U	50 U	20 U	20 U	3.3 J	51	61	9.9 J	15 J	20 U	130
ICS-DSS-08-SE-070312	96 U	96 U	48 U	19 U	10 J	9.1 J	920	110	19	33	72	150
ICS-DSS-09-SE-070312	3600 U	3600 U	1800 U	720 U	6200	4000	6500 J	14,000	4500	16,000	3400	7000
ICS-DSS-07-SE-070312	93 U	93 U	47 U	19 U	19 U	19 U	25 J	29	19 U	19 U	19 U	49
ICS-DSS-02-SE-070312	270 U	270 U	140 U	55 U	66	55 U	140 U	710	52 J	180	55 U	1100
ICS-DSS-03-SE-070312	97 U	97 U	48 U	19 U	23	19 U	56	270	70	85	19 U	1100
ICS-DSS-04-SE-070312	420 U	420 U	210 U	83 U	83 U	32 J	360	460	83 U	71 J	130	1100
ICS-DUP-02-SE-070312	420 U	420 U	210 U	84 U	84 U	38 J	400	160	84 U	50 J	120	200
ICS-DSS-05-SE-070312	99 U	99 U	50 U	20 U	12 J	3.5 J	22 J	390	32	29	20 U	1100
ICS-DSS-06-SE-070312	99 U	99 U	50 U	20 U	20 U	14 J	820	74	20 U	25	85	78
ICS-DSS-31-SE-070312												
ICS-DSS-32-SE-070312												

J = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Sediment Analyses, July 2012

Field I.D.	Pyrene 129-00-0 µg/kg, dry	Butylbenzyl- phthalate 85-68-7 µg/kg, dry	Benzo(a)- anthracene 56-55-3 µg/kg, dry	bis (2-Ethylhexyl)- phthalate 117-81-7 µg/kg, dry	Chrysene 218-01-9 µg/kg, dry	Di-n-octyl- phthalate 117-84-0 µg/kg, dry	total Benzo- fluoranthenes µg/kg, dry	Benzo(a)- pyrene 50-32-8 µg/kg, dry	Indeno(1,2,3- cd)pyrene 193-39-5 µg/kg, dry	Dibenz(a,h)- anthracene 53-70-3 µg/kg, dry	Benzo(g,h,i)- perylene 191-24-2 µg/kg, dry	LPAH µg/kg, dry	HPAH µg/kg, dry
ICS-DSS-19-SE-070212	730	110 J _Q	260	1400	460	20 U	730	350	190	99	220	647	3539
ICS-DSS-21-SE-070212	540	150 J _Q	200	320	340	19 U	410	180	110	53	140	661	2513
ICS-DSS-20-SE-070212	280	19 U	160	98	370	19 U	300	82	51	21	53	177	1607
ICS-DSS-22-SE-070212	230	12 J	63	60	81	19 U	110	56	34	11 J	46	263	821
ICS-DSS-28-SE-070212	160	19 U	43	190	50	19 U	77	28	18 J	19 U	23	120	559
ICS-DSS-30-SE-070212	25	19 U	19 U	24	15 J	19 U	26 J	19 U	10 J	19 U	10 J	18	110
ICS-DSS-29-SE-070212	41	18 U	18 J	26	45	18 U	54	19	17 J	18 U	25	18	260
ICS-DSS-26-SE-070212	360	260 J _Q	170	550	240	18 U	420	200	160	47	200	716	2207
ICS-DSS-27-SE-070212	400	18 U	250	180	360	18 U	580	280	170	77	180	386	2707
ICS-DSS-17-SE-070212	89	14 J	42	49	66	18 U	98	41	18 U	18 U	45	274	479
ICS-DSS-23-SE-070212	350	20 U	71	84	92	20 U	110	41	27	20 U	32	920	1233
ICS-DSS-14-SE-070212	110	25 J _Q	47	83	100	20 U	140	46	38	14 J	47	109	662
ICS-DSS-16-SE-070212	9.7 J	19 U	19 U	16 JB	19 U	19 U	14 J	19 U	19 U	19 U	19 U	19	35
ICS-DSS-18-SE-070212	66	16 J	34	79	67	19 U	140	44	34	19 U	38	35	486
ICS-DSS-13-SE-070312	170	19 U	76	79	87	19 U	130	76	43	13 J	49	385	824
ICS-DUP-01-SE-070312	120	19 U	60	63	77	19 U	100	54	36	12 J	38	270	627
ICS-DSS-12-SE-070312	290,000	44,000 J _Q	130,000	180,000	180,000	1700 U	120,000	71,000	21,000	13,000	19,000	683,700	1,234,000
ICS-DSS-10-SE-070312	28	18 U	12 J	57	19	18 U	30 J	13 J	9.2 J	18 U	13 J	90	153
ICS-DSS-11-SE-070312	150	58 J _Q	80	330	130	19 U	190	96	65	21	73	380	965
ICS-DSS-24-SE-070312	280	28 J _Q	96	300	190	19 U	230	94	50	26	50	324	1386
ICS-DSS-25-SE-070312	180	27 J _Q	100	270	160	27	240	100	58	20	70	150	1128
ICS-DSS-15-SE-070312	130	31 J _Q	53	300	98	40	140	52	38	20	57	91	718
ICS-DSS-08-SE-070312	160	19 U	72	150	130	19 U	190	78	110	37	160	212	1087
ICS-DSS-09-SE-070312	6800	1100	2700	9600	5200	720 U	3300	1800	900	580 J	1100	53,450	29,380
ICS-DSS-07-SE-070312	41	19 U	20	36 B	36	19 U	52	24	19	10 J	24	29	275
ICS-DSS-02-SE-070312	1000	55 U	470	260	680	55 U	940	440	270	140	300	1056	5340
ICS-DSS-03-SE-070312	920	43 J _Q	340	620	770	19 U	850	260	140	70	140	449	4590
ICS-DSS-04-SE-070312	710	230 J _Q	190	1300	410	83 U	470	220	140	71 J	210	668	3521
ICS-DUP-02-SE-070312	250	84 U	120	1200	180	84 U	290	180	120	71 J	190	356	1601
ICS-DSS-05-SE-070312	770	20 U	110	320	310	20 U	360	95	51	27	58	454	2881
ICS-DSS-06-SE-070312	78	20 U	35	260	110	20 U	180	150	61	17 J	83	153	792
ICS-DSS-31-SE-070312													
ICS-DSS-32-SE-070312													

J = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

B = associated value may be biased high due to contribution from laboratory background or method blank.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Sediment Analyses, July 2012

Field I.D.	Tributyltin ion 36643-28-4 µg/kg, dry	alpha-BHC 319-84-6 µg/kg, dry	beta-BHC 319-85-7 µg/kg, dry	delta-BHC 319-86-8 µg/kg, dry	gamma-BHC (Lindane) 58-89-9 µg/kg, dry	Heptachlor 76-44-8 µg/kg, dry	Aldrin 309-00-2 µg/kg, dry	Heptachlor epoxide 1024-57-3 µg/kg, dry	Endosulfan I 959-98-8 µg/kg, dry	Dieldrin 60-57-1 µg/kg, dry	4,4'-DDE 72-55-9 µg/kg, dry
ICS-DSS-19-SE-070212	16	1.0 U	1.0 U	1.0 U	8.2 U	22 U	10 U	130 U	10 U	120 U	380
ICS-DSS-21-SE-070212		1.7 U	2.4 U	0.49 U	1.6 U	2.2 U	4.9 U	9.9 U	4.9 U	9.9 U	41
ICS-DSS-20-SE-070212		0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	1.6 U	3.1 U	0.49 U	4.8 U	8.8
ICS-DSS-22-SE-070212		0.46 U	0.46 U	0.46 U	0.46 U	1.6 U	0.46 U	9.2 U	4.6 U	9.2 U	28
ICS-DSS-28-SE-070212		0.48 U	0.48 U	0.48 U	2.4 U	5.2 U	4.8 U	9.6 U	4.8 U	24 U	40
ICS-DSS-30-SE-070212		0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.97 U	0.49 U	0.97 U	1.3
ICS-DSS-29-SE-070212		0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.93 U	0.46 U	0.93 U	1.5
ICS-DSS-26-SE-070212		4.8 U	4.8 U	0.48 U	4.8 U	3.5 U	4.8 U	9.7 U	0.48 U	32 U	70
ICS-DSS-27-SE-070212		2.5 U	1.1 U	4.4 U	5.7 U	0.70 U	7.0 U	69 U	7.0 U	120 U	310
ICS-DSS-17-SE-070212		0.48 U	2.4 U	1.2 U	0.48 U	1.8 U	4.8 U	18 U	27 U	25 U	110
ICS-DSS-23-SE-070212		0.48 U	0.48 U	0.48 U	1.6 U	0.76 U	2.2 U	0.96 U	0.48 U	4.5 U	5.4
ICS-DSS-14-SE-070212		0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.93 U	0.47 U	7.2 U	9.1
ICS-DSS-16-SE-070212		0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.99 U	0.49 U	0.99 U	0.99 U
ICS-DSS-18-SE-070212		0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	1.5 U	3.3 U	0.48 U	5.6 U	12
ICS-DSS-13-SE-070312		0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	3.0 U	15 U	0.48 U	8.1 U	22 U
ICS-DUP-01-SE-070312		0.49 U	0.49 U	0.49 U	1.1 U	0.49 U	1.2 U	4.9 U	0.49 U	8.7 U	25 U
ICS-DSS-12-SE-070312		300 U	300 U	300 U	300 U	300 U	300 U	600 U	300 U	600 U	600 U
ICS-DSS-10-SE-070312		0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	17 U	28 U	1.6 U	14 U	400
ICS-DSS-11-SE-070312		1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	7.5 U	15 U	3.3 U	26 U	180 U
ICS-DSS-24-SE-070312	4.3	0.49 U	1.2 U	3.4 U	1.4 U	2.5 U	4.9 U	9.8 U	4.9 U	9.8 U	60 U
ICS-DSS-25-SE-070312		1.1 U	3.3 U	37 U	2.4 U	0.48 U	4.8 U	9.6 U	0.48 U	9.6 U	57 U
ICS-DSS-15-SE-070312		0.84 U	3.1 U	1.8 U	2.7 U	2.2 U	4.8 U	14 U	0.48 U	9.6 U	37
ICS-DSS-08-SE-070312		1.6 U	1.6 U	1.6 U	1.6 U	2.8 U	1.6 U	32 U	16 U	69 U	120 U
ICS-DSS-09-SE-070312	150	54 U	34 U	34 U	680 U	2000 U	680 U	3200 U	200 U	1400 U	5000 J _M
ICS-DSS-07-SE-070312		0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.80 U	3.8 U	0.48 U	9.5 U	9.5 U
ICS-DSS-02-SE-070312		0.47 U	3.8 U	0.47 U	2.2 U	0.47 U	4.7 U	9.4 U	0.47 U	9.4 U	3.2 U
ICS-DSS-03-SE-070312		2.8 U	2.3 U	4.9 U	4.5 U	4.6 U	0.49 U	23 U	0.49 U	17 U	68
ICS-DSS-04-SE-070312		3.8 U	30 U	3.8 U	15 U	44 U	190 U	380 U	27 U	1200 U	2000
ICS-DUP-02-SE-070312		3.8 U	3.8 U	3.8 U	14 U	37 U	190 U	380 U	24 U	930 U	1400 U
ICS-DSS-05-SE-070312		0.48 U	4.6 U	9.5 U	4.2 U	10 U	19 U	29 U	1.6 U	36 U	130
ICS-DSS-06-SE-070312	3.6 U	3.1 U	3.1 U	3.1 U	3.1 U	8.8 U	31 U	180 U	11 U	460 U	2000
ICS-DSS-31-SE-070312	10										
ICS-DSS-32-SE-070312	9.6										

U = nondetected at the associated lower reporting limit.

J_M = estimated value from GC/MS (M.8270) analysis due to chemical interference on GC/ECD (M.8081).

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Sediment Analyses, July 2012

Field I.D.	Endrin 72-20-8 µg/kg, dry	Endosulfan II 33213-65-9 µg/kg, dry	4,4'-DDD 72-54-8 µg/kg, dry	Endosulfan sulfate 1031-07-8 µg/kg, dry	4,4'-DDT 50-29-3 µg/kg, dry	Methoxychlor 72-43-5 µg/kg, dry	Endrin ketone 53494-70-5 µg/kg, dry	Endrin aldehyde 7421-93-4 µg/kg, dry	trans- Chlordane 5103-74-2 µg/kg, dry	cis- Chlordane 5103-71-9 µg/kg, dry	Toxaphene 8001-35-2 µg/kg, dry
ICS-DSS-19-SE-070212	170 U	74 U	60 J_M	21 U	240 J_M	46 U	21 U	66 U	20 J_M	10 J_M	1800 U
ICS-DSS-21-SE-070212	0.99 U	9.2 U	16	9.9 U	28 U	14 U	9.9 U	16 U	4.9 U	1.6 U	99 U
ICS-DSS-20-SE-070212	8.7 U	0.98 U	2.3	0.98 U	9.8 U	4.9 U	7.3 U	4.3 U	0.49 U	0.49 U	98 U
ICS-DSS-22-SE-070212	0.92 U	9.2 U	5.9	0.92 U	26 U	4.6 U	5.3 U	0.92 U	0.46 U	0.46 U	92 U
ICS-DSS-28-SE-070212	9.6 U	9.6 U	39	8.9 U	44 U	16 U	0.96 U	9.6 U	4.8 U	2.2 U	340 U
ICS-DSS-30-SE-070212	0.97 U	0.97 U	0.97 U	0.97 U	2.6	4.9 U	0.97 U	0.97 U	0.49 U	0.49 U	97 U
ICS-DSS-29-SE-070212	0.93 U	0.93 U	0.93 U	0.93 U	2.3 U	4.6 U	0.93 U	0.93 U	0.46 U	0.46 U	93 U
ICS-DSS-26-SE-070212	0.97 U	58 U	21	0.97 U	22	13 U	9.7 U	16 U	29 J_M	17 J_M	430 U
ICS-DSS-27-SE-070212	160 U	100 U	40 J_M	14 U	400	33 U	14 U	78 U	10 J_M	7 J_M	1400 U
ICS-DSS-17-SE-070212	0.95 U	41 U	20 J_M	20 U	40 J_M	120 U	37 U	64 U	9.6 U	9.6 U	950 U
ICS-DSS-23-SE-070212	6.7 U	0.96 U	2.2	1.9 U	5.3 U	4.8 U	2.8 U	4.0 U	0.48 U	0.48 U	96 U
ICS-DSS-14-SE-070212	9.3 U	0.93 U	1.5	0.93 U	9.3 U	4.7 U	9.3 U	6.0 U	0.47 U	0.47 U	93 U
ICS-DSS-16-SE-070212	0.99 U	0.99 U	0.99 U	0.99 U	0.99 U	4.9 U	0.99 U	0.99 U	0.49 U	0.49 U	99 U
ICS-DSS-18-SE-070212	9.6 U	2.2 U	1.5	4.1 U	8.6 U	4.8 U	0.96 U	4.4 U	0.95 U	1.7 U	96 U
ICS-DSS-13-SE-070312	21 U	6.4 U	6.9 U	0.97 U	20 U	10 U	19 U	18 U	2.3 U	4.0 U	97 U
ICS-DUP-01-SE-070312	7.0 U	4.9 U	0.98 U	0.98 U	0.98 U	4.9 U	4.9 U	11 U	8.7 U	2.5 U	98 U
ICS-DSS-12-SE-070312	600 U	600 U	600 U	600 U	600 U	3000 U	600 U	600 U	300 U	300 U	60,000 U
ICS-DSS-10-SE-070312	48 U	17 U	0.97 U	24 U	48 U	4.8 U	35 U	22 U	8.1 U	9.5 U	240 U
ICS-DSS-11-SE-070312	100 U	15 U	15 U	15 U	15 U	15 U	15 U	64 U	24 U	25 U	590 U
ICS-DSS-24-SE-070312	9.8 U	9.8 U	0.98 U	9.8 U	0.98 U	8.7 U	9.8 U	23 U	4.9 U	2.7 U	98 U
ICS-DSS-25-SE-070312	9.6 U	9.6 U	0.96 U	9.6 U	9.6 U	14 U	9.6 U	9.6 U	4.8 U	4.8 U	150 U
ICS-DSS-15-SE-070312	9.6 U	9.6 U	0.96 U	7.3 U	9.6 U	5.6 U	9.6 U	9.6 U	4.8 U	1.4 U	96 U
ICS-DSS-08-SE-070312	32 U	32 U	3.2 U	3.2 U	32 U	16 U	32 U	49 U	31 U	16 U	730 U
ICS-DSS-09-SE-070312	68 U	1400 U	1000 J_M	1400 U	6600 J_M	340 U	990 U	1300 U	200 U	200 U	10,000 U
ICS-DSS-07-SE-070312	9.5 U	9.5 U	5.5 U	0.95 U	50 U	4.8 U	9.5 U	22 U	3.2 U	2.9 U	95 U
ICS-DSS-02-SE-070312	9.4 U	9.4 U	0.94 U	9.4 U	9.4 U	29 U	9.4 U	9.4 U	4.7 U	4.7 U	570 U
ICS-DSS-03-SE-070312	9.7 U	9.7 U	0.97 U	11 U	42	34 U	9.7 U	14 U	16 U	2.0 U	740 U
ICS-DSS-04-SE-070312	1600 U	380 U	400 J_M	7.7 U	2200 J_M	1900 U	380 U	380 U	140 J_M	100 J_M	8400 U
ICS-DUP-02-SE-070312	380 U	380 U	380 U	7.7 U	2200 U	1900 U	380 U	380 U	190 U	190 U	6300 U
ICS-DSS-05-SE-070312	34 U	12 U	9.3 U	9.3 U	50 J_M	19 U	25 U	18 U	5 J_M	0.48 U	97 U
ICS-DSS-06-SE-070312	650 U	110 U	400 J_M	6.2 U	820 J_M	310 U	62 U	330 U	50 J_M	40 J_M	2800 U
ICS-DSS-31-SE-070312											
ICS-DSS-32-SE-070312											

U = nondetected at the associated lower reporting limit.

J_M = estimated value from GC/MS (M.8270) analysis due to chemical interference on GC/ECD (M.8081).

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Field I.D.	Hexachloro- benzene 118-74-1 <u>µg/kg, dry</u>	Hexachloro- butadiene 87-68-3 <u>µg/kg, dry</u>	Aroclor 1016 12674-11-2 <u>µg/kg, dry</u>	Aroclor 1242 53469-21-9 <u>µg/kg, dry</u>	Aroclor 1248 12672-29-6 <u>µg/kg, dry</u>	Aroclor 1254 11097-69-1 <u>µg/kg, dry</u>	Aroclor 1260 11096-82-5 <u>µg/kg, dry</u>	Aroclor 1221 11104-28-2 <u>µg/kg, dry</u>	Aroclor 1232 11141-16-5 <u>µg/kg, dry</u>	total PCBs <u>µg/kg, dry</u>
ICS-DSS-19-SE-070212	9.8 U	1.0 U	410 U	410 U	4400	4700	3400	410 U	410 U	12,500
ICS-DSS-21-SE-070212	2.0 U	0.49 U	40 U	40 U	450	580	490	40 U	40 U	1520
ICS-DSS-20-SE-070212	0.49 U	0.49 U	39 U	39 U	240	320	230	39 U	39 U	790
ICS-DSS-22-SE-070212	0.46 U	0.46 U	38 U	38 U	540	760	400	38 U	38 U	1700
ICS-DSS-28-SE-070212	0.48 U	0.48 U	38 U	38 U	1100	1200	580	38 U	38 U	2880
ICS-DSS-30-SE-070212	0.49 U	0.49 U	3.9 U	3.9 U	39 U	130	44	3.9 U	3.9 U	174
ICS-DSS-29-SE-070212	0.46 U	0.46 U	3.8 U	3.8 U	11 U	30	29	3.8 U	3.8 U	59
ICS-DSS-26-SE-070212	3.3 U	0.48 U	39 U	39 U	1600	1800	770	39 U	39 U	4170
ICS-DSS-27-SE-070212	4.9 U	0.70 U	280 U	280 U	980 U	3100	2700	280 U	280 U	5800
ICS-DSS-17-SE-070212	0.60 U	0.48 U	39 U	39 U	190	270	280	39 U	39 U	740
ICS-DSS-23-SE-070212	0.48 U	0.48 U	20 U	20 U	180	200	180	20 U	20 U	560
ICS-DSS-14-SE-070212	0.47 U	0.47 U	39 U	39 U	72	180	330	39 U	39 U	582
ICS-DSS-16-SE-070212	0.49 U	0.49 U	4.0 U	4.0 U	8.0	12	22	4.0 U	4.0 U	42
ICS-DSS-18-SE-070212	0.48 U	0.48 U	40 U	40 U	110	190	200	40 U	40 U	500
ICS-DSS-13-SE-070312	0.48 U	0.48 U	39 U	39 U	280	230	200	39 U	39 U	710
ICS-DUP-01-SE-070312	1.0 U	0.49 U	39 U	39 U	260	260	210	39 U	39 U	730
ICS-DSS-12-SE-070312	300 U	300 U	240 U	11,000	240 U	8900	2600	240 U	240 U	22,500
ICS-DSS-10-SE-070312	0.85 U	0.48 U	39 U	39 U	690	630	600	39 U	39 U	1920
ICS-DSS-11-SE-070312	3.6 U	1.5 U	120 U	120 U	1500	1800	2000	120 U	120 U	5300
ICS-DSS-24-SE-070312	1.6 U	0.49 U	98 U	98 U	590	560	560	98 U	98 U	1710
ICS-DSS-25-SE-070312	4.3 U	0.48 U	96 U	96 U	500	530	420	96 U	96 U	1450
ICS-DSS-15-SE-070312	0.48 U	0.77 U	96 U	96 U	680	740	680	96 U	96 U	2100
ICS-DSS-08-SE-070312	2.0 U	1.6 U	63 U	63 U	950 U	2000	1400	63 U	63 U	3400
ICS-DSS-09-SE-070312	1300 U	150 U	5400 U	120,000	5400 U	44,000	30,000	5400 U	5400 U	194,000
ICS-DSS-07-SE-070312	0.48 U	0.48 U	38 U	38 U	71	190 U	520	38 U	38 U	591
ICS-DSS-02-SE-070312	2.9 U	0.47 U	38 U	38 U	190	210	170	38 U	38 U	570
ICS-DSS-03-SE-070312	4.2 U	0.86 U	97 U	97 U	450	530	560	97 U	97 U	1540
ICS-DSS-04-SE-070312	17 U	3.8 U	310 U	310 U	3800 J_M	10,000	14,000	310 U	310 U	27,800
ICS-DUP-02-SE-070312	15 U	3.8 U	770 U	770 U	5800 U	14,000	18,000	770 U	770 U	32,000
ICS-DSS-05-SE-070312	0.48 U	0.48 U	97 U	3500	97 U	1700	1200	97 U	97 U	6400
ICS-DSS-06-SE-070312	5.7 U	3.1 U	250 U	250 U	2500 J_M	5800	7000	250 U	250 U	15,300
ICS-DSS-31-SE-070312										
ICS-DSS-32-SE-070312										

U = nondetected at the associated lower reporting limit.

J_M = estimated value from GC/MS (M.8270) analysis due to chemical interference on GC/ECD (M.8082).

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Field I.D.	gravel	coarse sand	medium sand	fine sand	v. coarse silt	coarse silt	medium silt	fine silt	v. fine silt	total silt	clay		total fines
	> 4750 μm	4750 - 2000 μm	2000 - 425 μm	425 - 75 μm	75 - 32 μm	32 - 22 μm	22 - 13 μm	13 - 7 μm	7 - 3.2 μm	32 - 3.2 μm	3.2 - 1.3 μm	< 1.3 μm	< 32 μm
	%	%	%	%	%	%	%	%	%	%	%	%	%
ICS-DSS-19-SE-070212	0.0	0.2	4.6	35.3	1.7	8.7	9.6	15.7	9.6	45.3	3.5	11.3	60.1
ICS-DSS-21-SE-070212													
ICS-DSS-20-SE-070212													
ICS-DSS-22-SE-070212													
ICS-DSS-28-SE-070212													
ICS-DSS-30-SE-070212	8.1	2.7	14	56.5	4.7	2.7	1.3	3.1	1.3	13.1	0.9	4.0	18.0
ICS-DSS-29-SE-070212													
ICS-DSS-26-SE-070212													
ICS-DSS-27-SE-070212													
ICS-DSS-17-SE-070212	25.4	8.7	12.2	36.1	1.9	1.7	2.4	4.5	2.1	12.6	2.1	3.1	17.8
ICS-DSS-23-SE-070212													
ICS-DSS-14-SE-070212													
ICS-DSS-16-SE-070212													
ICS-DSS-18-SE-070212													
ICS-DSS-13-SE-070312													
ICS-DUP-01-SE-070312													
ICS-DSS-12-SE-070312													
ICS-DSS-10-SE-070312													
ICS-DSS-11-SE-070312													
ICS-DSS-24-SE-070312													
ICS-DSS-25-SE-070312													
ICS-DSS-15-SE-070312													
ICS-DSS-08-SE-070312	87.1	1.3	4.2	4.2	0.1	0.4	0.6	0.7	0.5	2.3	0.3	0.7	3.3
ICS-DSS-09-SE-070312													
ICS-DSS-07-SE-070312													
ICS-DSS-02-SE-070312	71.5	7.7	11.4	5.8	0.1	0.2	0.6	1.0	0.4	2.3	0.3	0.9	3.5
ICS-DSS-03-SE-070312													
ICS-DSS-04-SE-070312	23.9	7.9	21.4	32.6	0.4	1.1	2.6	2.5	2.2	8.8	1.5	4.0	14.3
ICS-DUP-02-SE-070312													
ICS-DSS-05-SE-070312													
ICS-DSS-06-SE-070312													
ICS-DSS-31-SE-070312													
ICS-DSS-32-SE-070312													

grain size analyses: % retained in each size fraction

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Field ID.	2,3,7,8-TCDF	total TCDF	2,3,7,8-TCDD	total TCDD	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	total PeCDF	1,2,3,7,8-PeCDD	total PeCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	total HxCDF
	<u>ng/kg, dry</u>	<u>ng/kg, dry</u>	<u>ng/kg, dry</u>	<u>ng/kg, dry</u>	<u>ng/kg, dry</u>	<u>ng/kg, dry</u>	<u>ng/kg, dry</u>	<u>ng/kg, dry</u>	<u>ng/kg, dry</u>	<u>ng/kg, dry</u>	<u>ng/kg, dry</u>	<u>ng/kg, dry</u>	<u>ng/kg, dry</u>	<u>ng/kg, dry</u>
ICS-DSS-19-SE-070212	22.1	229	30.8	124	21.0	44.2	728	60.5	369	265	71.7	102	38.7	2750
ICS-DSS-21-SE-070212														
ICS-DSS-20-SE-070212														
ICS-DSS-22-SE-070212														
ICS-DSS-28-SE-070212														
ICS-DSS-30-SE-070212														
ICS-DSS-29-SE-070212														
ICS-DSS-26-SE-070212														
ICS-DSS-27-SE-070212														
ICS-DSS-17-SE-070212														
ICS-DSS-23-SE-070212														
ICS-DSS-14-SE-070212														
ICS-DSS-16-SE-070212														
ICS-DSS-18-SE-070212														
ICS-DSS-13-SE-070312														
ICS-DUP-01-SE-070312														
ICS-DSS-12-SE-070312														
ICS-DSS-10-SE-070312														
ICS-DSS-11-SE-070312														
ICS-DSS-24-SE-070312														
ICS-DSS-25-SE-070312														
ICS-DSS-15-SE-070312														
ICS-DSS-08-SE-070312	12.4	314	15.6	114	12.7	30.9	670	49.0	346	163	68.9	86.9	19.3	1810
ICS-DSS-09-SE-070312														
ICS-DSS-07-SE-070312														
ICS-DSS-02-SE-070312	1.76	31.0	2.37	15.9	1.42 J	2.93	58.4	5.52	36.2	11.4	4.22	3.80	1.86 J	162
ICS-DSS-03-SE-070312														
ICS-DSS-04-SE-070312														
ICS-DUP-02-SE-070312														
ICS-DSS-05-SE-070312														
ICS-DSS-06-SE-070312														
ICS-DSS-31-SE-070312														
ICS-DSS-32-SE-070312														

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Field I.D.	1,2,3,4,7,8- HxCDD	1,2,3,6,7,8- HxCDD	1,2,3,7,8,9- HxCDD	total HxCDD	1,2,3,4,6,7,8- HpCDF	1,2,3,4,7,8,9- HpCDF	total HpCDF	1,2,3,4,6,7,8- HpCDD	total HpCDD	OCDF	OCDD	TEQ	
	39227-28-6	57653-85-7	19408-74-3	34465-46-8	67562-39-4	55673-89-7	38998-75-3	35822-46-9	37871-00-4	39001-02-0	3268-87-9	ND=0	ND/2
	ng/kg, dry	ng/kg, dry	ng/kg, dry	ng/kg, dry	ng/kg, dry	ng/kg, dry	ng/kg, dry	ng/kg, dry	ng/kg, dry	ng/kg, dry	ng/kg, dry	ng/kg, dry	ng/kg, dry
ICS-DSS-19-SE-070212	67.1	367	306	3060	2090	117	6780	10,800	22,200	7250	117,000	396	396
ICS-DSS-21-SE-070212													
ICS-DSS-20-SE-070212													
ICS-DSS-22-SE-070212													
ICS-DSS-28-SE-070212													
ICS-DSS-30-SE-070212													
ICS-DSS-29-SE-070212													
ICS-DSS-26-SE-070212													
ICS-DSS-27-SE-070212													
ICS-DSS-17-SE-070212													
ICS-DSS-23-SE-070212													
ICS-DSS-14-SE-070212													
ICS-DSS-16-SE-070212													
ICS-DSS-18-SE-070212													
ICS-DSS-13-SE-070312													
ICS-DUP-01-SE-070312													
ICS-DSS-12-SE-070312													
ICS-DSS-10-SE-070312													
ICS-DSS-11-SE-070312													
ICS-DSS-24-SE-070312													
ICS-DSS-25-SE-070312													
ICS-DSS-15-SE-070312													
ICS-DSS-08-SE-070312	65.9	363	271	2780	1810	93.6	5000	8330	15,400	5080	70,100	304	304
ICS-DSS-09-SE-070312													
ICS-DSS-07-SE-070312													
ICS-DSS-02-SE-070312	7.05	26.9	27.3	236	144	5.09	381	771	1520	384	7400	28.8	28.8
ICS-DSS-03-SE-070312													
ICS-DSS-04-SE-070312													
ICS-DUP-02-SE-070312													
ICS-DSS-05-SE-070312													
ICS-DSS-06-SE-070312													
ICS-DSS-31-SE-070312													
ICS-DSS-32-SE-070312													

TEQ (TCDD toxicity equivalence) based on WHO 2005 relative toxicity factors.



D.M.D., Inc.

Environmental & Toxicological Services

13706 SW Caster Road, Vashon, WA 98070-7428 (206) 463-6223 fax: (206) 463-4013

MEMORANDUM

TO: Matt Dalton (DOF)
FROM: Raleigh Farlow
DATE: December 10, 2012
SUBJECT: Data Evaluation/Assessment for 36 Soils and One NAPL Sample Collected during October 2012 from the ICS / [former] NW Cooperage Site, Seattle, WA

Forty nine soil samples and an NAPL were collected by Dalton, Olmsted & Fuglevand (DOF) staff during October 15-17, 2012 for the evaluation of soil quality. All samples were delivered in four delivery groups to Analytical Resources Inc. (ARI) of Tukwila, Washington within two days of collection. Samples were received on ice at temperatures between 0.9 and 5.1 degrees C, and maintained at the project laboratory at 4 degrees C prior to analyses. No chemical preservatives were specified nor required. Analyses were requested on thirty six soils, the NAPL, and a VOC's transport/trip blank.

Sample collection, handling, and analyses were conducted in accordance with the project sampling and analysis plan (SAP) (*Sampling and Analysis Plan to Complete Remedial Investigation Sampling ICS / Former NW Cooperage Site, Seattle, Washington*, prepared by DOF, February 2012). All analyses were performed by methods presented in Table SAP-6 of the SAP.

VOC's	SW846-M.8260C	pH	SW846-M.9045
SVOC's	SW846-M.8270	SVOC's (selected)	SW846-M.8270 - SIM
PCB's as Aroclors	SW846-M.8082	chlor. pesticides	SW846-M.8081
Hg	SW846-M.7471A	metals (exc Hg)	SW846-M.6020A
total organic halides	SW846-M.9076	total petroleum HC's	NWTPH-Dx & -Gx

Semivolatile organic compound (SVOC's) analyses were performed by SW846 M.8270 in full-scan mode, and selected analytes were further analyzed and reported from analyses performed in the (M.8270D) SIM mode to improve/lower the reporting limits. These selected analytes include 1,4-dichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,2,4-trichlorobenzene, 2-methylphenol, 2,4-dimethylphenol, N-nitrosodiphenylamine (as diphenylamine), benzyl alcohol, and pentachlorophenol. Results for detected analytes were reported from the full-scan analyses or from the mode that yielded non-qualified data. For nondetected analytes, the lowest reporting limit between the two analytical modes was reported in the attached results table; generally from the SIM mode of analyses. Similarly, selected analytes, such as dichloro- and trichloro-benzenes were analyzed by both the SVOC method and the volatile organic compound (VOC's) method (M.8260). The attached results table reports only one result, which is either one of the two

exhibiting the lowest reporting limit or the result with the least limitations in data quality. Naphthalene results generated by M.8260 (VOC's method) was not considered further for use due to generally elevated reporting limits as compared to the results generated by M.8270 (SVOC's method). Hexachlorobutadiene (HCBd) was analyzed and reported by both M.8260 (VOC's) and M.8081 (chlorinated pesticides). The result generated by M.8260 was not reported in the attached results table due to generally elevated reporting limits. NWTPH-Dx extract preparation was supplemented with silica gel chromatography and acid cleanup steps. Total organic halide (TOX) analyses in NAPL were subcontracted by ARI to Spectra Laboratories of Tacoma, Washington.

Samples were relinquished by DOF under chain-of-custody (C-O-C) procedure. All analyses for parameters reported in the attached results table were completed within the technical holding time requirements identified in the project SAP (Table SAP-2) and/or within the recommended maximum holding times recommended by the U.S. EPA. Sample holding times/conditions are determined to be within acceptable technical limits and/or within SAP specifications.

Generally, [lower] **reporting limits** were consistent with specified-limits presented in the SAP (Table SAP-6). Exceptions are noted principally for organic compound analytes due to presence of chemical interferences and elevated levels of other target analytes. Specifically, samples LP3-SO-B, MW6-A and MW6-B (and its blind duplicate) required extract dilutions due to elevated levels of organic contaminants resulting in the elevation of some analyte nondetection reporting limits. These samples also exhibited elevated levels of petroleum hydrocarbons that necessitated extract dilutions in order to prevent instrumental overloading. Most of the elevated nondetects for the chlorinated pesticides are due to chemical interferences and elevated backgrounds for samples MW6-B (and its blind duplicate), MW7-A, LP3-SO-A, LP3-SO-B, LP4-SO-A and LP4-SO-B. Interferences in the determination of chlorinated pesticides are principally attributed to relatively elevated levels of PCB's. Selected pesticide data were qualified as estimated with the "J_p" qualifier code due to variability observed between the two GC [confirmation] columns; this is likely due to interferences from PCB's found in the same samples. Some Aroclors (commercial PCB mixtures) were reported with elevated reporting limits or nondetects due to elevated levels of other detected Aroclors that have the potential to contribute overlapping signals and imperfect pattern matches with standard Aroclor reference mixtures. Congener peak ratios showed sufficient variability within apparent PCB mixtures in some samples to warrant qualification of reported Aroclor mixtures with the "J_p" qualifier code, indicating an estimated concentration due to > 40% variability (or RPD/CV) in relative congener level contributions compared to the reference standard and/or > 40 RPD in Aroclor concentrations between the two GC column determinations. Considerable effort was made by the analysts to achieve the specified lower reporting limits when the sample matrix and chemical interferences would allow it. Analyte concentrations reported at less than the lower reporting limit or the established linear concentration range are qualified as estimated with the "J" qualifier code.

Method blanks (MB) were analyzed and reported for all analytical parameters and groups (analytical groups are ≤ 20 samples). All method blanks reported nondetects, with the exception of the following:

<u>Parameter detected in MB</u>	<u>Detected level (µg/kg)</u>	<u>Potentially affected groups</u>
Methylene chloride	2.3	VN71, VN72
Methylene chloride	0.9	VO10, VO11
Naphthalene (VOC's)	0.6	VN72
Naphthalene (VOC's)	0.7	VO10, VO11
1,2,3-Trichlorobenzene	0.5	VO10, VO11
1,2,4-Trichlorobenzene	0.6	VO10, VO11
Phenol	1.3	VN71, VN72
<i>bis</i> (2-Ethylhexyl)phthalate	25	VN71, VN72
<i>bis</i> (2-Ethylhexyl)phthalate	35	VO10

Levels detected in MB's were generally less than or approximate to the lower reporting limits. Concentrations reported in project samples greater than 2x the MB level (with consideration of any sample/extract dilutions) are determined to be not adversely impacted by potential bias associated with laboratory background levels. Only phenol and *bis*(2-ethylhexyl)phthalate results in some samples are determined to be potentially biased [high] due to blank contamination and are thus qualified with the "J_B" qualifier code. No other data required qualification due to method blanks performance.

No field equipment **rinsate blanks** were specified in the project SAP nor were any collected. A single **trip/transport blank** was generated and submitted for analysis and determination of potential contamination during handling of VOC's and TPH-Gx samples. Results of analysis are reported in the attached table. Only acetone was detected at approximately 3.3 µg/L, which is less than the lower reporting limit of 5.0 µg/L. This level is sufficiently low to not adversely impact reported results. No data required qualification due to field blank performance.

Laboratory control sample (**LCS/LCSD**) and matrix spike (**MS/MSD**) recoveries were within acceptable ranges for most analytes. Some recoveries were nonevaluable due to high native levels of analyte interfering with [low] spike levels, such as hexachlorobutadiene (HCBD) in sample MW6-SO-A, and elevated chemical interferences with δ-BHC and endrin aldehyde in sample LP2-SO-A. Several analytes, such as hexachloroethane, acetone, methylene chloride, *trans*-1,2-dichloroethene, acrolein, δ-BHC, and endrin ketone exhibited MS/MSD recoveries outside specification, but not sufficient to require qualification of associated results, which were all nondetects. Associated LCS/LCSD recoveries for these specific analytes were all within the acceptance range. LCS/LCSD recoveries were outside the specified ranges for N-nitrosodiphenylamine, carbazole, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, benzo(g,h,i)perylene, and total benzofluoranthenes for delivery groups VN71 and VN72, however, associated MS/MSD performances were acceptable. No associated data required qualification. Antimony (Sb) matrix spike recoveries are reported consistently low in soil samples at 7.5%, 10.7% and 11.2%. Sb LCS and SRM recoveries are determined to be acceptable. This behaviour for Sb is typical due to formation of Sb-SiO₄ complexes in the presence of soil minerals; however, positive hits for Sb are thus qualified with the "J_R" qualifier code to indicate results are considered estimates (biased low) due to low matrix spike recoveries. Recoveries of spike analytes for all analyses were determined to be acceptable, with the exception noted above for antimony, requiring qualification of associated results as estimates with the "J_R" code.

Surrogate compound recoveries (for organic analytes) were evaluated for VOC's, SVOC's, TPH-Dx, TPH-Gx, chlorinated pesticides (including hexachlorobutadiene [HCBd] and hexachlorobenzene [HCB]), and PCB's. Four labeled compounds were utilized for the evaluation of VOC's recovery performance. Tetrachloro-*meta*-xylene (TCMX) and decachlorobiphenyl (DCBP) were utilized as the surrogates for evaluation of chlorinated pesticides and PCB's analytical performance. Trifluorotoluene and bromobenzene were used as surrogates for the TPH-Gx analyses, and *o*-terphenyl was utilized as the surrogate for the TPH-Dx analyses. SVOC recoveries were evaluated with the use of four labeled phenols and four labeled neutral compounds. All surrogate recoveries were within specification, with the exception of elevated DCBP, for the analyses of PCB's in samples LP1-SO-B, LP3-SO-A, LP3-SO-B, LP4-SO-A, and LP4-SO-B due to moderate levels of interferences manifested as an elevated chromatographic baseline and relatively high levels of Aroclor 1260, but not sufficient to adversely affect PCB's data quality (Aroclor 1260 contains small amounts of DCBP). No qualification of results was required due to surrogate compounds performance.

Continuing calibration verification (CCV) checks revealed occasional [minor] noncompliant responses for bromomethane, 2-butanone, acetone, 1,1-dichloroethene, carbon disulfide, 1,1,1,2-tetrachloroethane, bromoform, naphthalene (VOC's), pentachlorophenol (M.8270-SIM), butylbenzylphthalate (M.8270-SIM), carbazole, isophorone, chlorophenyl phenylether, and 4,4'-DDT. Reported data associated with noncompliant CCV's are nonetheless qualified as estimates with the "J_Q" code, even though the data quality, by other measures, is generally within acceptance limits.

Two pairs of blind **field duplicate** samples were collected and submitted for analyses for the assessment of monitoring variability. Duplicate pairs are identified in the attached table of sample results; MW3-A / DUP1 and MW6-B / DUP2. Variability in terms of relative percent difference (RPD) for all parameters generally averaged less than 25% for duplicate pairs. Greatest RPDs (up to 116 & 135) were observed for organic contaminants, such as trimethylbenzene and dibenzofuran, in soils from MW6-A and its associated blind duplicate. Greatest variabilities were generally associated with contaminants exhibiting relatively high concentrations. This is characteristic of high heterogeneity in contaminated environmental media. Laboratory duplicate analyses were generally less than 20 RPD (within SAP specifications).

TPH-Dx analyses indicate there to be relatively high variability across the site regarding the type of hydrocarbon mixtures present. Bold type values are associated with the patterns that most likely identify the hydrocarbon mixtures present, such as gasoline, diesel fuel and/or motor/lubricant oil. Samples LP3-SO-B and LP3-SO-C also show presence of a light hydrocarbon solvent overlaying a diesel pattern and lube-type hydrocarbon mixture. LP4-NAPL exhibits hydrocarbon patterns resembling gasoline, light hydrocarbon solvent, diesel fuel, and motor oil lubricant.

Sample results reported here are determined to be in general compliance with method and SAP requirements. Most deviations of data quality from SAP and method specifications are associated with generally elevated levels of multiple contaminants in site soils. All reported data for soil and NAPL samples (attached) are considered usable for the intended purposes of the project.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
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Field I.D.	Matrix	Collection Date	Comments	Lab I.D.	% solids	pH	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead
					%	SU	7440-36-0 mg/kg. dry	7440-38-2 mg/kg. dry	7440-41-7 mg/kg. dry	7440-43-9 mg/kg. dry	7440-47-3 mg/kg. dry	7440-50-8 mg/kg. dry	7439-92-1 mg/kg. dry
ICS-LP1-SO-A-101512	soil	10/15/2012	3 - 5'	1220278-VN72E	90		0.4 J_R	14.5	0.2	0.4	30.1	44.6	403
ICS-LP1-SO-B-101512	soil	10/15/2012	6.5 - 8'	1220274-VN72A	58	7.41	0.3 U	21.4	0.4	1.7	60.5	103	448
ICS-LP1-SO-C-101512	soil	10/15/2012	10.5 - 12'	1220279-VN72F	75		0.3 U	2.2	0.3 U	0.1 U	12.9	19.7	2.5
ICS-LP1-SO-D-101512	soil	10/15/2012	16 - 18'	1220287-VN72N									
ICS-LP2-SO-A-101512	soil	10/15/2012	3 - 5'	1220280-VN72G	83		0.2 U	5.9	0.2 U	0.7	31.4	160	106
ICS-LP2-SO-B-101512	soil	10/15/2012	5.5 - 7.5'	1220275-VN72B	73	7.45	0.3 U	4.8	0.3 U	0.1 U	17.4	23.1	4.3
ICS-LP2-SO-C-101512	soil	10/15/2012	8 - 10'	1220281-VN72H	72		0.3 U	3.4	0.3 U	0.1 U	12.6	23.2	3.4
ICS-LP2-SO-D-101512	soil	10/15/2012	15 - 16'	1220288-VN72O									
ICS-LP3-SO-A-101512	soil	10/15/2012	3 - 5'	1220282-VN72I	94		0.2 U	2.7	0.2 U	0.4	41.0	24.6	110
ICS-LP3-SO-B-101512	soil	10/15/2012	6 - 8'	1220276-VN72C	82	6.85	0.8 J_R	6.7	0.2 U	5.8	910	450	3600
ICS-LP3-SO-C-101512	soil	10/15/2012	10 - 12'	1220283-VN72J	75		0.3 U	3.4	0.3 U	0.1 U	21.1	24.1	4.2
ICS-LP3-SO-D-101512	soil	10/15/2012	15 - 16'	1220289-VN72P									
ICS-LP4-SO-A-101512	soil	10/15/2012	8 - 10'	1220284-VN72K	81		0.2 U	5.2	0.3	0.7	66.3	38.7	748
ICS-LP4-SO-B-101512	soil	10/15/2012	10 - 12'	1220277-VN72D	67	8.34	0.3 U	10.1	0.4	0.8	37.4	41.7	118
ICS-LP4-SO-C-101512	soil	10/15/2012	14 - 15'	1220285-VN72L	77		0.2 U	1.3	0.2 U	0.1 U	10.2	9.6	1.6
ICS-LP4-SO-D-101512	soil	10/15/2012	17 - 18'	1220290-VN72Q									
ICS-LP4-NAPL-101512	NAPL	10/15/2012	4 - 5'	1220286-VN72M									
ICS-DOF-MW1-A-101512	soil	10/15/2012	4 - 5'	1220271-VN71A	92		0.2 U	3.0	0.2 U	0.1 U	15.8	14.0	110
ICS-DOF-MW1-B-101512	soil	10/15/2012	6.5 - 7.5'	1220272-VN71B	72		0.3 U	3.2	0.3 U	0.1 U	15.0	22.1	3.0
ICS-DOF-MW1-C-101512	soil	10/15/2012	11 - 12'	1220273-VN71C	71		0.3 U	2.0	0.3 U	0.1	13.6	17.3	2.0
ICS-DOF-MW2-A-101612	soil	10/16/2012	2 - 3'	1220473-VO10G	97		0.2 U	2.0	0.2 U	0.1 U	10.0	9.6	1.8
ICS-DOF-MW2-B-101612	soil	10/16/2012	8 - 9'	1220474-VO10H	85		0.2 U	2.5	0.2 U	0.1 U	12.9	14.9	2.9
ICS-DOF-MW2-C-101612	soil	10/16/2012	12 - 13'	1220475-VO10I	71		0.3 U	4.7	0.4	0.1 U	19.6	26.5	4.7
ICS-DOF-MW2-D-101612	soil	10/16/2012	16 - 17'	1220483-VO10Q									
ICS-DOF-MW3-A-101612	soil	10/16/2012	2 - 4'	1220476-VO10J	93		0.2 U	2.4	0.2 U	0.1 U	10.5	10.4	3.4
ICS-DOF-DUP1-101612	soil	10/16/2012	dup of MW3-A	1220507-VO11F	93		0.2 U	2.7	0.2 U	0.1 U	10.9	10.2	4.1
ICS-DOF-MW3-B-101612	soil	10/16/2012	7 - 8'	1220477-VO10K	85		0.2 U	2.1	0.2 U	0.1 U	11.2	11.7	2.8
ICS-DOF-MW3-C-101612	soil	10/16/2012	12 - 13'	1220484-VO10R									
ICS-DOF-MW3-D-101612	soil	10/16/2012	17 - 18'	1220485-VO10S									
ICS-DOF-MW4-A-101712	soil	10/17/2012	3 - 4'	1220478-VO10L	89		0.2 U	2.4	0.2 U	0.1 U	10.5	10.8	2.1
ICS-DOF-MW4-B-101712	soil	10/17/2012	7 - 8'	1220479-VO10M	75		0.2 U	2.8	0.3	0.1	12.0	17.7	3.9
ICS-DOF-MW4-C-101712	soil	10/17/2012	10 - 11'	1220480-VO10N	78		0.2 U	2.0	0.2 U	0.1	12.8	22.7	6.3
ICS-DOF-MW4-D-101712	soil	10/17/2012	16 - 17'	1220486-VO10T									
ICS-DOF-MW5-A-101712	soil	10/17/2012	3 - 4'	1220502-VO11A	91		0.2 U	2.2	0.2 U	0.1 U	9.6	12.9	2.3
ICS-DOF-MW5-B-101712	soil	10/17/2012	7 - 8'	1220503-VO11B	77		0.2 U	2.0	0.2 U	0.1 U	10.0	11.2	1.9
ICS-DOF-MW5-C-101712	soil	10/17/2012	12 - 13'	1220510-VO11I									
ICS-DOF-MW5-D-101712	soil	10/17/2012	17 - 18'	1220511-VO11J									

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Field I.D.	Matrix	Collection Date	Comments	Lab I.D.	% solids	pH	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead
					%	SU	7440-36-0 mg/kg. dry	7440-38-2 mg/kg. dry	7440-41-7 mg/kg. dry	7440-43-9 mg/kg. dry	7440-47-3 mg/kg. dry	7440-50-8 mg/kg. dry	7439-92-1 mg/kg. dry
ICS-DOF-MW6-A-101712	soil	10/17/2012	3 - 5'	1220504-VO11C	79		0.2 U	3.0	0.2 U	0.1 U	11.8	13.9	2.6
ICS-DOF-MW6-B-101712	soil	10/17/2012	6 - 8'	1220505-VO11D	78		0.3 U	2.6	0.3 U	0.1 U	11.6	13.0	2.3
ICS-DOF-DUP2-101712	soil	10/17/2012	dup of MW6-B	1220508-VO11G	78		0.3 U	3.0	0.3 U	0.1 U	12.8	14.9	2.5
ICS-DOF-MW6-C-101712	soil	10/17/2012	9 - 10'	1220506-VO11E	62		0.3 U	8.0	0.3	0.1 U	17.3	28.0	4.2
ICS-DOF-MW6-D-101712	soil	10/17/2012	12 - 13'	1220512-VO11K									
ICS-DOF-MW7-A-101612	soil	10/16/2012	3 - 4'	1220470-VO10D	77		0.3 U	3.5	0.3 U	0.1 U	13.0	18.2	8.4
ICS-DOF-MW7-B-101612	soil	10/16/2012	7 - 8'	1220471-VO10E	72		0.3 U	3.2	0.3 U	0.1 U	14.7	21.6	3.0
ICS-DOF-MW7-C-101612	soil	10/16/2012	11 - 12'	1220472-VO10F	70		0.3 U	2.6	0.3 U	0.1 U	13.1	20.8	2.4
ICS-DOF-MW7-D-101612	soil	10/16/2012	16 - 17'	1220482-VO10P									
ICS-DOF-MW8-A-101612	soil	10/16/2012	3 - 4'	1220467-VO10A	95		0.2 U	1.7	0.2 U	0.1 U	8.4	10.2	1.5
ICS-DOF-MW8-B-101612	soil	10/16/2012	7 - 8'	1220468-VO10B	73		0.3 U	2.5	0.3 U	0.1 U	14.4	20.9	3.0
ICS-DOF-MW8-C-101612	soil	10/16/2012	11 - 12'	1220469-VO10C	74		0.3 U	3.2	0.3 U	0.1 U	12.9	18.3	2.4
ICS-DOF-MW8-D-101612	soil	10/16/2012	15 - 16'	1220481-VO10O									
Trip Blank (µg/L)	water	10/17/2012	VOC's trip blank	1220509-VO11H	-								

J_R = estimate; due to low matrix spike recovery. Value likely biased low.
U = nondetected at the associated lower reporting limit.

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Field I.D.	Mercury 7439-97-6 mg/kg, dry	Nickel 7440-02-0 mg/kg, dry	Silver 7440-22-4 mg/kg, dry	Zinc 7440-66-6 mg/kg, dry	TOX mg/kg	Total Petroleum Hydrocarbons			Chloro- methane 74-87-3 µg/kg, dry	Bromo- methane 74-83-9 µg/kg, dry	Vinyl chloride 75-01-4 µg/kg, dry	Chloro- ethane 75-00-3 µg/kg, dry	Methylene chloride 75-09-2 µg/kg, dry	Acetone 67-64-1 µg/kg, dry	
						Gasoline-range mg/kg, dry	Diesel-range mg/kg, dry	Lube-range mg/kg, dry							
ICS-LP1-SO-A-101512	0.14	36.7	0.2 U	90			23	70							
ICS-LP1-SO-B-101512	3.12	31.5	0.8	349			820	1700	1.7 U	1.7 U	1.7 U	1.7 U	3.8	680	
ICS-LP1-SO-C-101512	0.3 U	10.0	0.3 U	30			8.2	18							
ICS-LP1-SO-D-101512															
ICS-LP2-SO-A-101512	0.18	52.7	0.2 U	238			7.2	31							
ICS-LP2-SO-B-101512	0.06	13.3	0.3 U	95			6.8 U	14 U	1.2 U	1.2 U	1.2 U	1.2 U	2.3 U	99	
ICS-LP2-SO-C-101512	0.03	9.0	0.3 U	85			6.9 U	14 U							
ICS-LP2-SO-D-101512															
ICS-LP3-SO-A-101512	0.37	21.6	0.2 U	165			32	100							
ICS-LP3-SO-B-101512	8.7	54.5	0.4	2120			incl lt HC solvent 6200	11,000	2500 U	2500 U	2500 U	2500 U	5100 U	9900 J	
ICS-LP3-SO-C-101512	0.13	9.5	0.3 U	33			incl lt HC solvent 120	170							
ICS-LP3-SO-D-101512															
ICS-LP4-SO-A-101512	0.74	22.2	0.2 U	196			620	1300							
ICS-LP4-SO-B-101512	2.06	20.9	0.4	116			760	440	110 U	110 U	110 U	110 U	86 J	430 J	
ICS-LP4-SO-C-101512	0.03 U	7.7	0.2 U	22			10	18							
ICS-LP4-SO-D-101512															
ICS-LP4-NAPL-101512					270		> 2000	> 5000	> 10,000						
ICS-DOF-MW1-A-101512	0.04	10.3	0.2 U	55			6.3 U	8.1	16	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	4.9 U
ICS-DOF-MW1-B-101512	0.05	10.7	0.3 U	33			9.2 U	6.8 U	14 U	1.2 U	1.2 U	1.2 U	1.2 U	2.5 U	160
ICS-DOF-MW1-C-101512	0.03	11.8	0.3 U	31			9.3 U	7.1 U	14 U	1.3 U	1.3 U	1.3 U	1.3 U	2.5 U	65
ICS-DOF-MW2-A-101612	0.02 U	9.0	0.2 U	25			5.7 U	5.0 U	10 U	0.9 U	0.9 U	0.9 U	0.9 U	1.9 U	4.7 U
ICS-DOF-MW2-B-101612	0.23	9.8	0.2 U	28			6.8 U	5.2 U	10 U	1.1 U	1.1 U	1.1 U	1.1 U	2.2 U	48 J _Q
ICS-DOF-MW2-C-101612	0.04	16.3	0.3 U	37			8.8 U	6.7 U	13 U	1.3 U	1.3 U	1.3 U	1.3 U	2.6 U	100 J _Q
ICS-DOF-MW2-D-101612															
ICS-DOF-MW3-A-101612	0.03 U	9.1	0.2 U	26			5.7 U	5.3 U	11 U	1.1 U	1.1 U	1.1 U	1.1 U	2.1 U	5.3 U
ICS-DOF-DUP1-101612	0.02 U	9.0	0.2 U	27			6.3 U	6.2	11 U	1.1 U	1.1 U	1.1 U	1.1 U	2.1 U	5.3 U
ICS-DOF-MW3-B-101612	0.02 U	11.7	0.2 U	29			7.0 U	22	17	1.1 U	1.1 U	1.1 U	1.1 U	2.2 U	5.6 U
ICS-DOF-MW3-C-101612															
ICS-DOF-MW3-D-101612															
ICS-DOF-MW4-A-101712	0.02 U	9.5	0.2 U	27			6.7 U	8.4	11 U	1.0 U	1.0 U	1.0 U	1.0 U	2.1 U	21 J _Q
ICS-DOF-MW4-B-101712	0.03 U	11.0	0.2 U	29			8.2 U	15	18	1.3 U	1.3 U	1.3 U	1.3 U	3.1	150
ICS-DOF-MW4-C-101712	0.04	10.7	0.2 U	34			8.1 U	17	27	1.1 U	1.1 U	1.1 U	1.1 U	1.6 J _B	42
ICS-DOF-MW4-D-101712															
ICS-DOF-MW5-A-101712	0.02 U	10.1	0.2 U	28			6.4 U	23	22	0.9 U	0.9 U	0.9 U	0.9 U	1.9 U	4.7 U
ICS-DOF-MW5-B-101712	0.02 U	9.0	0.2 U	26			7.7 U	22	25	1.1 U	1.1 U	1.1 U	1.1 U	1.1 J	59 J _Q
ICS-DOF-MW5-C-101712															
ICS-DOF-MW5-D-101712															

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Field I.D.	Mercury 7439-97-6 mg/kg. dry	Nickel 7440-02-0 mg/kg. dry	Silver 7440-22-4 mg/kg. dry	Zinc 7440-66-6 mg/kg. dry	TOX mg/kg	Total Petroleum Hydrocarbons			Chloro- methane 74-87-3 µg/kg. dry	Bromo- methane 74-83-9 µg/kg. dry	Vinyl chloride 75-01-4 µg/kg. dry	Chloro- ethane 75-00-3 µg/kg. dry	Methylene chloride 75-09-2 µg/kg. dry	Acetone 67-64-1 µg/kg. dry
						Gasoline-range mg/kg. dry	Diesel-range mg/kg. dry	Lube-range mg/kg. dry						
ICS-DOF-MW6-A-101712	0.04	9.6	0.2 U	25		3000	19,000	1200 U	280 U	280 U	280 U	280 U	550 U	1400 U
ICS-DOF-MW6-B-101712	0.02 U	8.8	0.3 U	25		2300	12,000	1200 U	270 U	270 U	270 U	270 U	550 U	1400 U
ICS-DOF-DUP2-101712	0.02	9.5	0.3 U	25		2500	9000	1300 U	270 U	270 U	270 U	270 U	540 U	1400 U
ICS-DOF-MW6-C-101712	0.04 U	14.6	0.3 U	36		10 U	34	40	1.6 U	1.6 U	1.6 U	1.6 U	3.3	220 J_Q
ICS-DOF-MW6-D-101712														
ICS-DOF-MW7-A-101612	0.03	10.3	0.3 U	34		54	970	820	91 U	91 U	91 U	91 U	180 U	460 U
ICS-DOF-MW7-B-101612	0.03	10.1	0.3 U	31		8.9 U	6.6 U	13 U	1.2 U	1.2 U	1.2 U	6.0	1.0 J	74 J_Q
ICS-DOF-MW7-C-101612	0.03 U	10.5	0.3 U	32		7.8 U	6.5 U	13 U	1.3 U	1.3 U	1.3 U	1.4	2.6 U	58 J_Q
ICS-DOF-MW7-D-101612														
ICS-DOF-MW8-A-101612	0.02 U	7.3	0.2 U	36		8.2	5.2	10 U	1.0 U	1.0 U	1.0 U	1.0 U	0.7 J	400 J_Q
ICS-DOF-MW8-B-101612	0.03	10.5	0.3 U	32		8.6 U	6.5 U	13 U	1.3 U	1.3 U	1.3 U	1.9	3.1	110 J_Q
ICS-DOF-MW8-C-101612	0.03 U	10.5	0.3 U	28		7.8 U	6.5 U	13 U	1.2 U	1.2 U	1.2 U	1.4	2.3 U	66 J_Q
ICS-DOF-MW8-D-101612														
Trip Blank (µg/L)						0.25 U (mg/L)			1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	3.3 J

J = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

Remedial Investigation
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<u>Field I.D.</u>	Carbon disulfide 75-15-0 µg/kg. dry	1,1-Dichloroethene 75-35-4 µg/kg. dry	1,1-Dichloroethane 75-34-3 µg/kg. dry	<i>trans</i> -1,2-Dichloroethene 156-60-5 µg/kg. dry	<i>cis</i> -1,2-Dichloroethene 156-59-2 µg/kg. dry	Chloroform 67-66-3 µg/kg. dry	1,2-Dichloroethane 107-06-2 µg/kg. dry	2-Butanone 78-93-3 µg/kg. dry	1,1,1-Tri-chloroethane 71-55-6 µg/kg. dry	Carbon tetrachloride 56-23-5 µg/kg. dry	Bromo-dichloromethane 75-27-4 µg/kg. dry	1,2-Dichloro-propane 78-87-5 µg/kg. dry	<i>cis</i> -1,3-Dichloro-propene 10061-01-5 µg/kg. dry
ICS-LP1-SO-A-101512													
ICS-LP1-SO-B-101512	20	1.7 U	3.1	1.7 U	1.7 U	1.7 U	1.7 U	140	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
ICS-LP1-SO-C-101512													
ICS-LP1-SO-D-101512													
ICS-LP2-SO-A-101512													
ICS-LP2-SO-B-101512	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	20 J_Q	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ICS-LP2-SO-C-101512													
ICS-LP2-SO-D-101512													
ICS-LP3-SO-A-101512													
ICS-LP3-SO-B-101512	2500 U	2500 U	2500 U	2500 U	2400 J	2500 U	2500 U	13,000 U	2500 U	2500 U	2500 U	2500 U	2500 U
ICS-LP3-SO-C-101512													
ICS-LP3-SO-D-101512													
ICS-LP4-SO-A-101512													
ICS-LP4-SO-B-101512	130	110 U	110 U	110 U	110 U	110 U	110 U	550 U	110 U	110 U	110 U	110 U	110 U
ICS-LP4-SO-C-101512													
ICS-LP4-SO-D-101512													
ICS-LP4-NAPL-101512													
ICS-DOF-MW1-A-101512	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	4.9 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW1-B-101512	1.9	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	30 J_Q	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ICS-DOF-MW1-C-101512	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	14	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW2-A-101612	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	4.7 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
ICS-DOF-MW2-B-101612	5.4	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	8.5	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW2-C-101612	1.0 J	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	29	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW2-D-101612													
ICS-DOF-MW3-A-101612	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	5.3 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-DUP1-101612	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	5.3 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW3-B-101612	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	5.6 U	1.4	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW3-C-101612													
ICS-DOF-MW3-D-101612													
ICS-DOF-MW4-A-101712	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW4-B-101712	3.1 J_Q	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	23 J_Q	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW4-C-101712	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	11	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW4-D-101712													
ICS-DOF-MW5-A-101712	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	4.7 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
ICS-DOF-MW5-B-101712	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	10	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW5-C-101712													
ICS-DOF-MW5-D-101712													

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<u>Field I.D.</u>	Carbon disulfide 75-15-0 µg/kg. dry	1,1-Dichloro-ethene 75-35-4 µg/kg. dry	1,1-Dichloro-ethane 75-34-3 µg/kg. dry	<i>trans</i> -1,2-Dichloroethene 156-60-5 µg/kg. dry	<i>cis</i> -1,2-Dichloroethene 156-59-2 µg/kg. dry	Chloroform 67-66-3 µg/kg. dry	1,2-Dichloro-ethane 107-06-2 µg/kg. dry	2-Butanone 78-93-3 µg/kg. dry	1,1,1-Tri-chloroethane 71-55-6 µg/kg. dry	Carbon tetrachloride 56-23-5 µg/kg. dry	Bromo-dichloromethane 75-27-4 µg/kg. dry	1,2-Dichloro-propane 78-87-5 µg/kg. dry	<i>cis</i> -1,3-Dichloro-propene 10061-01-5 µg/kg. dry
ICS-DOF-MW6-A-101712	280 U	280 U	280 U	280 U	280 U	280 U	280 U	1400 U	280 U	280 U	280 U	280 U	280 U
ICS-DOF-MW6-B-101712	270 U	270 U	270 U	270 U	270 U	270 U	270 U	1400 U	270 U	270 U	270 U	270 U	270 U
ICS-DOF-DUP2-101712	270 U	270 U	270 U	270 U	270 U	270 U	270 U	1400 U	270 U	270 U	270 U	270 U	270 U
ICS-DOF-MW6-C-101712	4.9	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	48	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
ICS-DOF-MW6-D-101712													
ICS-DOF-MW7-A-101612	91 U	91 U	91 U	91 U	130	91 U	91 U	460 U	91 U	91 U	91 U	91 U	91 U
ICS-DOF-MW7-B-101612	1.2 U	1.2 U	2.0	1.1 J	1.2 U	1.2 U	1.2 U	18	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ICS-DOF-MW7-C-101612	1.7	1.3 U	1.3 U	1.3 U	4.3	1.3 U	1.3 U	16	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW7-D-101612													
ICS-DOF-MW8-A-101612	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	39	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW8-B-101612	4.1	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	21	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW8-C-101612	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	19	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ICS-DOF-MW8-D-101612													
Trip Blank (µg/L)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

J = estimate associated with value less than the verifiable lower quantitation limit.

J₀ = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

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<u>Field I.D.</u>	Trichloro- ethene 79-01-6 µg/kg. dry	Dibromo- chloromethane 124-48-1 µg/kg. dry	1,1,2-Trichloro- ethane 79-00-5 µg/kg. dry	Benzene 71-43-2 µg/kg. dry	<i>trans</i> -1,3- Dichloropropene 10061-02-6 µg/kg. dry	Bromo-form 75-25-2 µg/kg. dry	4-Methyl-2- pentanone 108-10-1 µg/kg. dry	2-Hexanone 591-78-6 µg/kg. dry	Tetrachloro- ethene 127-18-4 µg/kg. dry	1,1,2,2-Tetra- chloroethane 79-34-5 µg/kg. dry	Toluene 108-88-3 µg/kg. dry	Chloro- benzene 108-90-7 µg/kg. dry	Ethyl- benzene 100-41-4 µg/kg. dry	Styrene 100-42-5 µg/kg. dry
ICS-LP1-SO-A-101512														
ICS-LP1-SO-B-101512	1.7 U	1.7 U	1.7 U	1.1 J	1.7 U	1.7 U	8.5 U	8.5 U	1.7 U	1.7 U	4.0	1.7 U	1.1 J	1.7 U
ICS-LP1-SO-C-101512														
ICS-LP1-SO-D-101512														
ICS-LP2-SO-A-101512														
ICS-LP2-SO-B-101512	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	5.8 U	5.8 U	1.2 U	1.2 U	16	1.2 U	8.3	1.2 U
ICS-LP2-SO-C-101512														
ICS-LP2-SO-D-101512														
ICS-LP3-SO-A-101512														
ICS-LP3-SO-B-101512	2000 J	2500 U	2500 U	1600 J	2500 U	2500 U	13,000 U	13,000 U	2500 U	2500 U	120,000	2500 U	130,000	2500 U
ICS-LP3-SO-C-101512														
ICS-LP3-SO-D-101512														
ICS-LP4-SO-A-101512														
ICS-LP4-SO-B-101512	200	110 U	110 U	78 J	110 U	110 U	550 U	550 U	110 U	110 U	810	110 U	1800	100 J
ICS-LP4-SO-C-101512														
ICS-LP4-SO-D-101512														
ICS-LP4-NAPL-101512														
ICS-DOF-MW1-A-101512	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	4.9 U	4.9 U	0.6 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW1-B-101512	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	6.2 U	6.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ICS-DOF-MW1-C-101512	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	6.3 U	6.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW2-A-101612	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	4.7 U	4.7 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
ICS-DOF-MW2-B-101612	4.2	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	5.5 U	5.5 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW2-C-101612	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	6.5 U	6.5 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW2-D-101612														
ICS-DOF-MW3-A-101612	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	5.3 U	5.3 U	0.6 J	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-DUP1-101612	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	5.3 U	5.3 U	0.8 J	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW3-B-101612	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	5.6 U	5.6 U	1.9	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW3-C-101612														
ICS-DOF-MW3-D-101612														
ICS-DOF-MW4-A-101712	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.2 U	5.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW4-B-101712	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	6.6 U	6.6 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW4-C-101712	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	5.6 U	5.6 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW4-D-101712														
ICS-DOF-MW5-A-101712	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	4.7 U	4.7 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
ICS-DOF-MW5-B-101712	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	5.5 U	5.5 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW5-C-101712														
ICS-DOF-MW5-D-101712														

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<u>Field I.D.</u>	Trichloro- ethene 79-01-6 <u>µg/kg. dry</u>	Dibromo- chloromethane 124-48-1 <u>µg/kg. dry</u>	1,1,2-Trichloro- ethane 79-00-5 <u>µg/kg. dry</u>	Benzene 71-43-2 <u>µg/kg. dry</u>	<i>trans</i> -1,3- Dichloropropene 10061-02-6 <u>µg/kg. dry</u>	Bromo-form 75-25-2 <u>µg/kg. dry</u>	4-Methyl-2- pentanone 108-10-1 <u>µg/kg. dry</u>	2-Hexanone 591-78-6 <u>µg/kg. dry</u>	Tetrachloro- ethene 127-18-4 <u>µg/kg. dry</u>	1,1,2,2-Tetra- chloroethane 79-34-5 <u>µg/kg. dry</u>	Toluene 108-88-3 <u>µg/kg. dry</u>	Chloro- benzene 108-90-7 <u>µg/kg. dry</u>	Ethyl- benzene 100-41-4 <u>µg/kg. dry</u>	Styrene 100-42-5 <u>µg/kg. dry</u>
ICS-DOF-MW6-A-101712	280 U	280 U	280 U	280 U	280 U	280 U	1400 U	1400 U	280 U	280 U	2500	280 U	3300	280 U
ICS-DOF-MW6-B-101712	270 U	270 U	270 U	270 U	270 U	270 U	1400 U	1400 U	270 U	270 U	1700	270 U	2300	270 U
ICS-DOF-DUP2-101712	270 U	270 U	270 U	270 U	270 U	270 U	1400 U	1400 U	270 U	270 U	550	270 U	640	270 U
ICS-DOF-MW6-C-101712	1.6 U	1.6 U	1.6 U	3.2	1.6 U	1.6 U	8.0 U	8.0 U	1.6 U	1.6 U	4.2	1.6 U	4.1	1.6 U
ICS-DOF-MW6-D-101712														
ICS-DOF-MW7-A-101612	120	91 U	91 U	91 U	91 U	91 U	460 U	460 U	91 U	91 U	1300	91 U	1500	91 U
ICS-DOF-MW7-B-101612	1.2 U	1.2 U	1.2 U	2.1	1.2 U	1.2 U	6.1 U	6.1 U	1.2 U	1.2 U	1.4	1.2 U	5.3	1.2 U
ICS-DOF-MW7-C-101612	1.3 U	1.3 U	1.3 U	0.8 J	1.3 U	1.3 U	6.6 U	6.6 U	1.3 U	1.3 U	6.6	1.3 U	6.7	1.3 U
ICS-DOF-MW7-D-101612														
ICS-DOF-MW8-A-101612	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 J	9.8	1.0 U	1.0 U	3.8	1.0 U	10	1.0 U
ICS-DOF-MW8-B-101612	1.3 U	1.3 U	1.3 U	15	1.3 U	1.3 U	6.7 U	6.7 U	1.3 U	1.3 U	1.8	3.1	22	1.3 U
ICS-DOF-MW8-C-101612	1.2 U	1.2 U	1.2 U	29	1.2 U	1.2 U	5.8 U	5.8 U	1.2 U	1.2 U	1.2	2.5	0.9 J	1.2 U
ICS-DOF-MW8-D-101612														
Trip Blank (<u>µg/L</u>)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

J = estimate associated with value less than the verifiable lower quantitation limit.

U = nondetected at the associated lower reporting limit.

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Field ID.	Trichloro- fluoromethane 75-69-4 µg/kg. dry	1,1,2-Trichloro-1,2,2- trifluoroethane 76-13-1 µg/kg. dry	<i>m</i> - & <i>p</i> - Xylenes 179601-23-1 µg/kg. dry	<i>o</i> -Xylene 95-47-6 µg/kg. dry	1,2-Dichloro- benzene 95-50-1 µg/kg. dry	1,3-Dichloro- benzene 541-73-1 µg/kg. dry	1,4-Dichloro- benzene 106-46-7 µg/kg. dry	Acrolein 107-02-8 µg/kg. dry	Bromoethane 74-96-4 µg/kg. dry	1,1-Dichloro- propene 563-58-6 µg/kg. dry	Dibromo- methane 74-95-3 µg/kg. dry	1,1,1,2-Tetra- chloroethane 630-20-6 µg/kg. dry	1,2,3-Trichloro- propane 96-18-4 µg/kg. dry
ICS-LP1-SO-A-101512													
ICS-LP1-SO-B-101512	1.7 U	3.4 U	1.9	1.2 J	1.7 U	1.7 U	see SVOC's	85 U	3.4 U	1.7 U	1.7 U	1.7 U	3.4 U
ICS-LP1-SO-C-101512													
ICS-LP1-SO-D-101512													
ICS-LP2-SO-A-101512													
ICS-LP2-SO-B-101512	1.2 U	2.3 U	7.1	1.4	1.2 U	1.2 U	1.2 U	58 U	2.3 U	1.2 U	1.2 U	1.2 U	2.3 U
ICS-LP2-SO-C-101512													
ICS-LP2-SO-D-101512													
ICS-LP3-SO-A-101512													
ICS-LP3-SO-B-101512	2500 U	5100 U	120,000	34,000	see SVOC's	see SVOC's	see SVOC's	130,000 U	5100 U	2500 U	2500 U	2500 U	5100 U
ICS-LP3-SO-C-101512													
ICS-LP3-SO-D-101512													
ICS-LP4-SO-A-101512													
ICS-LP4-SO-B-101512	110 U	220 U	2900	550	150	see SVOC's	200	5500 U	220 U	110 U	110 U	110 U	220 U
ICS-LP4-SO-C-101512													
ICS-LP4-SO-D-101512													
ICS-LP4-NAPL-101512													
ICS-DOF-MW1-A-101512	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	49 U	2.0 U	1.0 U	1.0 U	1.0 U	2.0 U
ICS-DOF-MW1-B-101512	1.2 U	2.5 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	62 U	2.5 U	1.2 U	1.2 U	1.2 U	2.5 U
ICS-DOF-MW1-C-101512	1.3 U	2.5 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	63 U	2.5 U	1.3 U	1.3 U	1.3 U	2.5 U
ICS-DOF-MW2-A-101612	0.9 U	1.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	47 U	1.9 U	0.9 U	0.9 U	0.9 U	1.9 U
ICS-DOF-MW2-B-101612	1.1 U	2.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	55 U	2.2 U	1.1 U	1.1 U	1.1 U	2.2 U
ICS-DOF-MW2-C-101612	1.3 U	2.6 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	65 U	2.6 U	1.3 U	1.3 U	1.3 U	2.6 U
ICS-DOF-MW2-D-101612													
ICS-DOF-MW3-A-101612	1.1 U	2.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	53 U	2.1 U	1.1 U	1.1 U	1.1 U	2.1 U
ICS-DOF-DUP1-101612	1.1 U	2.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	53 U	2.1 U	1.1 U	1.1 U	1.1 U	2.1 U
ICS-DOF-MW3-B-101612	1.1 U	2.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	56 U	2.2 U	1.1 U	1.1 U	1.1 U	2.2 U
ICS-DOF-MW3-C-101612													
ICS-DOF-MW3-D-101612													
ICS-DOF-MW4-A-101712	1.0 U	2.1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	52 U	2.1 U	1.0 U	1.0 U	1.0 U	2.1 U
ICS-DOF-MW4-B-101712	1.3 U	2.6 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	66 U	2.6 U	1.3 U	1.3 U	1.3 U	2.6 U
ICS-DOF-MW4-C-101712	1.1 U	2.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	56 U	2.2 U	1.1 U	1.1 U	1.1 U	2.2 U
ICS-DOF-MW4-D-101712													
ICS-DOF-MW5-A-101712	0.9 U	1.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	47 U	1.9 U	0.9 U	0.9 U	0.9 U	1.9 U
ICS-DOF-MW5-B-101712	1.1 U	2.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	55 U	2.2 U	1.1 U	1.1 U	1.1 U	2.2 U
ICS-DOF-MW5-C-101712													
ICS-DOF-MW5-D-101712													

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Field I.D.	Trichloro- fluoromethane 75-69-4 µg/kg. dry	1,1,2-Trichloro-1,2,2- trifluoroethane 76-13-1 µg/kg. dry	<i>m</i> - & <i>p</i> - Xylenes 179601-23-1 µg/kg. dry	<i>o</i> -Xylene 95-47-6 µg/kg. dry	1,2-Dichloro- benzene 95-50-1 µg/kg. dry	1,3-Dichloro- benzene 541-73-1 µg/kg. dry	1,4-Dichloro- benzene 106-46-7 µg/kg. dry	Acrolein 107-02-8 µg/kg. dry	Bromoethane 74-96-4 µg/kg. dry	1,1-Dichloro- propene 563-58-6 µg/kg. dry	Dibromo- methane 74-95-3 µg/kg. dry	1,1,1,2-Tetra- chloroethane 630-20-6 µg/kg. dry	1,2,3-Trichloro- propane 96-18-4 µg/kg. dry
ICS-DOF-MW6-A-101712	280 U	550 U	7700	2500	660	770	2100	14,000 U	550 U	280 U	280 U	280 U	550 U
ICS-DOF-MW6-B-101712	270 U	550 U	5200	1700	490	640	1800	14,000 U	550 U	270 U	270 U	270 U	550 U
ICS-DOF-DUP2-101712	270 U	540 U	1500	500	200 J	320	870	14,000 U	540 U	270 U	270 U	270 U	540 U
ICS-DOF-MW6-C-101712	1.6 U	3.2 U	2.7	2.3	<i>see SVOC's</i>	<i>see SVOC's</i>	<i>see SVOC's</i>	80 U	3.2 U	1.6 U	1.6 U	1.6 U	3.2 U
ICS-DOF-MW6-D-101712													
ICS-DOF-MW7-A-101612	91 U	180 U	2400	940	<i>see SVOC's</i>	<i>see SVOC's</i>	<i>see SVOC's</i>	4600 U	180 U	91 U	91 U	91 U	180 U
ICS-DOF-MW7-B-101612	1.2 U	2.4 U	3.4	1.4	<i>see SVOC's</i>	<i>see SVOC's</i>	<i>see SVOC's</i>	61 U	2.4 U	1.2 U	1.2 U	1.2 U	2.4 U
ICS-DOF-MW7-C-101612	1.3 U	2.6 U	25	4.4	1.3 U	1.3 U	1.3 U	66 U	2.6 U	1.3 U	1.3 U	1.3 U	2.6 U
ICS-DOF-MW7-D-101612													
ICS-DOF-MW8-A-101612	1.0 U	2.1 U	17	5.0	1.0 U	1.0 U	1.0 U	51 U	2.1 U	1.0 U	1.0 U	1.0 U	2.1 U
ICS-DOF-MW8-B-101612	1.3 U	2.7 U	160	1.3 U	1.5	1.3 U	1.3 U	67 U	2.7 U	1.3 U	1.3 U	1.3 U	2.7 U
ICS-DOF-MW8-C-101612	1.2 U	2.3 U	28	1.0 J	1.2 U	1.2 U	1.2 U	58 U	2.3 U	1.2 U	1.2 U	1.2 U	2.3 U
ICS-DOF-MW8-D-101612													
Trip Blank (µg/L)	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	2.0 U	1.0 U	1.0 U	1.0 U	2.0 U

J = estimate associated with value less than the verifiable lower quantitation limit.
U = nondetected at the associated lower reporting limit.

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<u>Field I.D.</u>	<i>trans</i> -1,4-Dichloro- 2-butene 110-57-6 <u>µg/kg. dry</u>	1,3,5-Trimethyl- benzene 108-67-8 <u>µg/kg. dry</u>	1,2,4-Trimethyl- benzene 95-63-6 <u>µg/kg. dry</u>	Ethylene dibromide 106-93-4 <u>µg/kg. dry</u>	Bromochloro- methane 74-97-5 <u>µg/kg. dry</u>	2,2-Dichloro- propane 294-20-7 <u>µg/kg. dry</u>	1,3-Dichloro- propane 142-28-9 <u>µg/kg. dry</u>	Isopropyl- benzene 98-82-8 <u>µg/kg. dry</u>	n-Propyl- benzene 103-65-1 <u>µg/kg. dry</u>	Bromo- benzene 108-86-1 <u>µg/kg. dry</u>	2-Chloro- toluene 95-49-8 <u>µg/kg. dry</u>	4-Chloro- toluene 106-43-4 <u>µg/kg. dry</u>
ICS-LP1-SO-A-101512												
ICS-LP1-SO-B-101512	8.5 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 J	1.7 U
ICS-LP1-SO-C-101512												
ICS-LP1-SO-D-101512												
ICS-LP2-SO-A-101512												
ICS-LP2-SO-B-101512	5.8 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ICS-LP2-SO-C-101512												
ICS-LP2-SO-D-101512												
ICS-LP3-SO-A-101512												
ICS-LP3-SO-B-101512	13,000 U	7500	24,000	2500 U	2500 U	2500 U	2500 U	2000 J	4100	2500 U	2500 U	2500 U
ICS-LP3-SO-C-101512												
ICS-LP3-SO-D-101512												
ICS-LP4-SO-A-101512												
ICS-LP4-SO-B-101512	550 U	330	1500	110 U	110 U	110 U	110 U	110	310	110 U	110 U	110 U
ICS-LP4-SO-C-101512												
ICS-LP4-SO-D-101512												
ICS-LP4-NAPL-101512												
ICS-DOF-MW1-A-101512	4.9 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW1-B-101512	62 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ICS-DOF-MW1-C-101512	63 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW2-A-101612	4.7 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
ICS-DOF-MW2-B-101612	5.5 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW2-C-101612	6.5 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW2-D-101612												
ICS-DOF-MW3-A-101612	5.3 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-DUP1-101612	5.3 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW3-B-101612	5.6 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW3-C-101612												
ICS-DOF-MW3-D-101612												
ICS-DOF-MW4-A-101712	5.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW4-B-101712	6.6 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW4-C-101712	5.6 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW4-D-101712												
ICS-DOF-MW5-A-101712	4.7 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
ICS-DOF-MW5-B-101712	5.5 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
ICS-DOF-MW5-C-101712												
ICS-DOF-MW5-D-101712												

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<u>Field I.D.</u>	<u>trans -1,4-Dichloro- 2-butene 110-57-6 µg/kg. dry</u>	<u>1,3,5-Trimethyl- benzene 108-67-8 µg/kg. dry</u>	<u>1,2,4-Trimethyl- benzene 95-63-6 µg/kg. dry</u>	<u>Ethylene dibromide 106-93-4 µg/kg. dry</u>	<u>Bromochloro- methane 74-97-5 µg/kg. dry</u>	<u>2,2-Dichloro- propane 294-20-7 µg/kg. dry</u>	<u>1,3-Dichloro- propane 142-28-9 µg/kg. dry</u>	<u>Isopropyl- benzene 98-82-8 µg/kg. dry</u>	<u>n-Propyl- benzene 103-65-1 µg/kg. dry</u>	<u>Bromo- benzene 108-86-1 µg/kg. dry</u>	<u>2-Chloro- toluene 95-49-8 µg/kg. dry</u>	<u>4-Chloro- toluene 106-43-4 µg/kg. dry</u>
ICS-DOF-MW6-A-101712	1400 U	4600	13,000	280 U	280 U	280 U	280 U	1300	2400	280 U	280 U	280 U
ICS-DOF-MW6-B-101712	1400 U	3100	8600	270 U	270 U	270 U	270 U	920	1600	270 U	270 U	270 U
ICS-DOF-DUP2-101712	1400 U	1000	2800	270 U	270 U	270 U	270 U	280	510	270 U	270 U	270 U
ICS-DOF-MW6-C-101712	8.0 U	1.6 U	1.2 J	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
ICS-DOF-MW6-D-101712												
ICS-DOF-MW7-A-101612	460 U	130	380	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U	91 U
ICS-DOF-MW7-B-101612	6.1 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
ICS-DOF-MW7-C-101612	6.6 U	1.5	2.3	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
ICS-DOF-MW7-D-101612												
ICS-DOF-MW8-A-101612	5.1 U	1.7	4.3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
ICS-DOF-MW8-B-101612	6.7 U	4.7	17	1.3 U	1.3 U	1.3 U	1.3 U	4.4	2.1	1.3 U	1.3 U	1.3 U
ICS-DOF-MW8-C-101612	5.8 U	1.2 U	0.6 J	1.2 U	1.2 U	1.2 U	1.2 U	2.4	1.2 U	1.2 U	1.2 U	1.2 U
ICS-DOF-MW8-D-101612												
Trip Blank (µg/L)	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

*J = estimate associated with value less than the verifiable lower quantitation limit.
U = nondetected at the associated lower reporting limit.*

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<u>Field ID</u>	<i>tert</i> -Butyl- benzene 98-06-6 µg/kg. dry	<i>sec</i> -Butyl- benzene 135-98-8 µg/kg. dry	4-Isopropyl- toluene 99-87-6 µg/kg. dry	n-Butyl- benzene 104-51-8 µg/kg. dry	Phenol 108-95-2 µg/kg. dry	2-Chloro- phenol 95-57-8 µg/kg. dry	1,3-Dichloro- benzene 541-73-1 µg/kg. dry	1,4-Dichloro- benzene 106-46-7 µg/kg. dry	Benzyl alcohol 100-51-6 µg/kg. dry	1,2-Dichloro- benzene 95-50-1 µg/kg. dry	2-Methyl- phenol 95-48-7 µg/kg. dry	4-Methyl- phenol 106-44-5 µg/kg. dry
ICS-LP1-SO-A-101512					18 U	18 U	4.4 U	4.4 U	18 U	4.4 U	4.4 U	35 U
ICS-LP1-SO-B-101512	1.7 U	1.7 U	1.7 U	1.7 U	72	63 U	<i>see VOC's</i>	11 J	63 U	<i>see VOC's</i>	9.1 J	120 J
ICS-LP1-SO-C-101512					9.5 J_B	19 U	4.7 U	4.7 U	12 J	4.7 U	4.7 U	38 U
ICS-LP1-SO-D-101512												
ICS-LP2-SO-A-101512					18 U	18 U	4.6 U	4.6 U	18 U	4.6 U	4.6 U	37 U
ICS-LP2-SO-B-101512	1.2 U	1.2 U	1.2 U	1.2 U	19 U	19 U	<i>see VOC's</i>	<i>see VOC's</i>	9.0 J	<i>see VOC's</i>	4.7 U	38 U
ICS-LP2-SO-C-101512					19 U	19 U	4.8 U	4.8 U	19	4.8 U	4.8 U	38 U
ICS-LP2-SO-D-101512												
ICS-LP3-SO-A-101512					31	19 U	4.7 U	4.7 U	19 U	3.4 J	7.5	12 J
ICS-LP3-SO-B-101512	2500 U	1500 J	2300 J	2600	2800	670 U	77 J	470	340 U	1800	3200	4900
ICS-LP3-SO-C-101512					38	18 U	7.5	21	18 U	37	28	68
ICS-LP3-SO-D-101512												
ICS-LP4-SO-A-101512					74	57 U	11 J	11 J	57 U	45	33	54 J
ICS-LP4-SO-B-101512	110 U	58 J	150	110	250	19 U	2.7 J	<i>see VOC's</i>	19 U	<i>see VOC's</i>	81	700
ICS-LP4-SO-C-101512					18 U	18 U	4.5 U	4.5 U	18 U	2.6 J	4.5 U	36 U
ICS-LP4-SO-D-101512												
ICS-LP4-NAPL-101512												
ICS-DOF-MW1-A-101512	1.0 U	1.0 U	1.0 U	1.0 U	20 U	20 U	<i>see VOC's</i>	<i>see VOC's</i>	20 U	<i>see VOC's</i>	4.9 U	39 U
ICS-DOF-MW1-B-101512	1.2 U	1.2 U	1.2 U	1.2 U	14 J_B	19 U	<i>see VOC's</i>	<i>see VOC's</i>	19 U	<i>see VOC's</i>	4.7 U	9.4 J
ICS-DOF-MW1-C-101512	1.3 U	1.3 U	1.3 U	1.3 U	12 J_B	19 U	<i>see VOC's</i>	<i>see VOC's</i>	25	4.2 J	4.6 U	37 U
ICS-DOF-MW2-A-101612	0.9 U	0.9 U	0.9 U	0.9 U	18 U	18 U	<i>see VOC's</i>	<i>see VOC's</i>	18 U	<i>see VOC's</i>	4.6 U	37 U
ICS-DOF-MW2-B-101612	1.1 U	1.1 U	1.1 U	1.1 U	19 U	19 U	<i>see VOC's</i>	<i>see VOC's</i>	19 U	<i>see VOC's</i>	4.8 U	38 U
ICS-DOF-MW2-C-101612	1.3 U	1.3 U	1.3 U	1.3 U	20 U	20 U	<i>see VOC's</i>	<i>see VOC's</i>	20 U	<i>see VOC's</i>	4.9 U	39 U
ICS-DOF-MW2-D-101612												
ICS-DOF-MW3-A-101612	1.1 U	1.1 U	1.1 U	1.1 U	19 U	19 U	<i>see VOC's</i>	<i>see VOC's</i>	19 U	<i>see VOC's</i>	4.8 U	38 U
ICS-DOF-DUP1-101612	1.1 U	1.1 U	1.1 U	1.1 U	19 U	19 U	<i>see VOC's</i>	<i>see VOC's</i>	19 U	<i>see VOC's</i>	4.7 U	38 U
ICS-DOF-MW3-B-101612	1.1 U	1.1 U	1.1 U	1.1 U	20 U	20 U	<i>see VOC's</i>	<i>see VOC's</i>	20 U	<i>see VOC's</i>	5.0 U	40 U
ICS-DOF-MW3-C-101612												
ICS-DOF-MW3-D-101612												
ICS-DOF-MW4-A-101712	1.0 U	1.0 U	1.0 U	1.0 U	19 U	19 U	<i>see VOC's</i>	<i>see VOC's</i>	19 U	<i>see VOC's</i>	4.8 U	38 U
ICS-DOF-MW4-B-101712	1.3 U	1.3 U	1.3 U	1.3 U	19 U	19 U	<i>see VOC's</i>	<i>see VOC's</i>	9.1 J	<i>see VOC's</i>	4.7 U	38 U
ICS-DOF-MW4-C-101712	1.1 U	1.1 U	1.1 U	1.1 U	14 J	20 U	<i>see VOC's</i>	<i>see VOC's</i>	42	<i>see VOC's</i>	5.0 U	14 J
ICS-DOF-MW4-D-101712												
ICS-DOF-MW5-A-101712	0.9 U	0.9 U	0.9 U	0.9 U	18 U	18 U	<i>see VOC's</i>	<i>see VOC's</i>	18 U	<i>see VOC's</i>	4.5 U	36 U
ICS-DOF-MW5-B-101712	1.1 U	1.1 U	1.1 U	1.1 U	20 U	20 U	<i>see VOC's</i>	<i>see VOC's</i>	17 J	<i>see VOC's</i>	5.0 U	14 J
ICS-DOF-MW5-C-101712												
ICS-DOF-MW5-D-101712												

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<u>Field I.D.</u>	<i>tert</i> -Butyl- benzene 98-06-6 <u>µg/kg. dry</u>	<i>sec</i> -Butyl- benzene 135-98-8 <u>µg/kg. dry</u>	4-Isopropyl- toluene 99-87-6 <u>µg/kg. dry</u>	n-Butyl- benzene 104-51-8 <u>µg/kg. dry</u>	Phenol 108-95-2 <u>µg/kg. dry</u>	2-Chloro- phenol 95-57-8 <u>µg/kg. dry</u>	1,3-Dichloro- benzene 541-73-1 <u>µg/kg. dry</u>	1,4-Dichloro- benzene 106-46-7 <u>µg/kg. dry</u>	Benzyl alcohol 100-51-6 <u>µg/kg. dry</u>	1,2-Dichloro- benzene 95-50-1 <u>µg/kg. dry</u>	2-Methyl- phenol 95-48-7 <u>µg/kg. dry</u>	4-Methyl- phenol 106-44-5 <u>µg/kg. dry</u>
ICS-DOF-MW6-A-101712	280 U	2100	4000	4400	100 U	100 U	<i>see VOC's</i>	<i>see VOC's</i>	100 U	<i>see VOC's</i>	45	210 U
ICS-DOF-MW6-B-101712	270 U	1400	2600	2900	44 U	44 U	<i>see VOC's</i>	<i>see VOC's</i>	44 U	<i>see VOC's</i>	17	89 U
ICS-DOF-DUP2-101712	270 U	480	890	1000	61 U	61 U	<i>see VOC's</i>	<i>see VOC's</i>	61 U	<i>see VOC's</i>	27	120 U
ICS-DOF-MW6-C-101712	1.6 U	1.6 U	1.6 U	1.6 U	650	19 U	26	120	19 U	7.2	8.8	42
ICS-DOF-MW6-D-101712												
ICS-DOF-MW7-A-101612	91 U	91 U	91 U	91 U	260	19 U	19 U	19 U	19 U	17 J	36	520
ICS-DOF-MW7-B-101612	1.2 U	1.2 U	1.2 U	1.2 U	19 U	19 U	2.8 J	4.7 J	19 U	6.8	7.6	80
ICS-DOF-MW7-C-101612	1.3 U	1.3 U	1.3 U	1.3 U	9.4 J	19 U	<i>see VOC's</i>	<i>see VOC's</i>	15 J	<i>see VOC's</i>	12	58
ICS-DOF-MW7-D-101612												
ICS-DOF-MW8-A-101612	1.0 U	1.0 U	1.0 U	1.0 U	19 U	19 U	<i>see VOC's</i>	<i>see VOC's</i>	19 U	<i>see VOC's</i>	4.2 J	31 J
ICS-DOF-MW8-B-101612	1.3 U	1.3 U	9.0	1.3 U	19 U	19 U	<i>see VOC's</i>	<i>see VOC's</i>	19 U	<i>see VOC's</i>	4.8 U	38 U
ICS-DOF-MW8-C-101612	1.2 U	1.2 U	1.2 U	1.2 U	20 U	20 U	<i>see VOC's</i>	<i>see VOC's</i>	14 J	<i>see VOC's</i>	4.9 U	11 J
ICS-DOF-MW8-D-101612												
Trip Blank (<u>µg/L</u>)	1.0 U	1.0 U	1.0 U	1.0 U								

J = estimate associated with value less than the verifiable lower quantitation limit.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank.

U = nondetected at the associated lower reporting limit.

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Field I.D.	N-Nitroso-di-N-propylamine 621-64-7 µg/kg. dry	Hexachloro-ethane 67-72-1 µg/kg. dry	Nitrobenzene 98-95-3 µg/kg. dry	Isophorone 78-59-1 µg/kg. dry	2,4-Dimethyl-phenol 105-67-9 µg/kg. dry	Benzoic acid 65-85-0 µg/kg. dry	2,4-Dichloro-phenol 120-83-2 µg/kg. dry	1,2,4-Trichloro-benzene 120-82-1 µg/kg. dry	Naphthalene 91-20-3 µg/kg. dry	4-Chloro-3-methylphenol 59-50-7 µg/kg. dry	2-Methyl-naphthalene 91-57-6 µg/kg. dry	2,4,6-Trichloro-phenol 88-06-2 µg/kg. dry	2,4,5-Trichloro-phenol 95-95-4 µg/kg. dry
ICS-LP1-SO-A-101512	18 U	18 U	18 U	18 U	8.7 J	350 U	180 U	4.4 U	45	87 U	31	87 U	87 U
ICS-LP1-SO-B-101512	63 U	63 U	63 U	63 U	15 J	1300 U	630 U	10 J	91	320 U	66	320 U	320 U
ICS-LP1-SO-C-101512	19 U	19 U	19 U	19 U	19 U	380 U	190 U	4.7 U	19 U	95 U	19 U	95 U	95 U
ICS-LP1-SO-D-101512													
ICS-LP2-SO-A-101512	18 U	18 U	18 U	18 U	18 U	370 U	180 U	18 U	28	92 U	14 J	92 U	92 U
ICS-LP2-SO-B-101512	19 U	19 U	19 U	19 U	19 U	380 U	190 U	4.7 U	18 J	95 U	13 J	95 U	95 U
ICS-LP2-SO-C-101512	19 U	19 U	19 U	19 U	19 U	380 U	190 U	4.8 U	19 U	96 U	19 U	96 U	96 U
ICS-LP2-SO-D-101512													
ICS-LP3-SO-A-101512	19 U	19 U	19 U	19 U	3.4 J	370 U	190 U	4.7 U	210	93 U	90	93 U	93 U
ICS-LP3-SO-B-101512	670 U	670 U	670 U	670 U	2000	13,000 U	6700 U	340	51,000	3400 U	34,000	3400 U	1000 J
ICS-LP3-SO-C-101512	18 U	18 U	18 U	18 U	120	370 U	180 U	38	190	150	160	91 U	91 U
ICS-LP3-SO-D-101512													
ICS-LP4-SO-A-101512	57 U	57 U	57 U	57 U	18 J	1100 U	570 U	170	770	280 U	540	280 U	280 U
ICS-LP4-SO-B-101512	19 U	19 U	19 U	19 U	2600	380 U	170 J	19	560	1200	240	94 U	52 J
ICS-LP4-SO-C-101512	18 U	18 U	18 U	18 U	18 J	360 U	180 U	4.5 U	18 U	90 U	18 U	90 U	90 U
ICS-LP4-SO-D-101512													
ICS-LP4-NAPL-101512													
ICS-DOF-MW1-A-101512	20 U	20 U	20 U	20 U	20 U	390 U	200 U	4.9 U	840	98 U	89	98 U	98 U
ICS-DOF-MW1-B-101512	19 U	19 U	19 U	19 U	19 U	380 U	190 U	4.7 U	19 U	94 U	19 U	94 U	94 U
ICS-DOF-MW1-C-101512	19 U	19 U	19 U	19 U	19 U	370 U	190 U	4.6 U	19 U	93 U	19 U	93 U	93 U
ICS-DOF-MW2-A-101612	18 U	18 U	18 U	18 U	18 U	370 U	180 U	4.6 U	18 U	92 U	18 U	92 U	92 U
ICS-DOF-MW2-B-101612	19 U	19 U	19 U	19 U	19 U	380 U	190 U	4.8 U	19 U	96 U	19 U	96 U	96 U
ICS-DOF-MW2-C-101612	20 U	20 U	20 U	20 U	20 U	390 U	200 U	4.9 U	20 U	98 U	20 U	98 U	98 U
ICS-DOF-MW2-D-101612													
ICS-DOF-MW3-A-101612	19 U	19 U	19 U	19 U	19 U	380 U	190 U	4.8 U	19 U	96 U	19 U	96 U	96 U
ICS-DOF-DUP1-101612	19 U	19 U	19 U	19 U	19 U	380 U	190 U	4.7 U	19 U	94 U	12 J	94 U	94 U
ICS-DOF-MW3-B-101612	20 U	20 U	20 U	20 U	20 U	400 U	200 U	5.0 U	12 J	100 U	23	100 U	100 U
ICS-DOF-MW3-C-101612													
ICS-DOF-MW3-D-101612													
ICS-DOF-MW4-A-101712	19 U	19 U	19 U	19 U	19 U	380 U	190 U	4.8 U	19 U	95 U	9.5 J	95 U	95 U
ICS-DOF-MW4-B-101712	19 U	19 U	19 U	19 U	19 U	380 U	190 U	4.7 U	19	95 U	36	95 U	95 U
ICS-DOF-MW4-C-101712	20 U	20 U	20 U	20 U	20 U	120 J	200 U	5.0 U	24	99 U	24	99 U	99 U
ICS-DOF-MW4-D-101712													
ICS-DOF-MW5-A-101712	18 U	18 U	18 U	18 U	18 U	360 U	180 U	4.5 U	14 J	90 U	25	90 U	90 U
ICS-DOF-MW5-B-101712	20 U	20 U	20 U	20 U	20 U	400 U	200 U	5.0 U	46	99 U	56	99 U	99 U
ICS-DOF-MW5-C-101712													
ICS-DOF-MW5-D-101712													

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Field I.D.	N-Nitroso-di-N-propylamine 621-64-7 µg/kg. dry	Hexachloro-ethane 67-72-1 µg/kg. dry	Nitrobenzene 98-95-3 µg/kg. dry	Isophorone 78-59-1 µg/kg. dry	2,4-Dimethyl-phenol 105-67-9 µg/kg. dry	Benzoic acid 65-85-0 µg/kg. dry	2,4-Dichloro-phenol 120-83-2 µg/kg. dry	1,2,4-Trichloro-benzene 120-82-1 µg/kg. dry	Naphthalene 91-20-3 µg/kg. dry	4-Chloro-3-methylphenol 59-50-7 µg/kg. dry	2-Methyl-naphthalene 91-57-6 µg/kg. dry	2,4,6-Trichloro-phenol 88-06-2 µg/kg. dry	2,4,5-Trichloro-phenol 95-95-4 µg/kg. dry
ICS-DOF-MW6-A-101712	100 U	100 U	100 U	100 U	210 U	2100 U	1000 U	1100	10,000	520 U	62,000	520 U	520 U
ICS-DOF-MW6-B-101712	44 U	44 U	44 U	44 U	89 U	890 U	440 U	200	2900	220 U	17,000	220 U	220 U
ICS-DOF-DUP2-101712	61 U	61 U	61 U	61 U	120 U	1200 U	610 U	460	5200	300 U	33,000	300 U	300 U
ICS-DOF-MW6-C-101712	19 U	19 U	19 U	19 U	350	370 U	190 U	4.7 U	49	93 U	98	93 U	93 U
ICS-DOF-MW6-D-101712													
ICS-DOF-MW7-A-101612	19 U	19 U	19 U	19 U	200	370 U	32 J	240	680	93 U	91,000	93 U	93 U
ICS-DOF-MW7-B-101612	19 U	19 U	19 U	19 U	26	380 U	190 U	11	19 U	95 U	93	95 U	95 U
ICS-DOF-MW7-C-101612	19 U	19 U	19 U	19 U	33	380 U	190 U	19 U	55	94 U	470	94 U	94 U
ICS-DOF-MW7-D-101612													
ICS-DOF-MW8-A-101612	19 U	19 U	19 U	19 U	3.4 J	380 U	190 U	4.7 U	11 J	95 U	16 J	95 U	95 U
ICS-DOF-MW8-B-101612	19 U	19 U	19 U	19 U	14 J	380 U	190 U	4.8 U	64	95 U	150	95 U	95 U
ICS-DOF-MW8-C-101612	20 U	20 U	20 U	20 U	4.7 J	390 U	200 U	4.9 U	24	98 U	240	98 U	98 U
ICS-DOF-MW8-D-101612													
Trip Blank (µg/L)													

*J = estimate associated with value less than the verifiable lower quantitation limit.
U = nondetected at the associated lower reporting limit.*

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<u>Field ID</u>	2-Chloro- naphthalene 91-58-7 µg/kg. dry	Dimethyl- phthalate 131-11-3 µg/kg. dry	Acenaph- thylene 208-96-8 µg/kg. dry	Acenaphthene 83-32-9 µg/kg. dry	Dibenzo-furan 132-64-9 µg/kg. dry	2,6-Dinitro- toluene 606-20-2 µg/kg. dry	2,4-Dinitro- toluene 121-14-2 µg/kg. dry	Diethyl- phthalate 84-66-2 µg/kg. dry	4-Chlorophenyl- phenylether 7005-72-3 µg/kg. dry	Fluorene 86-73-7 µg/kg. dry	N-Nitrosodi- phenylamine 86-30-6 µg/kg. dry	Pentachloro- phenol 87-86-5 µg/kg. dry	Phenanthrene 85-01-8 µg/kg. dry
ICS-LP1-SO-A-101512	18 U	18 U	23	18 U	18 U	87 U	87 U	44 U	18 U	18 U	18 U	15 J	52
ICS-LP1-SO-B-101512	63 U	63 U	63 U	50 J	63 U	320 U	320 U	160 U	63 U	50 J	38 J	140 J	200
ICS-LP1-SO-C-101512	19 U	19 U	19 U	19 U	19 U	95 U	95 U	47 U	19 U	19 U	19 U	47 U	19 U
ICS-LP1-SO-D-101512													
ICS-LP2-SO-A-101512	18 U	18 U	18 U	18 U	18 U	92 U	92 U	46 U	18 U	18 U	18 U	46 U	42
ICS-LP2-SO-B-101512	19 U	19 U	19 U	19 U	19 U	95 U	95 U	47 U	19 U	19 U	19 U	47 U	9.5 J
ICS-LP2-SO-C-101512	19 U	19 U	19 U	19 U	19 U	96 U	96 U	48 U	19 U	19 U	19 U	48 U	19 U
ICS-LP2-SO-D-101512													
ICS-LP3-SO-A-101512	19 U	460	18 J	23	48	93 U	93 U	1300	19 U	45	12 J	460	220
ICS-LP3-SO-B-101512	670 U	540 J	670 U	9700	7100	3400 U	3400 U	2200	670 U	12,000	1400	5300 J	42,000
ICS-LP3-SO-C-101512	18 U	18 U	18 U	46	36	91 U	91 U	34 J	18 U	78	28	56 J	330
ICS-LP3-SO-D-101512													
ICS-LP4-SO-A-101512	57 U	57 U	57 U	250	190	280 U	280 U	140 U	57 U	310	94	210 J	1100
ICS-LP4-SO-B-101512	760	19 U	19 U	20	24	94 U	94 U	47 U	19 U	45	41	150 J	250
ICS-LP4-SO-C-101512	18 U	18 U	18 U	18 U	18 U	90 U	90 U	45 U	18 U	18 U	18 U	45 U	18 U
ICS-LP4-SO-D-101512													
ICS-LP4-NAPL-101512													
ICS-DOF-MW1-A-101512	20 U	20 U	20 U	20 U	19 J	98 U	98 U	49 U	20 U	20 U	20 U	49 U	86
ICS-DOF-MW1-B-101512	19 U	19 U	19 U	19 U	19 U	94 U	94 U	47 U	19 U	19 U	19 U	47 U	19 U
ICS-DOF-MW1-C-101512	19 U	19 U	19 U	19 U	19 U	93 U	93 U	46 U	19 U	19 U	19 U	46 U	19 U
ICS-DOF-MW2-A-101612	18 U	18 U	18 U	18 U	18 U	92 U	92 U	46 U	18 U	18 U	18 U	46 U	18 U
ICS-DOF-MW2-B-101612	19 U	19 U	19 U	19 U	19 U	96 U	96 U	48 U	19 U	19 U	19 U	48 U	19 U
ICS-DOF-MW2-C-101612	20 U	20 U	20 U	20 U	20 U	98 U	98 U	49 U	20 U	20 U	20 U	49 U	20 U
ICS-DOF-MW2-D-101612													
ICS-DOF-MW3-A-101612	19 U	19 U	19 U	19 U	19 U	96 U	96 U	48 U	19 U	19 U	19 U	48 U	19 U
ICS-DOF-DUP1-101612	19 U	19 U	19 U	19 U	19 U	94 U	94 U	47 U	19 U	19 U	19 U	47 U	19 U
ICS-DOF-MW3-B-101612	20 U	20 U	20 U	20 U	20 U	100 U	100 U	50 U	20 U	20 U	13 J	50 U	30
ICS-DOF-MW3-C-101612													
ICS-DOF-MW3-D-101612													
ICS-DOF-MW4-A-101712	19 U	19 U	19 U	19 U	19 U	95 U	95 U	48 U	19 U	19 U	19 U	48 U	19 U
ICS-DOF-MW4-B-101712	19 U	19 U	19 U	19 U	15 J	95 U	95 U	47 U	19 U	10 J	15 J	47 U	51
ICS-DOF-MW4-C-101712	20 U	20 U	20 U	16 J	22	99 U	99 U	50 U	20 U	25	20 U	50 U	69
ICS-DOF-MW4-D-101712													
ICS-DOF-MW5-A-101712	18 U	18 U	18 U	18 U	12 J	90 U	90 U	45 U	18 U	18 U	18 U	45 U	36
ICS-DOF-MW5-B-101712	20 U	20 U	20 U	11 J	24	99 U	99 U	50 U	20 U	14 J	20 U	50 U	61
ICS-DOF-MW5-C-101712													
ICS-DOF-MW5-D-101712													

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<u>Field I.D.</u>	2-Chloro- naphthalene 91-58-7 <u>µg/kg. dry</u>	Dimethyl- phthalate 131-11-3 <u>µg/kg. dry</u>	Acenaph- thylene 208-96-8 <u>µg/kg. dry</u>	Acenaphthene 83-32-9 <u>µg/kg. dry</u>	Dibenzo-furan 132-64-9 <u>µg/kg. dry</u>	2,6-Dinitro- toluene 606-20-2 <u>µg/kg. dry</u>	2,4-Dinitro- toluene 121-14-2 <u>µg/kg. dry</u>	Diethyl- phthalate 84-66-2 <u>µg/kg. dry</u>	4-Chlorophenyl- phenylether 7005-72-3 <u>µg/kg. dry</u>	Fluorene 86-73-7 <u>µg/kg. dry</u>	N-Nitrosodi- phenylamine 86-30-6 <u>µg/kg. dry</u>	Pentachloro- phenol 87-86-5 <u>µg/kg. dry</u>	Phenanthrene 85-01-8 <u>µg/kg. dry</u>
ICS-DOF-MW6-A-101712	100 U	100 U	100 U	3200	100 U	520 U	520 U	260 U	100 U	8400	100 U	260 U	9500
ICS-DOF-MW6-B-101712	44 U	44 U	44 U	620	330	220 U	220 U	110 U	44 U	1600	44 U	110 U	2400
ICS-DOF-DUP2-101712	61 U	61 U	61 U	1500	61 U	300 U	300 U	150 U	61 U	3500	61 U	150 U	4900
ICS-DOF-MW6-C-101712	19 U	19 U	19 U	19 U	19 U	93 U	93 U	47 U	19 U	12 J	19 U	47 U	19 U
ICS-DOF-MW6-D-101712													
ICS-DOF-MW7-A-101612	19 U	19 U	73	420	72	93 U	93 U	47 U	19 U	340	19 U	160,000	1000
ICS-DOF-MW7-B-101612	19 U	19 U	19 U	19 U	19 U	95 U	95 U	48 U	19 U	25	4.4 J	88	13 J
ICS-DOF-MW7-C-101612	19 U	19 U	19 U	19 U	19 U	94 U	94 U	47 U	19 U	19 U	19 U	62	19 U
ICS-DOF-MW7-D-101612													
ICS-DOF-MW8-A-101612	19 U	19 U	19 U	19 U	19 U	95 U	95 U	47 U	19 U	19 U	19 U	190 U	19 U
ICS-DOF-MW8-B-101612	19 U	19 U	27	110	160	95 U	95 U	48 U	19 U	220	19 U	24 J	620
ICS-DOF-MW8-C-101612	20 U	20 U	20 U	20 U	20 U	98 U	98 U	49 U	20 U	20 U	20 U	250	20 U
ICS-DOF-MW8-D-101612													
Trip Blank	(µg/L)												

*J = estimate associated with value less than the verifiable lower quantitation limit.
U = nondetected at the associated lower reporting limit.*

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<u>Field I.D.</u>	Carbazole 86-74-8 µg/kg. dry	Anthracene 120-12-7 µg/kg. dry	Di-n-butyl- phthalate 84-74-2 µg/kg. dry	Fluoranthene 206-44-0 µg/kg. dry	Pyrene 129-00-0 µg/kg. dry	Butylbenzyl- phthalate 85-68-7 µg/kg. dry	Benzo(a)- anthracene 56-55-3 µg/kg. dry	bis (2-Ethylhexyl)- phthalate 117-81-7 µg/kg. dry	Chrysene 218-01-9 µg/kg. dry	Di-n-octyl- phthalate 117-84-0 µg/kg. dry	total Benzo- fluoranthenes µg/kg. dry	Benzo(a)- pyrene 50-32-8 µg/kg. dry	Indeno(1,2,3- cd)pyrene 193-39-5 µg/kg. dry
ICS-LP1-SO-A-101512	18 U	21	9.6 J	68	66	4.4 U	34	170	53	18 U	93	62	51
ICS-LP1-SO-B-101512	63 U	110	63 U	540	600	63 U	220	2100	350	63 U	510	230	110
ICS-LP1-SO-C-101512	19 U	19 U	19 U	10 J	10 J	4.7 U	19 U	19 J_B	19 U	19 U	38 U	19 U	19 U
ICS-LP1-SO-D-101512													
ICS-LP2-SO-A-101512	18 U	18 U	10 J	55	50	4.6 U	21	37	38	18 U	56	25	23
ICS-LP2-SO-B-101512	19 U	19 U	19 U	19 U	19 U	4.7 U	19 U	22 J_B	19 U	19 U	38 U	19 U	19 U
ICS-LP2-SO-C-101512	19 U	19 U	19 U	19 U	19 U	4.8 U	19 U	24 J_B	19 U	19 U	38 U	19 U	19 U
ICS-LP2-SO-D-101512													
ICS-LP3-SO-A-101512	34	34	420	200	130	180	88	380	110	19 U	270	150	170
ICS-LP3-SO-B-101512	6000	7900	16,000	32,000	23,000	14,000	13,000	55,000	14,000	670 U	18,000	10,000	4500
ICS-LP3-SO-C-101512	33	42	81	120	120	48	49	340	64	18 U	78	38	16 J
ICS-LP3-SO-D-101512													
ICS-LP4-SO-A-101512	60	220	300	850	650	57	240	1400	300	57 U	350	200	99
ICS-LP4-SO-B-101512	19 U	19 U	19 U	130	140	4.7 U	50	120	79	19 U	84	41	19 U
ICS-LP4-SO-C-101512	18 U	18 U	18 U	18 U	18 U	4.5 U	18 U	22 J_B	18 U	18 U	36 U	18 U	18 U
ICS-LP4-SO-D-101512													
ICS-LP4-NAPL-101512													
ICS-DOF-MW1-A-101512	20 U	20 U	20 U	36	35	20 U	12 J	20 J_B	17 J	20 U	20 J	20 U	20 U
ICS-DOF-MW1-B-101512	19 U	19 U	19 U	19 U	19 U	4.7 U	19 U	22 J_B	19 U	19 U	38 U	19 U	19 U
ICS-DOF-MW1-C-101512	19 U	19 U	19 U	19 U	19 U	4.6 U	19 U	30 J_B	19 U	19 U	37 U	19 U	19 U
ICS-DOF-MW2-A-101612	18 U	18 U	18 U	18 U	18 U	4.6 U	18 U	17 J_B	18 U	18 U	37 U	18 U	18 U
ICS-DOF-MW2-B-101612	19 U	19 U	19 U	19 U	19 U	4.8 U	19 U	14 J_B	19 U	19 U	38 U	19 U	19 U
ICS-DOF-MW2-C-101612	20 U	20 U	20 U	20 U	20 U	4.9 U	20 U	16 J_B	20 U	20 U	39 U	20 U	20 U
ICS-DOF-MW2-D-101612													
ICS-DOF-MW3-A-101612	19 U	19 U	19 U	19 U	19 U	13	19 U	260	19 U	19 U	38 U	19 U	19 U
ICS-DOF-DUP1-101612	19 U	19 U	19 U	19 U	19 U	4.7 U	19 U	24 U	19 U	19 U	38 U	19 U	19 U
ICS-DOF-MW3-B-101612	20 U	20 U	20 U	20 U	20 U	5.0 U	20 U	25 U	20 U	20 U	40 U	20 U	20 U
ICS-DOF-MW3-C-101612													
ICS-DOF-MW3-D-101612													
ICS-DOF-MW4-A-101712	19 U	19 U	19 U	19 U	19 U	4.8 U	19 U	24 U	19 U	19 U	38 U	19 U	19 U
ICS-DOF-MW4-B-101712	19 U	19 U	19 U	24	18 J	4.7 U	19 U	16 J_B	10 J	19 U	38 U	19 U	19 U
ICS-DOF-MW4-C-101712	20 U	17 J	20 U	85	56	5.0 U	19 J	20 J_B	23	20 U	27 J	14 J	20 U
ICS-DOF-MW4-D-101712													
ICS-DOF-MW5-A-101712	18 U	18 U	18 U	14 J	14 J	4.5 U	18 U	23 U	13 J	18 U	9.0 J	18 U	18 U
ICS-DOF-MW5-B-101712	20 U	11 J	20 U	34	32	5.0 U	11 J	25 U	12 J	20 U	13 J	20 U	20 U
ICS-DOF-MW5-C-101712													
ICS-DOF-MW5-D-101712													

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<u>Field I.D.</u>	Carbazole 86-74-8 <u>µg/kg. dry</u>	Anthracene 120-12-7 <u>µg/kg. dry</u>	Di-n-butyl- phthalate 84-74-2 <u>µg/kg. dry</u>	Fluoranthene 206-44-0 <u>µg/kg. dry</u>	Pyrene 129-00-0 <u>µg/kg. dry</u>	Butylbenzyl- phthalate 85-68-7 <u>µg/kg. dry</u>	Benzo(a)- anthracene 56-55-3 <u>µg/kg. dry</u>	bis(2-Ethylhexyl)- phthalate 117-81-7 <u>µg/kg. dry</u>	Chrysene 218-01-9 <u>µg/kg. dry</u>	Di-n-octyl- phthalate 117-84-0 <u>µg/kg. dry</u>	total Benzo- fluoranthenes <u>µg/kg. dry</u>	Benzo(a)- pyrene 50-32-8 <u>µg/kg. dry</u>	Indeno(1,2,3- cd)pyrene 193-39-5 <u>µg/kg. dry</u>
ICS-DOF-MW6-A-101712	100 U	100 U	100 U	99 J	300	26 U	100 U	88 J	100 U	100 U	88 J	100 U	100 U
ICS-DOF-MW6-B-101712	44 U	44 U	44 U	47	78	11 U	29 J	62	62	44 U	31 J	44 U	44 U
ICS-DOF-DUP2-101712	61 U	61 U	61 U	94	180	15 U	70	76 U	120	61 U	42 J	61 U	61 U
ICS-DOF-MW6-C-101712	19 U	19 U	19 U	19 U	19 U	4.7 U	19 U	23 U	19 U	19 U	37 U	19 U	19 U
ICS-DOF-MW6-D-101712													
ICS-DOF-MW7-A-101612	34 J_Q	270	600	580	530	130	250	400	220	19 U	240	150	52
ICS-DOF-MW7-B-101612	19 U	19 U	19 U	19 U	19 U	4.8 U	19 U	24 U	19 U	19 U	38 U	19 U	19 U
ICS-DOF-MW7-C-101612	19 U	19 U	19 U	19 U	19 U	4.7 U	19 U	24 U	19 U	19 U	38 U	19 U	19 U
ICS-DOF-MW7-D-101612													
ICS-DOF-MW8-A-101612	19 U	19 U	19 U	19 U	19 U	4.7 U	19 U	17 J_B	19 U	19 U	38 U	19 U	19 U
ICS-DOF-MW8-B-101612	200 J_Q	94	19 U	12 J	19 U	4.8 U	19 U	18 J_B	19 U	19 U	38 U	19 U	19 U
ICS-DOF-MW8-C-101612	20 U	20 U	20 U	20 U	20 U	4.9 U	20 U	23 J_B	20 U	20 U	39 U	20 U	20 U
ICS-DOF-MW8-D-101612													
Trip Blank	(µg/L)												

J = estimate associated with value less than the verifiable lower quantitation limit.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

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<u>Field I.D.</u>	Dibenz(a,h)- anthracene 53-70-3 µg/kg. dry	Benzo(g,h,i)- perylene 191-24-2 µg/kg. dry	LPAH µg/kg. dry	HPAH µg/kg. dry	alpha-BHC 319-84-6 µg/kg. dry	beta-BHC 319-85-7 µg/kg. dry	delta-BHC 319-86-8 µg/kg. dry	gamma-BHC (Lindane) 58-89-9 µg/kg. dry	Heptachlor 76-44-8 µg/kg. dry	Aldrin 309-00-2 µg/kg. dry	Heptachlor epoxide 1024-57-3 µg/kg. dry	Endosulfan I 959-98-8 µg/kg. dry	Dieldrin 60-57-1 µg/kg. dry	4,4'-DDE 72-55-9 µg/kg. dry
ICS-LP1-SO-A-101512	11 J	77	141	515	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	4.9 U	2.5 U	4.9 U	4.9 U
ICS-LP1-SO-B-101512	63 U	130	501	2690	17 U	17 U	52 U	17 U	19 U	17 U	180 U	17 U	96 U	430
ICS-LP1-SO-C-101512	19 U	19 U	19 U	20	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.94 U	0.47 U	0.94 U	0.94 U
ICS-LP1-SO-D-101512														
ICS-LP2-SO-A-101512	18 U	31	70	299	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.94 U	0.47 U	2.7 U	0.94 U
ICS-LP2-SO-B-101512	19 U	19 U	27.5	38 U	0.46 U	0.76 U	0.46 U	0.46 U	0.46 U	0.46 U	0.92 U	0.46 U	0.92 U	0.92 U
ICS-LP2-SO-C-101512	19 U	19 U	19 U	38 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.96 U	0.48 U	0.96 U	0.96 U
ICS-LP2-SO-D-101512														
ICS-LP3-SO-A-101512	48	190	550	1356	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	110 U	130 U	12 U	79 U
ICS-LP3-SO-B-101512	2300	4400	122,600	121,200	120 U	350 U	120 U	120 U	620 U	120 U	2400 U	120 U	240 U	2900 J_P
ICS-LP3-SO-C-101512	18 U	19	686	504	4.9 U	13 U	50 U	4.9 U	20 U	4.9 U	70 U	4.9 U	56 U	170 J_P
ICS-LP3-SO-D-101512														
ICS-LP4-SO-A-101512	34 J	120	2650	2843	20 U	20 U	290 U	20 U	120 U	20 U	220 U	20 U	41 U	380 J_P
ICS-LP4-SO-B-101512	19 U	19 U	875	524	2.8 U	16 U	12 U	2.8 U	12 U	2.8 U	46 U	2.8 U	20 U	94 J_P
ICS-LP4-SO-C-101512	18 U	18 U	18 U	36 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.91 U	0.46 U	0.91 U	5.6
ICS-LP4-SO-D-101512														
ICS-LP4-NAPL-101512														
ICS-DOF-MW1-A-101512	20 U	20 U	926	120	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	3.9 U	0.47 U	12 U	0.94 U
ICS-DOF-MW1-B-101512	19 U	19 U	19 U	38 U	0.47 U	1.5 U	0.47 U	0.47 U	0.47 U	0.47 U	0.94 U	0.47 U	0.94 U	0.94 U
ICS-DOF-MW1-C-101512	19 U	19 U	19 U	37 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.97 U	0.48 U	0.97 U	0.97 U
ICS-DOF-MW2-A-101612	18 U	18 U	18 U	37 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.97 U	0.49 U	0.97 U	0.97 U
ICS-DOF-MW2-B-101612	19 U	19 U	19 U	38 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.94 U	0.47 U	0.94 U	0.94 U
ICS-DOF-MW2-C-101612	20 U	20 U	20 U	39 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.96 U	0.48 U	0.96 U	0.96 U
ICS-DOF-MW2-D-101612														
ICS-DOF-MW3-A-101612	19 U	19 U	19 U	38 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.95 U	0.47 U	0.95 U	0.95 U
ICS-DOF-DUP1-101612	19 U	19 U	19 U	38 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.94 U	0.47 U	0.94 U	0.94 U
ICS-DOF-MW3-B-101612	20 U	20 U	42	40 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.92 U	0.46 U	0.92 U	0.92 U
ICS-DOF-MW3-C-101612														
ICS-DOF-MW3-D-101612														
ICS-DOF-MW4-A-101712	19 U	19 U	19 U	38 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.95 U	0.47 U	0.95 U	0.95 U
ICS-DOF-MW4-B-101712	19 U	19 U	80	52	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.96 U	0.48 U	0.96 U	0.96 U
ICS-DOF-MW4-C-101712	20 U	12 J	151	236	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.97 U	0.48 U	0.97 U	0.97 U
ICS-DOF-MW4-D-101712														
ICS-DOF-MW5-A-101712	18 U	18 U	50	50	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.92 U	0.46 U	0.92 U	0.92 U
ICS-DOF-MW5-B-101712	20 U	20 U	143	102	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.94 U	0.47 U	0.94 U	0.94 U
ICS-DOF-MW5-C-101712														
ICS-DOF-MW5-D-101712														

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Field I.D.	Dibenz(a,h)- anthracene 53-70-3	Benzo(g,h,i)- perylene 191-24-2	LPAH	HPAH	alpha-BHC 319-84-6	beta-BHC 319-85-7	delta-BHC 319-86-8	gamma-BHC (Lindane) 58-89-9	Heptachlor 76-44-8	Aldrin 309-00-2	Heptachlor epoxide 1024-57-3	Endosulfan I 959-98-8	Dieldrin 60-57-1	4,4'-DDE 72-55-9
	µg/kg. dry	µg/kg. dry	µg/kg. dry	µg/kg. dry	µg/kg. dry	µg/kg. dry	µg/kg. dry	µg/kg. dry	µg/kg. dry	µg/kg. dry	µg/kg. dry	µg/kg. dry	µg/kg. dry	µg/kg. dry
ICS-DOF-MW6-A-101712	100 U	100 U	31,100	487	2.5 U	16 U	2.5 U	2.5 U	2.5 U	2.5 U	4.9 U	2.5 U	4.9 U	4.9 U
ICS-DOF-MW6-B-101712	44 U	44 U	7520	247	2.4 U	10 U	2.4 U	2.4 U	2.4 U	2.4 U	10 U	2.4 U	36 U	4.8 U
ICS-DOF-DUP2-101712	61 U	61 U	15,100	247	2.4 U	8.5 U	2.4 U	2.4 U	2.4 U	2.4 U	4.8 U	2.4 U	33 U	4.8 U
ICS-DOF-MW6-C-101712	19 U	19 U	61	37 U	13 U	4.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.99 U	6.0 U	0.99 U	0.99 U
ICS-DOF-MW6-D-101712														
ICS-DOF-MW7-A-101612	15 J	100	2783	2137	4.4 U	200 U	95 U	4.4 U	4.4 U	4.4 U	15 U	40 U	8.8 U	23 J_p
ICS-DOF-MW7-B-101612	19 U	19 U	38	38 U	0.49 U	0.55 U	0.49 U	0.49 U	0.49 U	0.49 U	0.98 U	0.49 U	0.98 U	0.98 U
ICS-DOF-MW7-C-101612	19 U	19 U	55	38 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.98 U	0.49 U	0.98 U	0.98 U
ICS-DOF-MW7-D-101612														
ICS-DOF-MW8-A-101612	19 U	19 U	11	38 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.68	0.93 U	0.46 U	0.93 U	0.93 U
ICS-DOF-MW8-B-101612	19 U	19 U	1135	12	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.2	0.99 U	0.50 U	0.99 U	0.99 U
ICS-DOF-MW8-C-101612	20 U	20 U	24	39 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.96 U	0.48 U	0.96 U	0.96 U
ICS-DOF-MW8-D-101612														
Trip Blank	(µg/L)													

J = estimate associated with value less than the verifiable lower quantitation limit.

J_p = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

U = nondetected at the associated lower reporting limit.

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<u>Field I.D.</u>	Endrin 72-20-8 µg/kg. dry	Endosulfan II 33213-65-9 µg/kg. dry	4,4'-DDD 72-54-8 µg/kg. dry	Endosulfan sulfate 1031-07-8 µg/kg. dry	4,4'-DDT 50-29-3 µg/kg. dry	Methoxychlor 72-43-5 µg/kg. dry	Endrin ketone 53494-70-5 µg/kg. dry	Endrin aldehyde 7421-93-4 µg/kg. dry	trans- Chlordane 5103-74-2 µg/kg. dry	cis- Chlordane 5103-71-9 µg/kg. dry	Toxaphene 8001-35-2 µg/kg. dry	Hexachloro- benzene 118-74-1 µg/kg. dry	Hexachloro- butadiene 87-68-3 µg/kg. dry
ICS-LP1-SO-A-101512	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	25 U	4.9 U	4.9 U	2.5 U	2.5 U	490 U	4.9 U	4.9 U
ICS-LP1-SO-B-101512	34 U	86 U	1000	34 U	270 U	170 U	120 U	74 U	83 U	17 U	3400 U	34 U	34 U
ICS-LP1-SO-C-101512	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	4.7 U	0.94 U	0.94 U	0.47 U	0.47 U	94 U	0.94 U	0.94 U
ICS-LP1-SO-D-101512													
ICS-LP2-SO-A-101512	1.4 U	3.7 U	0.94 U	0.94 U	4.6 U	4.7 U	4.2 U	2.3 U	0.47 U	0.47 U	94 U	0.94 U	0.94 U
ICS-LP2-SO-B-101512	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	4.6 U	0.92 U	0.92 U	0.46 U	0.46 U	92 U	0.92 U	0.92 U
ICS-LP2-SO-C-101512	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	4.8 U	0.96 U	0.96 U	0.48 U	0.48 U	96 U	0.96 U	0.96 U
ICS-LP2-SO-D-101512													
ICS-LP3-SO-A-101512	120 U	49 U	6.7 U	6.7 U	180 U	33 U	6.7 U	17 U	38 U	3.3 U	670 U	6.7 U	6.7 U
ICS-LP3-SO-B-101512	1200 U	1000 U	3000 J_p	240 U	2900 U	1200 U	240 U	810 U	690 U	120 U	24,000 U	240 U	240 U
ICS-LP3-SO-C-101512	47 U	9.8 U	56 J_p	9.8 U	62 U	49 U	30 U	18 U	26 U	4.9 U	980 U	9.8 U	9.8 U
ICS-LP3-SO-D-101512													
ICS-LP4-SO-A-101512	250 U	130 U	970	41 U	450 U	200 U	41 U	210 U	20 U	20 U	4100 U	41 U	41 U
ICS-LP4-SO-B-101512	30 U	16 U	60 J_p	5.5 U	56 U	28 U	5.5 U	20 U	9.8 U	2.8 U	550 U	21 U	5.5 U
ICS-LP4-SO-C-101512	0.91 U	0.91 U	2.7	0.91 U	2.5 U	4.6 U	0.91 U	0.91 U	0.46 U	0.46 U	91 U	0.91 U	0.91 U
ICS-LP4-SO-D-101512													
ICS-LP4-NAPL-101512													
ICS-DOF-MW1-A-101512	25 U	0.94 U	4.6 U	0.94 U	42 U	4.7 U	31 U	17 U	0.47 U	0.47 U	94 U	0.94 U	0.94 U
ICS-DOF-MW1-B-101512	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	4.7 U	0.94 U	0.94 U	0.47 U	0.47 U	94 U	0.94 U	0.94 U
ICS-DOF-MW1-C-101512	2.0 U	0.97 U	0.97 U	0.97 U	3.2 U	4.8 U	0.97 U	1.4 U	0.48 U	0.48 U	97 U	0.97 U	0.97 U
ICS-DOF-MW2-A-101612	0.97 U	0.97 U	0.97 U	0.97 U	0.97 U	4.9 U	0.97 U	0.97 U	0.49 U	0.49 U	97 U	0.97 U	0.97 U
ICS-DOF-MW2-B-101612	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	4.7 U	0.94 U	0.94 U	0.47 U	0.47 U	94 U	0.94 U	0.94 U
ICS-DOF-MW2-C-101612	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	4.8 U	0.96 U	0.96 U	0.48 U	0.48 U	96 U	0.96 U	0.96 U
ICS-DOF-MW2-D-101612													
ICS-DOF-MW3-A-101612	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U	4.7 U	0.95 U	0.95 U	0.47 U	0.47 U	95 U	0.95 U	0.95 U
ICS-DOF-DUP1-101612	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	4.7 U	0.94 U	0.94 U	1.2 U	0.47 U	94 U	0.94 U	0.94 U
ICS-DOF-MW3-B-101612	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	4.6 U	0.92 U	0.92 U	0.46 U	0.46 U	92 U	0.92 U	0.92 U
ICS-DOF-MW3-C-101612													
ICS-DOF-MW3-D-101612													
ICS-DOF-MW4-A-101712	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U	4.7 U	0.95 U	0.95 U	0.47 U	0.47 U	95 U	0.95 U	0.95 U
ICS-DOF-MW4-B-101712	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	4.8 U	0.96 U	0.96 U	0.48 U	0.48 U	96 U	0.96 U	0.96 U
ICS-DOF-MW4-C-101712	0.97 U	0.97 U	0.97 U	0.97 U	0.97 U	4.8 U	0.97 U	0.97 U	0.48 U	0.48 U	97 U	0.97 U	0.97 U
ICS-DOF-MW4-D-101712													
ICS-DOF-MW5-A-101712	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	4.6 U	0.92 U	0.92 U	0.46 U	0.46 U	92 U	0.92 U	0.92 U
ICS-DOF-MW5-B-101712	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	4.7 U	0.94 U	0.94 U	0.47 U	0.47 U	94 U	0.94 U	0.94 U
ICS-DOF-MW5-C-101712													
ICS-DOF-MW5-D-101712													

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<u>Field I.D.</u>	Endrin 72-20-8 <u>µg/kg. dry</u>	Endosulfan II 33213-65-9 <u>µg/kg. dry</u>	4,4'-DDD 72-54-8 <u>µg/kg. dry</u>	Endosulfan sulfate 1031-07-8 <u>µg/kg. dry</u>	4,4'-DDT 50-29-3 <u>µg/kg. dry</u>	Methoxychlor 72-43-5 <u>µg/kg. dry</u>	Endrin ketone 53494-70-5 <u>µg/kg. dry</u>	Endrin aldehyde 7421-93-4 <u>µg/kg. dry</u>	trans- Chlordane 5103-74-2 <u>µg/kg. dry</u>	cis- Chlordane 5103-71-9 <u>µg/kg. dry</u>	Toxaphene 8001-35-2 <u>µg/kg. dry</u>	Hexachloro- benzene 118-74-1 <u>µg/kg. dry</u>	Hexachloro- butadiene 87-68-3 <u>µg/kg. dry</u>
ICS-DOF-MW6-A-101712	4.9 U	19 U	4.9 U	4.9 U	10 U	25 U	4.9 U	4.9 U	7.4 U	11 U	490 U	4.9 U	73
ICS-DOF-MW6-B-101712	48 U	68 U	4.8 U	4.8 U	72 U	24 U	4.8 U	43 U	7.5 U	11 U	480 U	4.8 U	52
ICS-DOF-DUP2-101712	44 U	27 U	4.8 U	4.8 U	67 U	24 U	59 U	41 U	9.1 U	14 U	480 U	4.8 U	65
ICS-DOF-MW6-C-101712	2.0 U	3.1 U	0.99 U	0.99 U	2.5 U	5.0 U	0.99 U	8.5 U	0.50 U	0.50 U	99 U	0.99 U	0.99 U
ICS-DOF-MW6-D-101712													
ICS-DOF-MW7-A-101612	8.8 U	8.8 U	8.8 U	8.8 U	22 U	44 U	23 U	22 U	13 U	4.4 U	880 U	34	8.8 U
ICS-DOF-MW7-B-101612	0.98 U	1.8 U	0.98 U	0.98 U	0.98 U	4.9 U	0.98 U	0.98 U	0.49 U	0.49 U	98 U	0.98 U	0.98 U
ICS-DOF-MW7-C-101612	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	4.9 U	0.98 U	0.98 U	0.49 U	0.49 U	98 U	0.98 U	0.98 U
ICS-DOF-MW7-D-101612													
ICS-DOF-MW8-A-101612	0.93 U	0.93 U	1.7	0.93 U	0.93 U	4.6 U	0.93 U	0.93 U	0.46 U	0.46 U	93 U	0.93 U	0.93 U
ICS-DOF-MW8-B-101612	0.99 U	0.99 U	0.99 U	0.99 U	0.99 U	5.0 U	0.99 U	0.99 U	0.50 U	0.50 U	99 U	0.99 U	0.99 U
ICS-DOF-MW8-C-101612	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	4.8 U	0.96 U	0.96 U	0.48 U	0.48 U	96 U	0.96 U	0.96 U
ICS-DOF-MW8-D-101612													
Trip Blank	(µg/L)												

J_p = estimated value due to noncompliance with all criteria for identification and/or chemical interference.
U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
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<u>Field I.D.</u>	Aroclor 1016 12674-11-2 µg/kg. dry	Aroclor 1242 53469-21-9 µg/kg. dry	Aroclor 1248 12672-29-6 µg/kg. dry	Aroclor 1254 11097-69-1 µg/kg. dry	Aroclor 1260 11096-82-5 µg/kg. dry	Aroclor 1221 11104-28-2 µg/kg. dry	Aroclor 1232 11141-16-5 µg/kg. dry	total PCBs µg/kg. dry
ICS-LP1-SO-A-101512	3.8 U	3.8 U	17 J_p	26	49	3.8 U	3.8 U	92
ICS-LP1-SO-B-101512	140 U	140 U	4100	4600	1900	140 U	140 U	10,600
ICS-LP1-SO-C-101512	3.9 U	3.9 U	10	12	12	3.9 U	3.9 U	34
ICS-LP1-SO-D-101512								
ICS-LP2-SO-A-101512	3.8 U	3.8 U	3.8 U	16	33	3.8 U	3.8 U	49
ICS-LP2-SO-B-101512	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-LP2-SO-C-101512	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-LP2-SO-D-101512								
ICS-LP3-SO-A-101512	130 U	130 U	1900 U	3300	520 U	130 U	130 U	3300
ICS-LP3-SO-B-101512	980 U	980 U	53,000	36,000	24,000	980 U	980 U	113,000
ICS-LP3-SO-C-101512	37 U	37 U	1000	760	310	37 U	37 U	2070
ICS-LP3-SO-D-101512								
ICS-LP4-SO-A-101512	200 U	200 U	7400	4000	3900	200 U	200 U	15,300
ICS-LP4-SO-B-101512	55 U	55 U	810	780	560	55 U	55 U	2150
ICS-LP4-SO-C-101512	3.8 U	3.8 U	31	21	12	3.8 U	3.8 U	64
ICS-LP4-SO-D-101512								
ICS-LP4-NAPL-101512								
ICS-DOF-MW1-A-101512	3.7 U	3.7 U	9.3 U	83 U	470	3.7 U	3.7 U	470
ICS-DOF-MW1-B-101512	3.8 U	3.8 U	3.8 U	5.8	9.8	3.8 U	3.8 U	15.6
ICS-DOF-MW1-C-101512	3.8 U	3.8 U	6.4	7.6 U	26	3.8 U	3.8 U	32.4
ICS-DOF-MW2-A-101612	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
ICS-DOF-MW2-B-101612	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-DOF-MW2-C-101612	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-DOF-MW2-D-101612								
ICS-DOF-MW3-A-101612	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-DOF-DUP1-101612	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-DOF-MW3-B-101612	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U
ICS-DOF-MW3-C-101612								
ICS-DOF-MW3-D-101612								
ICS-DOF-MW4-A-101712	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-DOF-MW4-B-101712	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
ICS-DOF-MW4-C-101712	3.9 U	3.9 U	3.9 U	3.1 J	2.3 J	3.9 U	3.9 U	5.4
ICS-DOF-MW4-D-101712								
ICS-DOF-MW5-A-101712	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U
ICS-DOF-MW5-B-101712	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-DOF-MW5-C-101712								
ICS-DOF-MW5-D-101712								

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Soils Analyses, October 2012

<u>Field I.D.</u>	Aroclor 1016 12674-11-2 <u>µg/kg. dry</u>	Aroclor 1242 53469-21-9 <u>µg/kg. dry</u>	Aroclor 1248 12672-29-6 <u>µg/kg. dry</u>	Aroclor 1254 11097-69-1 <u>µg/kg. dry</u>	Aroclor 1260 11096-82-5 <u>µg/kg. dry</u>	Aroclor 1221 11104-28-2 <u>µg/kg. dry</u>	Aroclor 1232 11141-16-5 <u>µg/kg. dry</u>	total PCBs <u>µg/kg. dry</u>
ICS-DOF-MW6-A-101712	19 U	19 U	130	160	180	19 U	19 U	470
ICS-DOF-MW6-B-101712	20 U	20 U	260 J_p	390 U	1200	20 U	20 U	1460
ICS-DOF-DUP2-101712	19 U	19 U	200 J_p	240 U	740	19 U	19 U	940
ICS-DOF-MW6-C-101712	4.0 U	4.0 U	9.9 J_p	12 U	32	4.0 U	4.0 U	41.9
ICS-DOF-MW6-D-101712								
ICS-DOF-MW7-A-101612	140 U	140 U	220	210 U	670	140 U	140 U	890
ICS-DOF-MW7-B-101612	3.9 U	3.9 U	3.2 J	2.3 J	4.1 J_p	3.9 U	3.9 U	9.6
ICS-DOF-MW7-C-101612	3.9 U	3.9 U	3.3 J	2.4 J	2.5 J_p	3.9 U	3.9 U	8.2
ICS-DOF-MW7-D-101612								
ICS-DOF-MW8-A-101612	3.7 U	3.7 U	3.7 U	5.3	3.1 J	3.7 U	5.6 U	8.4
ICS-DOF-MW8-B-101612	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	4.9 U	4.9 U
ICS-DOF-MW8-C-101612	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-DOF-MW8-D-101612								
Trip Blank (µg/L)								

J = estimate associated with value less than the verifiable lower quantitation limit.

J_p = estimated value due to noncompliance with all criteria for identification and/or chemical interference.

U = nondetected at the associated lower reporting limit.



D.M.D., Inc.

Environmental & Toxicological Services

13706 SW Caster Road, Vashon, WA 98070-7428 (206) 463-6223 fax: (206) 463-4013

MEMORANDUM

TO: Matt Dalton (DOF)
FROM: Raleigh Farlow
DATE: December 30, 2012
SUBJECT: Data Evaluation/Assessment for 5 Surface Waters and 3 Solids (manhole/catch basin sediment, ash and baghouse dust) Collected during July and August 2012 from the ICS / [former] NW Cooperage Site, Seattle, WA

Five surface water samples and three solids were collected by Dalton, Olmsted & Fuglevand (DOF) staff on July 5, August 3, and August 13, 2012 for chemical characterization. All samples were delivered in four delivery groups to Analytical Resources Inc. (ARI) of Tukwila, Washington within six hours of collection. Samples were received on ice at temperatures between 3.6 and 13.6 degrees C, and maintained at the project laboratory at 4 degrees C prior to analyses. Appropriate chemical preservatives were specified and used for water samples; nitric acid (HNO₃) for total and dissolved metals, and HCl for VOC's. Dissolved metals in water were determined following field filtration through 0.45 µm in-line filters prior to acid preservation. One field rinsate and three VOC's trip/transport blanks were also submitted and analyzed for quality control purposes.

Sample collection, handling, and analyses were conducted in accordance with the project sampling and analysis plan (SAP) (*Sampling and Analysis Plan to Complete Remedial Investigation Sampling ICS / Former NW Cooperage Site, Seattle, Washington*, prepared by DOF, February 2012). All analyses were performed by methods presented in Tables SAP-3 through SAP-6 of the SAP.

VOC's	SW846-M.8260C	pH	SW846-M.9045
SVOC's	SW846-M.8270	SVOC's (selected)	SW846-M.8270 - SIM
PCB's as Aroclors	SW846-M.8082	chlor. pesticides	SW846-M.8081
PCDD/PCDF's	EPA 1613B	chlor. phenols	SW846-M.8041
Hg	SW846-M.7470/7471A	metals (exc Hg)	SW846-M.6010C & EPA 200.8
total organic carbon	SW846-M.9060M	total petroleum HC's	NWTPH-Dx & -G
BTEX	SW846-M.8021M	Cl & SO ₄	EPA 300.0
sediment grain size	PSEP		

Semivolatile organic compound (SVOC's) analyses were performed by SW846 M.8270 in full-scan mode, and selected analytes were further analyzed and reported from analyses performed in the (M.8270D) SIM mode to improve/lower the reporting limits. These selected analytes include

the PAH's, 1,4-dichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,2,4-trichlorobenzene, 2-methylphenol, 2,4-dimethylphenol, N-nitrosodiphenylamine (as diphenylamine), benzyl alcohol, and pentachlorophenol. Results for detected analytes were reported from the full-scan analyses or from the mode that yielded non-qualified data. For nondetected analytes, the lowest reporting limit between the two analytical modes was reported in the attached results table; generally from the SIM mode of analyses. Similarly, selected analytes, such as dichloro- and trichloro-benzenes were analyzed by both the SVOC method and the volatile organic compound (VOC's) method (M.8260). The attached results table reports only one result, which is either one of the two exhibiting the lowest reporting limit or the result with the least limitations in data quality. Naphthalene and hexachlorobutadiene (HCBd) results generated by M.8260 (VOC's method) were only considered when SVOC (in the case of naphthalene) and chlorinated pesticides (by M.8081 in the case of HCBd) analyses were not requested or reported. The lower reporting limit for chlorinated phenols was improved over M.8270 by use of M.8041 (diazomethane ether derivatives analyzed by GC/ECD option). NWTPH-Dx extract preparation was supplemented with silica gel chromatography and acid cleanup steps.

Samples were relinquished by DOF under chain-of-custody (C-O-C) procedure. All analyses for parameters reported in the attached results table were completed within the technical holding time requirements identified in the project SAP (Table SAP-2) and/or within the recommended maximum holding times recommended by the U.S. EPA. Sample holding times/conditions are determined to be within acceptable technical limits and/or within SAP specifications.

For the environmental samples, [lower] **reporting limits** were consistent with specified-limits presented in the SAP. Some Aroclors (commercial PCB mixtures) were reported with slightly elevated reporting limits or nondetects due to slightly elevated or busy baselines. Considerable effort was made by the analysts to achieve the specified lower reporting limits when the sample matrix and chemical interferences would allow it. In the case of polychlorinated dibenzo-*p*-dioxins and dibenzofurans (PCDD/PCDF's), analyte concentrations reported at less than the lower reporting limit or the established linear concentration range are qualified as estimated with the "J" qualifier code.

Method blanks (MB) were analyzed and reported for all analytical parameters and groups (analytical groups are ≤ 20 samples). All method blanks reported nondetects, with the exception of some analyte carryover exhibited in delivery groups VE84 and VF62 due to elevated analyte levels in solids samples. This includes PCDD/PCDF's at levels significantly less than ($< 10x$) lower reporting limits and significantly less than levels reported in the project sample, and selected SVOC analytes (isophorone, naphthalene, dimethylphthalate, benzyl alcohol, and *bis*(2-ethylhexyl)phthalate) at levels significantly less than that reported in project samples. SVOC analyses were reperfomed by reextraction and reanalyses until associated method blanks were determined to be acceptable. Sample results presented in the attached table are unaffected by any potential bias associated with either sample carryover and/or laboratory background. No results required qualification due to method blanks performance.

A single field equipment **rinsate blank** was generated and submitted for analysis of chloride, sulfate, dissolved metals, TPH, VOC's, SVOC's, chlorinated pesticides and PCB's. Only toluene was detected at 0.22 µg/L. No toluene was found in project samples greater than the lower reporting limit of 0.20 µg/L. Three **trip/transport blanks** were generated and submitted for analysis and determination of potential contamination during handling of VOC's, BTEX and TPHG samples. Results of these analyses are reported in the attached table – no target analytes were detected. No data required qualification due to field blanks performance.

Laboratory control sample (**LCS/LCSD**) and matrix spike (**MS/MSD**) recoveries were within acceptable ranges for most analytes. Some MS recoveries were nonevaluable due to high native levels of analyte interfering with [low] spike levels, such as iron and zinc in analytical group VE84 (MH1-SE). Several analytes, such as benzoic acid, anthracene, and chrysene exhibited LCS recoveries outside specification in single incidences, however the associated MS recoveries were acceptable. No associated data required qualification. Copper (Cu) matrix spike recovery was reported high (199%) in manhole/catchbasin sediment MH1-SE, requiring the qualification of the associated Cu result as likely biased high with the “J_R” qualifier code. Silver (Ag) matrix spike recovery in the ash sample (ASH) was reported low at 6.7% requiring the assignment of the “J_R” qualifier code to indicate results are considered estimated (biased low) due to a low matrix spike recovery. The presence of high chloride levels in the ash sample could yield depressed Ag recoveries. No other results required qualification of sample results due to unacceptable analyte recoveries.

Surrogate compound recoveries (for organic analytes) were evaluated for VOC's, SVOC's, TPH-Dx, TPH-G, BTEX, chlorinated pesticides (including hexachlorobutadiene [HCBd] and hexachlorobenzene [HCB]), PCB's, and PCDD/PCDF's. Four labeled compounds were utilized for the evaluation of VOC's recovery performance. Tetrachloro-*meta*-xylene (TCMX) and decachlorobiphenyl (DCBP) were utilized as the surrogates for evaluation of chlorinated pesticides and PCB's analytical performance. Trifluorotoluene and bromobenzene were used as surrogates for the TPH-G and BTEX analyses, and *o*-terphenyl was utilized as the surrogate for the TPH-Dx analyses. SVOC recoveries were evaluated with the use of four labeled phenols and four labeled neutral compounds. PAH's by GC/MS-SIM utilized the surrogate compounds d₁₀-2-methylnaphthalene and d₁₄-dibenz(a,h)anthracene. Chlorinated phenols by M.8041 utilized 2,4,6-tribromophenol as the recovery surrogate. PCDD/PCDF's recoveries were evaluated with the stable isotope labeled C-13 analogs of the target analytes. All surrogate recoveries were within specification, with the exception of 2,4,6-tribromophenol and d₁₄-*p*-terphenyl in the DUST sample. Reextraction and reanalysis of the DUST showed a consistently low d₁₄-*p*-terphenyl recovery at 8.0% while the bromophenol was within the specified acceptance range. A single neutral surrogate compound out of four falling outside the acceptance range does not require the qualification of associated results. Results from the reextraction and reanalysis of DUST are reported in the attached table. No qualification of results was required due to surrogate compounds performance.

Continuing calibration verification (CCV) checks revealed occasional [minor] noncompliant responses for chloroethane, *t*-1,4-dichloro-2-butene, bromoform, 1,2,4-trichlorobenzene, hexachlorobutadiene, naphthalene (VOC's), pentachlorophenol (M.8270), hexachlorobenzene

(M.8270), and pyrene (M.8270-SIM). Associated results were mostly reported as nondetected, with the exception of hexachlorobenzene (HCB by GC/MS [M.8270]) in manhole/catch basin sediment at 230 µg/kg (J_Q). Reported data associated with noncompliant CCV's are nonetheless qualified as estimated with the "J_Q" code, even though the data quality, by other measures, is generally within specified acceptance limits.

A single pair of blind **field duplicate** samples were collected and submitted for analysis for the assessment of monitoring variability. A duplicate pair is identified in the attached table of sample results; SEEP1 / DUP1. Most analytes, with the exception of a few metals, were not detected. Results for detected parameters were essentially the same. Significant sample heterogeneity was exhibited in sample MH1 (manhole/catch basin sediment) for hexachlorobenzene – GC/MS (M.8270) analyses reported 230 µg/kg while GC/ECD (M.8081) analyses reported nondetected at 1.6 µg/kg U. Careful inspection of both data sets revealed no apparent error in analyses or reporting. The GC/MS result for HCB in sample MH1 is reported in the attached results table. Laboratory duplicate analyses were generally less than 20 RPD (within SAP specifications).

TPH-Dx analyses indicate principally lube-range hydrocarbons present in the manhole/catch basin sediment sample MH1. Bold type values in the attached results table are associated with the patterns that most resemble the hydrocarbon mixtures present. No TPH was detected in any of the surface water samples collected.

Sample results reported here are determined to be in general compliance with method and SAP requirements. All reported data for solids and water samples (attached) are considered usable for the intended purposes of the project.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Water & Miscellaneous Analyses, July-August 2012

Field I.D.	Matrix	Collection Date	Comments	Lab I.D.	% solids	TOC	Chloride	Sulfate	Antimony 7440-36-0		Arsenic 7440-38-2		Beryllium 7440-41-7	
					%	%	mg/L	mg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L
ICS-SEEP1-GW-070512	grd water	7/5/2012		1212872-VB38A			2430	321	1 U	-	5	-	1 U	-
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1	1212873-VB38B			2440	327	1 U	-	5	-	1 U	-
ICS-SEEP2-GW-070512	grd water	7/5/2012		1212874-VB38C			2220	303	1 U	-	4	-	1 U	-
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank	1212875-VB38D			0.1 U	0.1 U	0.2 U	-	0.2 U	-	0.2 U	-
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank	1212876-VB38E										
ICS-OUTF-SW-080312	water	8/3/2012		1214841-VE83D / 1214862-VE83A			7710	1100	5 U	5 U	8	10	2 U	2 U
ICS-MH1-SW-080312	water	8/3/2012		1214865-VE83E / 1214863-VE83B			6970	995	5 U	5 U	7	6	2 U	2 U
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank	1214864-VE83C										
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)	1214866-VE84A	77	4.20			7 mg/kg U		8 mg/kg		0.1 mg/kg U	
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank	1214867-VE84B										
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)	1215324-VF62A	71				33.7 mg/kg		4.7 mg/kg		0.2 mg/kg U	
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)	1215325-VF62B	100				0.5 mg/kg		8.3 mg/kg		0.2 mg/kg U	

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Water & Miscellaneous Analyses, July-August 2012

Field ID.	Matrix	Collection Date	Comments	Cadmium 7440-43-9		Calcium 7440-70-2		Chromium 7440-47-3		Copper 7440-50-8		Iron 7439-89-6	Lead 7439-92-1	
				diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	mg/kg	diss. µg/L	total µg/L
ICS-SEEP1-GW-070512	grd water	7/5/2012		0.5 U	-	74,100	-	2 U	-	2 U	-		0.2 U	-
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1	0.5 U	-	74,100	-	2	-	2 U	-		0.2 U	-
ICS-SEEP2-GW-070512	grd water	7/5/2012		0.5 U	-	76,200	-	2	-	2 U	-		0.2 U	-
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank	0.1 U	-	50 U	-	0.5 U	-	0.5 U	-		0.1 U	-
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank											
ICS-OUTF-SW-080312	water	8/3/2012		2 U	2 U	-	169,000	10 U	10 U	10 U	10 U		1 U	1 U
ICS-MH1-SW-080312	water	8/3/2012		2 U	2 U	-	150,000	10 U	10 U	10 U	10 U		0.5 U	1 U
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank											
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)		1.3 mg/kg				62.3 mg/kg		86.8 mg/kg J _R	25,400		63 mg/kg
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank											
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)		3.9 mg/kg				2110 mg/kg		1830 mg/kg			226 mg/kg
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)		0.3 mg/kg				1150 mg/kg		653 mg/kg			1200 mg/kg

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Water & Miscellaneous Analyses, July-August 2012

Field I.D.	Matrix	Collection Date	Comments	Magnesium 7439-95-4		Mercury 7439-97-6		Nickel 7440-02-0		Silver 7440-22-4		Zinc 7440-66-6		Hardness mg-CaCO ₃ /L
				diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	
				ICS-SEEP1-GW-070512	grd water	7/5/2012		173,000	-	0.1 U	-	4	-	
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1	173,000	-	0.1 U	-	4	-	1 U	-	20 U	-	900
ICS-SEEP2-GW-070512	grd water	7/5/2012		179,000	-	0.1 U	-	6	-	1 U	-	210	-	930
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank	50 U	-	0.1 U	-	0.5 U	-	0.2 U	-	4 U	-	0.33 U
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank											
ICS-OUTF-SW-080312	water	8/3/2012		-	521,000	0.1 U	0.1 U	10 U	10 U	5 U	5 U	100 U	100 U	2600
ICS-MH1-SW-080312	water	8/3/2012		-	453,000	0.1 U	0.1 U	10 U	10 U	5 U	5 U	100 U	100 U	2200
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank											
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)				0.08 mg/kg		39 mg/kg		1.6 mg/kg		464 mg/kg	
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank											
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)				0.05 mg/kg		171 mg/kg		13.7 mg/kg J _R		3680 mg/kg	
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)				0.02 mg/kg U		107 mg/kg		1.6 mg/kg		2380 mg/kg	

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Water & Miscellaneous Analyses, July-August 2012

Field I.D.	Matrix	Collection Date	Comments	Total Petroleum Hydrocarbons			Chloro-	Bromo-	Vinyl	Chloro-	Methylene	Acetone	Carbon	1,1-Dichloro-	1,1-Dichloro-
				Gasoline-range	Diesel-range	Lube-range	methane	methane	chloride	ethane	chloride	disulfide	ethene	ethane	
				mg/L	mg/L	mg/L	74-87-3	74-83-9	75-01-4	75-00-3	75-09-2	67-64-1	75-15-0	75-35-4	75-34-3
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
ICS-SEEP1-GW-070512	grd water	7/5/2012		0.25 U	0.10 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1	0.25 U	0.10 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U
ICS-SEEP2-GW-070512	grd water	7/5/2012		0.25 U	0.10 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank	0.25 U	0.10 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank	0.25 U			0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U
ICS-OUTF-SW-080312	water	8/3/2012		0.25 U	0.10 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.6	0.20 U	0.20 U	0.20 U
ICS-MH1-SW-080312	water	8/3/2012		0.25 U	0.10 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	16	0.20 U	0.20 U	0.20 U
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank				0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)	9.9 mg/kg U	290 mg/kg	1400 mg/kg									
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank	0.10 U											
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)												
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)												

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Water & Miscellaneous Analyses, July-August 2012

Field I.D.	Matrix	Collection Date	Comments	<i>trans</i> -1,2-	<i>cis</i> -1,2-	Chloroform	1,2-Dichloro-	2-Butanone	1,1,1-Tri-	Carbon	Bromo-	1,2-Dichloro-	<i>cis</i> -1,3-Dichloro-	Trichloro-
				Dichloroethene	Dichloroethene		ethane		chloroethane			tetrachloride	dichloromethane	
				156-60-5	156-59-2	67-66-3	107-06-2	78-93-3	71-55-6	56-23-5	75-27-4	78-87-5	10061-01-5	79-01-6
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
ICS-SEEP1-GW-070512	grd water	7/5/2012		0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-SEEP2-GW-070512	grd water	7/5/2012		0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-OUTF-SW-080312	water	8/3/2012		0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-MH1-SW-080312	water	8/3/2012		0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)											
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank											
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)											
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)											

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Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
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Field I.D.	Matrix	Collection Date	Comments	Dibromo-	1,1,2-Trichloro-	Benzene	<i>trans</i> -1,3-	Bromo-form	4-Methyl-2-	2-Hexanone	Tetrachloro-	1,1,2,2-Tetra-	Toluene	Chloro-	Ethyl-
				chloromethane	ethane		Dichloropropene		pentanone		ethene	chloroethane		benzene	benzene
				124-48-1	79-00-5	71-43-2	10061-02-6	75-25-2	108-10-1	591-78-6	127-18-4	79-34-5	108-88-3	108-90-7	100-41-4
				$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$
ICS-SEEP1-GW-070512	grd water	7/5/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-SEEP2-GW-070512	grd water	7/5/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-OUTF-SW-080312	water	8/3/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-MH1-SW-080312	water	8/3/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-MH1-SE-080312	sediment	8/3/2012	(organics $\mu\text{g/kg}$)				25 U						25 U		25 U
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank			0.25 U							0.25 U		0.25 U
ICS-ASH-081312	ash	8/13/2012	(organics $\mu\text{g/kg}$)												
ICS-DUST-081312	dust	8/13/2012	(organics $\mu\text{g/kg}$)												

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Remedial Investigation
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Field I.D.	Matrix	Collection Date	Comments	Styrene	Trichloro-	1,1,2-Trichloro-1,2,2-	<i>m</i> - & <i>p</i> -	<i>o</i> -Xylene	1,2-Dichloro-	1,3-Dichloro-	1,4-Dichloro-	Acrolein	Bromoethane
				100-42-5 µg/L	fluoromethane 75-69-4 µg/L	trifluoroethane 76-13-1 µg/L	Xylenes 179601-23-1 µg/L		benzene 95-50-1 µg/L	benzene 541-73-1 µg/L	benzene 106-46-7 µg/L		
ICS-SEEP1-GW-070512	grd water	7/5/2012		0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-SEEP2-GW-070512	grd water	7/5/2012		0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-OUTF-SW-080312	water	8/3/2012		0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-MH1-SW-080312	water	8/3/2012		0.20 U	0.20 U	0.20 U	0.71	0.29	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)				50 U	25 U					
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank				0.50 U	0.25 U					
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)										
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)										

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Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
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Field I.D.	Matrix	Collection Date	Comments	1,1-Dichloro-	Dibromo-	1,1,1,2-Tetra-	1,2,3-Trichloro-	<i>trans</i> -1,4-Dichloro-2-	1,3,5-Trimethyl-	1,2,4-Trimethyl-	Hexachloro-	Ethylene	Bromochloro-
				propene 563-58-6 <u>µg/L</u>	methane 74-95-3 <u>µg/L</u>	chloroethane 630-20-6 <u>µg/L</u>	propane 96-18-4 <u>µg/L</u>	butene 110-57-6 <u>µg/L</u>	benzene 108-67-8 <u>µg/L</u>	benzene 95-63-6 <u>µg/L</u>	butadiene 87-68-3 <u>µg/L</u>	dibromide 106-93-4 <u>µg/L</u>	methane 74-97-5 <u>µg/L</u>
ICS-SEEP1-GW-070512	grd water	7/5/2012		0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	<i>see Cl pest.</i>	0.20 U	0.20 U
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1	0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	<i>see Cl pest.</i>	0.20 U	0.20 U
ICS-SEEP2-GW-070512	grd water	7/5/2012		0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	<i>see Cl pest.</i>	0.20 U	0.20 U
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank	0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	<i>see Cl pest.</i>	0.20 U	0.20 U
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank	0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	0.50 U	0.20 U	0.20 U
ICS-OUTF-SW-080312	water	8/3/2012		0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	<i>see Cl pest.</i>	0.20 U	0.20 U
ICS-MH1-SW-080312	water	8/3/2012		0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	0.59 <i>see Cl pest.</i>	0.20 U	0.20 U
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank	0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	0.50 U	0.20 U	0.20 U
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)										
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank										
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)										
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)										

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Field I.D.	Matrix	Collection Date	Comments	2,2-Dichloro-	1,3-Dichloro-	Isopropyl-	n-Propyl-	Bromo-	2-Chloro-	4-Chloro-	<i>tert</i> -Butyl-	<i>sec</i> -Butyl-	4-Isopropyl-
				propane 294-20-7 µg/L	propane 142-28-9 µg/L	benzene 98-82-8 µg/L	benzene 103-65-1 µg/L	benzene 108-86-1 µg/L	toluene 95-49-8 µg/L	toluene 106-43-4 µg/L	benzene 98-06-6 µg/L	benzene 135-98-8 µg/L	toluene 99-87-6 µg/L
ICS-SEEP1-GW-070512	grd water	7/5/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-SEEP2-GW-070512	grd water	7/5/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-OUTF-SW-080312	water	8/3/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-MH1-SW-080312	water	8/3/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)										
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank										
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)										
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)										

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Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
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<u>Field I.D.</u>	<u>Matrix</u>	<u>Collection Date</u>	<u>Comments</u>	n-Butyl- benzene 104-51-8 <u>µg/L</u>	1,2,4-Trichloro- benzene 120-82-1 <u>µg/L</u>	Naphthalene 91-20-3 <u>µg/L</u>	1,2,3-Trichloro- benzene 87-61-6 <u>µg/L</u>	Phenol 108-95-2 <u>µg/L</u>	2-Chloro- phenol 95-57-8 <u>µg/L</u>	1,3-Dichloro- benzene 541-73-1 <u>µg/L</u>	1,4-Dichloro- benzene 106-46-7 <u>µg/L</u>	Benzyl alcohol 100-51-6 <u>µg/L</u>	1,2-Dichloro- benzene 95-50-1 <u>µg/L</u>
ICS-SEEP1-GW-070512	grd water	7/5/2012		0.20 U	see SVOC's	see SVOC's	0.50 U	1.0 U	1.0 U	see VOC's	see VOC's	5.0 U	see VOC's
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1	0.20 U	see SVOC's	see SVOC's	0.50 U	1.0 U	1.0 U	see VOC's	see VOC's	5.0 U	see VOC's
ICS-SEEP2-GW-070512	grd water	7/5/2012		0.20 U	see SVOC's	see SVOC's	0.50 U	1.0 U	1.0 U	see VOC's	see VOC's	5.0 U	see VOC's
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank	0.20 U	see SVOC's	see SVOC's	0.50 U	1.0 U	1.0 U	see VOC's	see VOC's	5.0 U	see VOC's
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank	0.20 U	0.50 U	0.50 U	0.50 U			see VOC's	see VOC's		see VOC's
ICS-OUTF-SW-080312	water	8/3/2012		0.20 U	see SVOC's	see SVOC's	0.50 U	1.0 U	1.0 U	see VOC's	see VOC's	5.0 U	see VOC's
ICS-MH1-SW-080312	water	8/3/2012		0.20 U	see SVOC's	see SVOC's	0.50 U	1.0 U	1.0 U	see VOC's	see VOC's	5.0 U	see VOC's
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank	0.20 U	0.50 U	0.50 U	0.50 U			see VOC's	see VOC's		see VOC's
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)					500	71	4100	2900	160	3400
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank										
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)					45,000	190 U	48 U	48 U	3300	48 U
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)					350	18 U	4.5 U	6.3	60	7.0

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<u>Field I.D.</u>	<u>Matrix</u>	<u>Collection Date</u>	<u>Comments</u>	2-Methyl- phenol 95-48-7 <u>µg/L</u>	4-Methyl- phenol 106-44-5 <u>µg/L</u>	N-Nitroso-di-n- propylamine 621-64-7 <u>µg/kg</u>	Hexachloro- ethane 67-72-1 <u>µg/L</u>	Nitrobenzene 98-95-3 <u>µg/L</u>	Isophorone 78-59-1 <u>µg/L</u>	2,4-Dimethyl- phenol 105-67-9 <u>µg/L</u>	Benzoic acid 65-85-0 <u>µg/L</u>	2,4-Dichloro- phenol 120-83-2 <u>µg/L</u>	1,2,4-Trichloro- benzene 120-82-1 <u>µg/L</u>
ICS-SEEP1-GW-070512	grd water	7/5/2012		1.0 U	1.0 U		1.0 U	1.0 U	1.0 U	1.0 U	10 U	5.0 U	1.0 U
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U	1.0 U	10 U	5.0 U	1.0 U
ICS-SEEP2-GW-070512	grd water	7/5/2012		1.0 U	1.0 U		1.0 U	1.0 U	1.0 U	1.0 U	10 U	5.0 U	1.0 U
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank	1.0 U	1.0 U		1.0 U	1.0 U	1.0 U	1.0 U	10 U	5.0 U	1.0 U
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank										<i>see VOC's</i>
ICS-OUTF-SW-080312	water	8/3/2012		1.0 U	1.0 U		1.0 U	1.0 U	1.0 U	1.0 U	10 U	5.0 U	1.0 U
ICS-MH1-SW-080312	water	8/3/2012		1.0 U	1.0 U		1.0 U	1.0 U	1.0 U	1.0 U	10 U	5.0 U	1.0 U
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank										<i>see VOC's</i>
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)	23	90	18 U	18 U	18 U	18 U	18 U	770	180 U	5300
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank										
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)	1900	1000	190 U	190 U	190 U	220,000	790	3900 U	1900 U	48 U
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)	33	47	18 U	18 U	18 U	210	18 U	730	180 U	4.5 U

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ICS / [former] NW Cooperage, Seattle, WA
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Field I.D.	Matrix	Collection Date	Comments	Naphthalene	4-Chloro-3-	2-Methyl-	2,4,6-Trichloro-	2,4,5-Trichloro-	2-Chloro-	Dimethyl-	Acenaph-	Acenaphthene	Dibenzo-furan
				91-20-3 µg/L	methylphenol 59-50-7 µg/L	naphthalene 91-57-6 µg/L	phenol 88-06-2 µg/L	phenol 95-95-4 µg/L	naphthalene 91-58-7 µg/L	phthalate 131-11-3 µg/L	thylene 208-96-8 µg/L	83-32-9 µg/L	132-64-9 µg/L
ICS-SEEP1-GW-070512	grd water	7/5/2012		0.10 U	5.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U	1.0 U
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1	0.10 U	5.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U	1.0 U
ICS-SEEP2-GW-070512	grd water	7/5/2012		0.10 U	5.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U	1.0 U
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank	0.10 U	5.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U	1.0 U
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank	see VOC's									
ICS-OUTF-SW-080312	water	8/3/2012		0.10 U	5.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U	1.0 U
ICS-MH1-SW-080312	water	8/3/2012		0.10 U	5.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U	1.0 U
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank	see VOC's									
ICS-MH1-SE-080312	sediment	8/3/2012	VOC's trip blank (organics µg/kg)	4100	93 U	70	93 U	93 U	2800	18 U	740	18	20
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank										
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)	91,000	970 U	22,000	970 U	970 U	190 U	81,000	190 U	360	190 U
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)	160	90 U	39	90 U	90 U	18 U	18 U	18 U	18 U	18 U

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
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<u>Field I.D.</u>	<u>Matrix</u>	<u>Collection Date</u>	<u>Comments</u>	2,6-Dinitro- toluene 606-20-2 <u>µg/L</u>	2,4-Dinitro- toluene 121-14-2 <u>µg/L</u>	Diethyl- phthalate 84-66-2 <u>µg/L</u>	4-Chlorophenyl- phenylether 7005-72-3 <u>µg/L</u>	Fluorene 86-73-7 <u>µg/L</u>	N-Nitrosodi- phenylamine 86-30-6 <u>µg/L</u>	Pentachloro- phenol 87-86-5 <u>µg/L</u>	Phenanthrene 85-01-8 <u>µg/L</u>	Carbazole 86-74-8 <u>µg/L</u>	Anthracene 120-12-7 <u>µg/L</u>
ICS-SEEP1-GW-070512	grd water	7/5/2012		5.0 U	5.0 U	1.0 U	1.0 U	0.10 U	1.0 U	0.25 U	0.10 U	1.0 U	0.10 U
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1	5.0 U	5.0 U	1.0 U	1.0 U	0.10 U	1.0 U	0.25 U	0.10 U	1.0 U	0.10 U
ICS-SEEP2-GW-070512	grd water	7/5/2012		5.0 U	5.0 U	1.0 U	1.0 U	0.10 U	1.0 U	0.25 U	0.10 U	1.0 U	0.10 U
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank	5.0 U	5.0 U	1.0 U	1.0 U	0.10 U	1.0 U	0.25 U	0.10 U	1.0 U	0.10 U
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank										
ICS-OUTF-SW-080312	water	8/3/2012		5.0 U	5.0 U	1.0 U	1.0 U	0.10 U	1.0 U	5.0 U	0.10 U	1.0 U	0.10 U
ICS-MH1-SW-080312	water	8/3/2012		5.0 U	5.0 U	1.0 U	1.0 U	0.10 U	1.0 U	5.0 U	0.10 U	1.0 U	0.10 U
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank										
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)	93 U	93 U	46 U	18 U	32	18 U	44 U	1700	18 U	190
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank										
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)	970 U	970 U	480 U	190 U	640	2800	480 U	760	190 U	190 U
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)	90 U	90 U	45 U	18 U	18 U	18 U	45 U	18 U	18 U	18 U

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ICS / [former] NW Cooperage, Seattle, WA
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Field I.D.	Matrix	Collection Date	Comments	Di-n-butyl-	Fluoranthene	Pyrene	Butylbenzyl-	Benzo(a)-	bis (2-Ethylhexyl)-	Chrysene	Di-n-octyl-	total Benzo-	Benzo(a)-
				phthalate 84-74-2 µg/L	206-44-0 µg/L	129-00-0 µg/L	phthalate 85-68-7 µg/L	anthracene 56-55-3 µg/L	phthalate 117-81-7 µg/L	218-01-9 µg/L	phthalate 117-84-0 µg/L	fluoranthenes µg/L	pyrene 50-32-8 µg/L
ICS-SEEP1-GW-070512	grd water	7/5/2012		1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	1.0 U	0.20 U	0.10 U
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	1.0 U	0.20 U	0.10 U
ICS-SEEP2-GW-070512	grd water	7/5/2012		1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	1.0 U	0.20 U	0.10 U
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	1.0 U	0.20 U	0.10 U
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	1.0 U	0.20 U	0.10 U
ICS-OUTF-SW-080312	water	8/3/2012		1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	1.0 U	0.10 U	1.0 U	0.20 U	0.10 U
ICS-MH1-SW-080312	water	8/3/2012		1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	1.1	0.10 U	1.0 U	0.20 U	0.10 U
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank										
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)	65	2200	1700	82	240	3400	640	900	1400	500
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank										
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)	9300	340	350	5600	190 U	26,000	350	190 U	390 U	190 U
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)	640	18 U	18 U	120	18 U	2000	18 U	49	36 U	18 U

U = nondetected at the associated lower reporting limit.

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ICS / [former] NW Cooperage, Seattle, WA
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Field I.D.	Matrix	Collection Date	Comments	Indeno(1,2,3- cd)pyrene	Dibenz(a,h)- anthracene	Benzo(g,h,i)- perylene	LPAH	HPAH	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC
				193-39-5 µg/L	53-70-3 µg/L	191-24-2 µg/L			319-84-6 µg/L	319-85-7 µg/L	319-86-8 µg/L	(Lindane) 58-89-9 µg/L
ICS-SEEP1-GW-070512	grd water	7/5/2012		0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.050 U	0.050 U	0.050 U	0.050 U
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1	0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.050 U	0.050 U	0.050 U	0.050 U
ICS-SEEP2-GW-070512	grd water	7/5/2012		0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.050 U	0.050 U	0.050 U	0.050 U
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank	0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.050 U	0.050 U	0.050 U	0.050 U
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank									
ICS-OUTF-SW-080312	water	8/3/2012		0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.050 U	0.050 U	0.050 U	0.050 U
ICS-MH1-SW-080312	water	8/3/2012		0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.050 U	0.050 U	0.050 U	0.050 U
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank									
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)	260	44	210	6780	7194	6.0 U	4.0 U	39 U	1.6 U
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank									
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)	190 U	190 U	190 U	92,760	1040				
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)	18 U	18 U	18 U	160	36 U				

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Field I.D.	Matrix	Collection Date	Comments	Heptachlor	Aldrin	Heptachlor	Endosulfan I	Dieldrin	4,4'-DDE	Endrin	Endosulfan II	4,4'-DDD	Endosulfan
				76-44-8 µg/L	309-00-2 µg/L	epoxide 1024-57-3 µg/L	959-98-8 µg/L	60-57-1 µg/L	72-55-9 µg/L	72-20-8 µg/L	33213-65-9 µg/L	72-54-8 µg/L	1031-07-8 µg/L
ICS-SEEP1-GW-070512	grd water	7/5/2012		0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
ICS-SEEP2-GW-070512	grd water	7/5/2012		0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank										
ICS-OUTF-SW-080312	water	8/3/2012		0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
ICS-MH1-SW-080312	water	8/3/2012		0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank										
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)	1.6 U	1.6 U	1.6 U	1.6 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank										
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)										
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)										

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Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
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<u>Field I.D.</u>	<u>Matrix</u>	<u>Collection Date</u>	<u>Comments</u>	4,4'-DDT 50-29-3 <u>µg/L</u>	Methoxychlor 72-43-5 <u>µg/L</u>	Endrin ketone 53494-70-5 <u>µg/L</u>	Endrin aldehyde 7421-93-4 <u>µg/L</u>	trans- Chlordane 5103-74-2 <u>µg/L</u>	cis- Chlordane 5103-71-9 <u>µg/L</u>	Toxaphene 8001-35-2 <u>µg/L</u>	Hexachloro- benzene 118-74-1 <u>µg/L</u>	Hexachloro- butadiene 87-68-3 <u>µg/L</u>
ICS-SEEP1-GW-070512	grd water	7/5/2012		0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	5.0 U	0.050 U	0.050 U
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	5.0 U	0.050 U	0.050 U
ICS-SEEP2-GW-070512	grd water	7/5/2012		0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	5.0 U	0.050 U	0.050 U
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	5.0 U	0.050 U	0.050 U
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank									see VOC's
ICS-OUTF-SW-080312	water	8/3/2012		0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U		0.050 U	0.050 U
ICS-MH1-SW-080312	water	8/3/2012		0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U		0.050 U	0.050 U
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank									see VOC's
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)	6.4 U	16 U	3.2 U	3.2 U	6.7 U	2.8 U		230 J_Q	1.6 U
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank									
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)								190 U	190 U
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)								18	18 U

U = nondetected at the associated lower reporting limit.

J_Q = estimate; due to noncompliant CCV check.

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Field ID.	Matrix	Collection Date	Comments	Aroclor 1016	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1221	Aroclor 1232	total PCBs
				12674-11-2 µg/L	53469-21-9 µg/L	12672-29-6 µg/L	11097-69-1 µg/L	11096-82-5 µg/L	11104-28-2 µg/L	11141-16-5 µg/L	
ICS-SEEP1-GW-070512	grd water	7/5/2012		0.010 U	0.010 U	0.025 U	0.075 U	0.010 U	0.010 U	0.010 U	0.075 U
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1	0.010 U	0.010 U	0.025 U	0.075 U	0.010 U	0.010 U	0.010 U	0.075 U
ICS-SEEP2-GW-070512	grd water	7/5/2012		0.010 U	0.010 U	0.032 U	0.14	0.16	0.010 U	0.010 U	0.30
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank								
ICS-OUTF-SW-080312	water	8/3/2012		0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.015 U	0.015 U
ICS-MH1-SW-080312	water	8/3/2012		0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank								
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)	3.7 U	3.7 U	31	36	38	3.7 U	3.7 U	105
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank								
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)								
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)								

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Remedial Investigation
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Field I.D.	Matrix	Collection Date	Comments	gravel	very coarse sand	coarse sand	medium sand	fine sand	very fine sand	coarse silt	medium silt	fine silt	very fine silt	total silt
				> 2000 μm %	2000 - 1000 μm %	1000 - 500 μm %	500 - 250 μm %	250 - 125 μm %	125 - 62 μm %	62 - 31 μm %	31 - 15.6 μm %	15.6 - 7.8 μm %	7.8 - 3.9 μm %	3.2 - 3.2 μm %
ICS-SEEP1-GW-070512	grd water	7/5/2012												
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1											
ICS-SEEP2-GW-070512	grd water	7/5/2012												
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank											
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank											
ICS-OUTF-SW-080312	water	8/3/2012												
ICS-MH1-SW-080312	water	8/3/2012												
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank											
ICS-MH1-SE-080312	sediment	8/3/2012	VOC's trip blank (organics $\mu\text{g/kg}$)	15.2	23.0	22.5	12.5	6.8	3.7	2.6	6.3	4.6	1.6	15.1
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank											
ICS-ASH-081312	ash	8/13/2012	(organics $\mu\text{g/kg}$)											
ICS-DUST-081312	dust	8/13/2012	(organics $\mu\text{g/kg}$)											

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Field I.D.	Matrix	Collection Date	Comments	clay			total	2,3,7,8-	2,3,7,8-	1,2,3,7,8-	2,3,4,7,8-	1,2,3,7,8-			
				3.9 - 2.0 µm	2.0 - 1.0 µm	< 1.0 µm	fines	TCDF	total TCDF	TCDD	total TCDD	PeCDF	PeCDF	total PeCDF	PeCDD
				%	%	%	%	51207-31-9 ng/kg, dry	55722-27-5 ng/kg, dry	1746-01-6 ng/kg, dry	41903-57-5 ng/kg, dry	57117-41-6 ng/kg, dry	57117-31-4 ng/kg, dry	30402-15-4 ng/kg, dry	40321-76-4 ng/kg, dry
ICS-SEEP1-GW-070512	grd water	7/5/2012													
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1												
ICS-SEEP2-GW-070512	grd water	7/5/2012													
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank												
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank												
ICS-OUTF-SW-080312	water	8/3/2012													
ICS-MH1-SW-080312	water	8/3/2012													
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank												
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)	0.2	0.2	0.8	16.3	1.54	25.0	0.772 J	6.10	1.18 J	1.77 J	50.3	3.67 J
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank												
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)												
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)												

J = estimate associated with value less than the verifiable lower quantitation limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Water & Miscellaneous Analyses, July-August 2012

Field I.D.	Matrix	Collection Date	Comments	total	1,2,3,4,7,8-	1,2,3,6,7,8-	2,3,4,6,7,8-	1,2,3,7,8,9-	total	1,2,3,4,7,8-	1,2,3,6,7,8-	1,2,3,7,8,9-	total
				PeCDD	HxCDF	HxCDF	HxCDF	HxCDF	HxCDF	HxCDD	HxCDD	HxCDD	HxCDD
				36088-22-9	70648-26-9	57117-44-9	60851-34-5	72918-21-9	55684-94-1	39227-28-6	57653-85-7	19408-74-3	34465-46-8
				ng/kg, dry	ng/kg, dry	ng/kg, dry	ng/kg, dry	ng/kg, dry	ng/kg, dry	ng/kg, dry	ng/kg, dry	ng/kg, dry	ng/kg, dry
ICS-SEEP1-GW-070512	grd water	7/5/2012											
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1										
ICS-SEEP2-GW-070512	grd water	7/5/2012											
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank										
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank										
ICS-OUTF-SW-080312	water	8/3/2012											
ICS-MH1-SW-080312	water	8/3/2012											
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank										
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)	19.6	4.94 J	3.35 J	4.78 J	1.20 J	89.1	5.41	17.7	12.0	117
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank										
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)										
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)										

J = estimate associated with value less than the verifiable lower quantitation limit.

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ICS / [former] NW Cooperage, Seattle, WA
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Field I.D.	Matrix	Collection Date	Comments	1,2,3,4,6,7,8-	1,2,3,4,7,8,9-	total	1,2,3,4,6,7,8-	total	OCDF	OCDD	TEQ	
				HpCDF 67562-39-4 ng/kg, dry	HpCDF 55673-89-7 ng/kg, dry	HpCDF 38998-75-3 ng/kg, dry	HpCDD 35822-46-9 ng/kg, dry	HpCDD 37871-00-4 ng/kg, dry			39001-02-0 ng/kg, dry	3268-87-9 ng/kg, dry
ICS-SEEP1-GW-070512	grd water	7/5/2012										
ICS-DUP1-GW-070512	grd water	7/5/2012	dup of SEEP1									
ICS-SEEP2-GW-070512	grd water	7/5/2012										
ICS-RIN1-GW-070512	water	7/5/2012	rinsate blank									
ICS-TB-01-GW-070512	water	7/5/2012	VOC's trip blank									
ICS-OUTF-SW-080312	water	8/3/2012										
ICS-MH1-SW-080312	water	8/3/2012										
ICS-TB-SW-080312	water	8/3/2012	VOC's trip blank									
ICS-MH1-SE-080312	sediment	8/3/2012	(organics µg/kg)	59.2	3.30 J	155	364	677	126	2590	15.2	15.2
ICS-TB-SE-080312	water	8/3/2012	VOC's trip blank									
ICS-ASH-081312	ash	8/13/2012	(organics µg/kg)									
ICS-DUST-081312	dust	8/13/2012	(organics µg/kg)									

J = estimate associated with value less than the verifiable lower quantitation limit.



D.M.D., Inc.

Environmental & Toxicological Services

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MEMORANDUM

TO: Matt Dalton (DOF)

FROM: Raleigh Farlow

DATE: January 17, 2013

SUBJECT: Data Evaluation/Assessment for 12 Groundwaters and a NAPL Collected during November 2012 from the ICS / [former] NW Cooperage Site, Seattle, WA

Twelve groundwater samples and a NAPL were collected by Dalton, Olmsted & Fuglevand (DOF) staff during November, 2012 for chemical characterization. All samples were delivered in four delivery groups to Analytical Resources Inc. (ARI) of Tukwila, Washington within 31 hours of collection. Samples were received on ice at temperatures between 0.9 and 5.4 degrees C, and maintained at the project laboratory at 4 degrees C prior to analyses. Appropriate chemical preservatives were specified and used for water samples; nitric acid (HNO₃) for total and dissolved metals, and HCl for VOC's. Dissolved metals in water were determined following field filtration through 0.45 µm in-line filters prior to acid preservation. One blind field duplicate (the pair ICS-DOF-MW6-GW-110912 / ICS-DUP-GW-110912) and a single VOC's trip/transport blank were also submitted and analyzed for quality control purposes.

Sample collection, handling, and analyses were conducted in accordance with the project sampling and analysis plan (SAP) (*Sampling and Analysis Plan to Complete Remedial Investigation Sampling ICS / Former NW Cooperage Site, Seattle, Washington*, prepared by DOF, February 2012). All analyses were performed by methods presented in Table SAP-4 of the SAP.

VOC's	SW846-M.8260C	SVOC's	SW846-M.8270
chlor. pesticides	SW846-M.8081	SVOC's (PAH's)	SW846-M.8270 - SIM
PCB's as Aroclors	SW846-M.8082	chlor. phenols	SW846-M.8041
metals (exc Hg)	SW846-M.6010C & EPA 200.8	Hg	SW846-M.7470
total petroleum HC's	NWTPH-Dx & -G	Cl & SO ₄	EPA 300.0

Semivolatile organic compound (SVOC's) analyses were performed by SW846 M.8270 in full-scan mode, and polycyclic aromatic hydrocarbons (PAH's) were further analyzed and reported from analyses performed in the (M.8270D) SIM mode to improve/lower the reporting limits. Anthracene reported from the analysis of groundwater from DOF-MW8 by M.8270 (full-scan) did not satisfy all identification criteria at a level of 4.4 µg/L due to possible interference, whereas the analysis of the same extract by M.8270-SIM reported anthracene as not detected at 0.10 µg/L (U). The nondetected value is reported in the attached results table. Selected analytes,

such as dichloro- and trichloro-benzenes were analyzed by both the SVOC method and the volatile organic compound (VOC's) method (M.8260). The attached results table reports only the result from the VOC's analyses due to lower reporting limits. Naphthalene and hexachlorobutadiene (HCBd) results generated by M.8260 (VOC's method) were not reported in the attached results table due to lower reporting limits available for the SVOC-SIM (M.8270-SIM) and chlorinated pesticides (by M.8081) methods, respectively. The lower reporting limit for chlorinated phenols (2,4,6-trichlorophenol and pentachlorophenol) was improved over M.8270 by use of M.8041 (diazomethane ether derivatives analyzed by GC/ECD option). NWTPh-Dx extract preparation was supplemented with silica gel chromatography and acid cleanup steps.

Samples were relinquished by DOF under chain-of-custody (C-O-C) procedure. All analyses for parameters reported in the attached results table were completed within the technical holding time requirements identified in the project SAP (Table SAP-2) and/or within the recommended maximum holding times recommended by the U.S. EPA. Sample holding times/conditions are determined to be within acceptable technical limits and/or within SAP specifications.

Lower **reporting limits** were generally consistent with specified-limits presented in the SAP. In most cases, the lower of the project GW PQL and the LDW PQL were achieved. Some Aroclors (commercial PCB mixtures) were reported with slightly elevated reporting limits or nondetects due to elevated or busy baselines; specifically for samples DOF-MW6 and its associated blind duplicate. δ -BHC exhibited an elevated reporting limit at 0.22 $\mu\text{g/L}$ (U) in DOF-MW7 due to chemical interference. Lower reporting limits were elevated for some metals in samples from DOF-MW1, HC-B1 and SA-MW3 due to elevated dissolved solids requiring dilutions of digestates. Considerable effort was made by the analysts to achieve the specified lower reporting limits when the sample matrix and chemical interferences would allow it. Analyte concentrations reported at less than the [specified] lower reporting limit or the established linear concentration range are qualified as estimated with the "J" qualifier code.

Method blanks (MB) were analyzed and reported for all analytical parameters and groups (analytical groups are ≤ 20 samples). All method blanks reported nondetects, with the exception of the following:

Analyte	Analytical group	Conc. ($\mu\text{g/L}$)
Hexachlorobutadiene (VOC's)	VS14 (MB1)	ND
	VS14 (MB2)	0.43
	VS49 (MB1)	0.31
	VS49 (MB2)	0.38
n-Butylbenzene (VOC's)	VS14 (MB1)	ND
	VS14 (MB2)	0.10
	VS49 (MB1)	ND
	VS49 (MB2)	0.14

No hexachlorobutadiene (HCBd) was detected in any of the project samples during analyses of VOC's by M.8260. HCBd however was reported in the attached results table from the analyses of chlorinated pesticides by M.8081 due to lowered reporting limits. n-Butylbenzene was detected at 0.23 $\mu\text{g/L}$ in two project samples; just above the reporting limit of 0.20 $\mu\text{g/L}$. These two results are qualified as estimated with the "J_B" qualifier code to indicate potential positive

bias associated with laboratory background contributions. No other results required qualification due to method blanks performance.

No field equipment **rinsate blanks** were generated nor submitted for determination of potential bias associated with field activities. A single **trip/transport blank** was generated and submitted for analysis and determination of potential contamination during handling of VOC's samples. This sample was analyzed twice with consistent results. Results of these analyses are reported in the attached table. Methylene chloride, acetone and butanone were detected at levels less than the lower verifiable lower quantitation limit (or PQL's). Benzene and alkyl-substituted benzenes were detected and reported in the VOC's field blank at levels greater than the project PQL's. Laboratory method blanks did not show these analytes, indicating possible introduction during field activities and handling. Some positive bias may be associated with these analytes reported in project samples.

Laboratory control sample (**LCS/LCSD**) and matrix spike (**MS/MSD**) recoveries were within acceptable ranges for most analytes. δ -BHC exhibited lower than specified LCS/LCSD recoveries at 35.4% and 34.4% for analytical groups VR88 and VS14. None of the BHC's were detected in any of the project samples. LCS/LCSD recoveries were reported greater than specified for the VOC's 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, 1,2,3-trichlorobenzene and hexachlorobutadiene in the range of 122-152% for analytical group VS49. No associated data required qualification. Chromium (Cr) matrix spike recovery was reported low (70%) in the dissolved phase for DOF-MW6 while the total phase Cr recovery was within specified limits. Nickel (Ni) matrix spike recovery in the total phase for HC-B1 was reported high at 128%, and the MS recovery for sulfate in DOF-MW6 was reported high at 130%. These recoveries are sufficiently close to the specified limits to not require qualification of reported results. No results required qualification of sample results due to unacceptable analyte recoveries.

Surrogate compound recoveries (for organic analytes) were evaluated for VOC's, SVOC's, TPH-Dx, TPH-G, chlorinated pesticides (including hexachlorobutadiene [HCBD] and hexachlorobenzene [HCB]), PCB's, and chlorinated phenols. Four labeled compounds were utilized for the evaluation of VOC's recovery performance. Tetrachloro-*meta*-xylene (TCMX) and decachlorobiphenyl (DCBP) were utilized as the surrogates for evaluation of chlorinated pesticides and PCB's analytical performance, and *o*-terphenyl was utilized as the surrogate for the TPH-Dx analyses. SVOC recoveries were evaluated with the use of four labeled phenols and four labeled neutral compounds. PAH's by GC/MS-SIM utilized the surrogate compounds d₁₀-2-methylnaphthalene and d₁₄-dibenz(a,h)anthracene. Chlorinated phenols by M.8041 utilized 2,4,6-tribromophenol as the recovery surrogate. All surrogate recoveries were within specification, with the exception of *o*-terphenyl at 38.7% in DOF-MW4 in an initial analysis; with a subsequent reextraction and reanalysis yielding an acceptable surrogate recovery. The pesticide surrogate, TCMX, reported a lower than specified recovery at 26.5% in DOF-MW6, whereas the surrogate DCBP exhibited an acceptable recovery. No qualification of results was required due to surrogate compounds performance.

Continuing calibration verification (CCV or CCAL) checks revealed occasional [minor] noncompliant responses for pentachlorophenol (PCP by M.8270) in analytical group VS14 and several VOC's analytes in analytical group VS49. PCP was reported from analyses performed by M.8041 that exhibited acceptable QC measurements, and the affected VOC analytes were all reported as nondetected. No results required further qualification due to CCV or CCAL performance.

A single pair of blind **field duplicate** samples were collected and submitted for analysis for the assessment of monitoring variability. A duplicate pair is identified in the attached table of sample results; DOF-MW6 / DUP. Analytes, with the exception of sulfate, exhibited a relative percent difference (RPD) less than or equal to 30. Sulfate exhibited the greatest variability at 0.1 mg/L U (nondetected in the primary sample) and detected at 0.9 mg/L in the blind duplicate. Laboratory duplicate analyses were generally less than 20 RPD (within SAP specifications).

TPH-Dx and TPH-G analyses indicate presence of principally weathered gasoline in two of the locations sampled – DOF-MW6 and DOF-MW7. Bold type values in the attached results table are associated with the patterns that most resemble the hydrocarbon mixtures present; weathered gasoline.

Sample results reported here are determined to be in general compliance with method and SAP requirements. All reported data for NAPL and water samples (attached) are considered usable for the intended purposes of the project.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Groundwater & NAPL Analyses, November 2012

Field I.D.	Matrix	Collection Date	Comments	Lab I.D.	Chloride mg/L	Sulfate mg/L	Antimony 7440-36-0		Arsenic 7440-38-2		Beryllium 7440-41-7	
							diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L
ICS-DOF-MW1-GW-110812	grd water	11/8/2012		1222516-VR88A / 1222521-VR88F	2210	323	2 U	2 U	2	2	2 U	2 U
ICS-DOF-MW2-GW-110812	grd water	11/8/2012		1222517-VR88B / 1222522-VR88G	179	1.0	0.2 U	0.2 U	2.6	4.3	0.3	0.3
ICS-DOF-MW3-GW-110812	grd water	11/8/2012		1222518-VR88C / 1222523-VR88H	217	0.8	0.2 U	0.2 U	2.0	3.1	0.2 U	0.2
ICS-DOF-MW4-GW-110812	grd water	11/8/2012		1222519-VR88D / 1222524-VR88I	103	1.1	0.2 U	0.2 U	2	3.6	1 U	0.3
ICS-DOF-MW5-GW-110812	grd water	11/8/2012		1222520-VR88E / 1222525-VR88J	61.9	1.0	0.2 U	0.2 U	0.5 U	0.7	0.5 U	0.2 U
ICS-DOF-MW6-GW-110912	grd water	11/9/2012		1222637-VS14A / 1222642-VS14F	356	0.1 U	0.2 U	0.2 U	0.8	1.3	0.2 U	0.2 U
ICS-DUP-GW-110912	grd water	11/9/2012	dup. of DOF-MW6	1222641-VS14E / 1222646-VS14J	359	0.9	0.2 U	0.2 U	0.8	1.6	0.2 U	0.2 U
ICS-DOF-MW7-GW-110912	grd water	11/9/2012		1222638-VS14B / 1222643-VS14G	470	2.5	0.2 U	0.2 U	1.6	1.4	0.5 U	0.2 U
ICS-DOF-MW8-GW-110912	grd water	11/9/2012		1222639-VS14C / 1222644-VS14H	46.0	1.5	0.2 U	0.5	6	5.6	0.5 U	0.2 U
ICS-SA-MW2-GW-110912	grd water	11/9/2012		1222640-VS14D / 1222645-VS14I	2280	36.1	0.2	0.2	0.5	0.5 U	0.2 U	0.2 U
ICS-HC-B1-GW-111312	grd water	11/13/2012		1222838-VS49A / 1222841-VS49D	3730	4.8	1 U	1 U	4	4	1 U	1 U
ICS-SA-MW3-GW-111312	grd water	11/13/2012		1222839-VS49B / 1222842-VS49E	4050	576	1 U	1 U	4	3	1 U	1 U
ICS-SA-MW1-GW-111312	NAPL	11/13/2012		1222843-VS49F								
Trip Blank	water		VOC's trip/transport blank	1222840-VS49C								
ICS-SA-MW1-NAPL-112712	NAPL	11/27/2012	results in µg/kg	1223949-VU99A								

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Groundwater & NAPL Analyses, November 2012

Field I.D.	Matrix	Collection Date	Comments	Cadmium 7440-43-9		Calcium 7440-70-2		Chromium 7440-47-3		Copper 7440-50-8		Lead 7439-92-1	
				diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L
ICS-DOF-MW1-GW-110812	grd water	11/8/2012		1 U	1 U	-	130,000	5 U	5 U	5 U	4	1 U	2
ICS-DOF-MW2-GW-110812	grd water	11/8/2012		0.1 U	0.1 U	-	15,300	47.2	68.3	5.2	22.9	0.3	1.1
ICS-DOF-MW3-GW-110812	grd water	11/8/2012		0.1 U	0.1 U	-	16,700	28.3	37.1	1.7	5.3	0.1 U	0.7
ICS-DOF-MW4-GW-110812	grd water	11/8/2012		0.1 U	0.1 U	-	16,000	46.0	55.5	7.4	15.1	0.4	0.9
ICS-DOF-MW5-GW-110812	grd water	11/8/2012		0.1 U	0.1 U	-	7070	10.9	13.6	2.1	7.0	0.1	0.3
ICS-DOF-MW6-GW-110912	grd water	11/9/2012		0.1 U	0.1 U	-	31,400	7.7	17	1 U	6.6	0.1	1.4
ICS-DUP-GW-110912	grd water	11/9/2012	dup. of DOF-MW6	0.1 U	0.1 U	-	33,300	10	12.4	1.0	6.5	0.1	1.8
ICS-DOF-MW7-GW-110912	grd water	11/9/2012		0.1 U	0.1 U	-	36,500	10	14	1.8	3.6	0.1 U	0.4
ICS-DOF-MW8-GW-110912	grd water	11/9/2012		0.1 U	0.1 U	-	32,400	2	5	0.6	3.4	0.5	13.5
ICS-SA-MW2-GW-110912	grd water	11/9/2012		0.1 U	0.1 U	-	85,700	2.5	5	2 U	1.0	0.1 U	0.6
ICS-HC-B1-GW-111312	grd water	11/13/2012		0.5 U	0.5 U	-	126,000	6	6	2 U	2 U	0.5 U	0.5 U
ICS-SA-MW3-GW-111312	grd water	11/13/2012		0.5 U	0.5 U	-	142,000	4	4	4	4	0.5 U	0.5 U
ICS-SA-MW1-GW-111312	NAPL	11/13/2012											
Trip Blank	water		VOC's trip/transport blank										
ICS-SA-MW1-NAPL-112712	NAPL	11/27/2012	results in µg/kg										

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Groundwater & NAPL Analyses, November 2012

Field I.D.	Matrix	Collection Date	Comments	Magnesium 7439-95-4		Mercury 7439-97-6		Nickel 7440-02-0		Silver 7440-22-4		Zinc 7440-66-6		Hardness mg-CaCO ₃ /L
				diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	diss. µg/L	total µg/L	
ICS-DOF-MW1-GW-110812	grd water	11/8/2012		-	170,000	0.1 U	0.1 U	8	8	2 U	2 U	40 U	40 U	1000
ICS-DOF-MW2-GW-110812	grd water	11/8/2012		-	22,100	0.1 U	0.1 U	1.7	2.1	1 U	1 U	4 U	7	130
ICS-DOF-MW3-GW-110812	grd water	11/8/2012		-	40,500	0.1 U	0.1 U	1.4	1.4	1 U	1 U	4 U	4	210
ICS-DOF-MW4-GW-110812	grd water	11/8/2012		-	24,800	0.1 U	0.1 U	1.5	1.7	1 U	1 U	5	5	140
ICS-DOF-MW5-GW-110812	grd water	11/8/2012		-	10,900	0.1 U	0.1 U	0.8	1.0	0.5 U	1 U	4 U	4 U	63
ICS-DOF-MW6-GW-110912	grd water	11/9/2012		-	37,800	0.1 U	0.1 U	1.7	2.3	0.2 U	0.2 U	4 U	4 U	230
ICS-DUP-GW-110912	grd water	11/9/2012	dup. of DOF-MW6	-	39,800	0.1 U	0.1 U	1.8	2.3	0.2 U	0.2 U	4 U	4 U	250
ICS-DOF-MW7-GW-110912	grd water	11/9/2012		-	28,200	0.1 U	0.1 U	2	2.4	0.2 U	0.2 U	4 U	4 U	210
ICS-DOF-MW8-GW-110912	grd water	11/9/2012		-	35,100	0.1 U	0.1 U	7	7.6	0.2 U	0.2 U	4 U	11	230
ICS-SA-MW2-GW-110912	grd water	11/9/2012		-	156,000	0.1 U	0.1 U	4.7	4.1	0.2 U	0.2 U	4 U	4 U	860
ICS-HC-B1-GW-111312	grd water	11/13/2012		-	205,000	0.1 U	0.1 U	6	7	1 U	1 U	20 U	20 U	1200
ICS-SA-MW3-GW-111312	grd water	11/13/2012		-	312,000	0.1 U	0.1 U	11	10	1 U	1 U	30	30	1600
ICS-SA-MW1-GW-111312	NAPL	11/13/2012												
Trip Blank	water		VOC's trip/transport blank											
ICS-SA-MW1-NAPL-112712	NAPL	11/27/2012	results in µg/kg											

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Groundwater & NAPL Analyses, November 2012

Field ID.	Matrix	Collection Date	Comments	Total Petroleum Hydrocarbons **			Chloro-	Bromo-	Vinyl	Chloro-	Methylene	Acetone	Carbon	1,1-Dichloro-	1,1-Dichloro-
				Gasoline-range	Diesel-range	Lube-range	methane	methane	chloride	ethane	chloride	disulfide	ethene	ethane	
				mg/L	mg/L	mg/L	74-87-3	74-83-9	75-01-4	75-00-3	75-09-2	67-64-1	75-15-0	75-35-4	75-34-3
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
ICS-DOF-MW1-GW-110812	grd water	11/8/2012		0.25 U	0.10 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.10 J
ICS-DOF-MW2-GW-110812	grd water	11/8/2012		0.25 U	0.10 U	0.20 U	0.50 U	1.0 U	0.19 J	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW3-GW-110812	grd water	11/8/2012		0.25 U	0.10 U	0.20 U	0.50 U	1.0 U	0.15 J	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW4-GW-110812	grd water	11/8/2012		0.25 U	0.10 U	0.20 U	0.50 U	1.0 U	0.17 J	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW5-GW-110812	grd water	11/8/2012		0.25 U	0.10 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW6-GW-110912	grd water	11/9/2012		0.22 J	0.10 U	0.20 U	0.50 U	1.0 U	0.33	0.65	1.0 U	5.0 U	1.6	0.20 U	0.14 J
ICS-DUP-GW-110912	grd water	11/9/2012	dup. of DOF-MW6	0.25 J	0.10 U	0.20 U	0.50 U	1.0 U	0.37	0.74	1.0 U	5.0 U	1.6	0.20 U	0.14 J
ICS-DOF-MW7-GW-110912	grd water	11/9/2012		0.50	0.41	0.20 U	0.50 U	1.0 U	2.1	4.8	0.59 J	5.0 U	0.61	0.20 U	1.2
ICS-DOF-MW8-GW-110912	grd water	11/9/2012		0.25 U	0.10 U	0.20 U	0.50 U	1.0 U	0.89	3.3	1.0 U	5.0 U	0.74	0.20 U	0.45
ICS-SA-MW2-GW-110912	grd water	11/9/2012		0.25 U	0.10 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U
ICS-HC-B1-GW-111312	grd water	11/13/2012		0.25 U	0.10 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	3.7 J	0.20 U	0.20 U	0.20 U
ICS-SA-MW3-GW-111312	grd water	11/13/2012		0.25 U	0.10 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	1.0 U	5.0 U	0.20 U	0.20 U	0.20 U
ICS-SA-MW1-GW-111312	NAPL	11/13/2012													
Trip Blank	water		VOC's trip/transport blank				0.50 U	1.0 U	0.20 U	0.20 U	0.64 J	3.8 J	0.20 U	0.20 U	0.20 U
ICS-SA-MW1-NAPL-112712	NAPL	11/27/2012	results in µg/kg												

** bold-typed values resemble corresponding petroleum hydrocarbon mixture

J = estimate associated with value less than the verifiable lower quantitation limit.

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Groundwater & NAPL Analyses, November 2012

Field ID.	Matrix	Collection Date	Comments	<i>trans</i> -1,2-	<i>cis</i> -1,2-	Chloroform	1,2-Dichloro-	2-Butanone	1,1,1-Tri-	Carbon	Bromo-	1,2-Dichloro-	<i>cis</i> -1,3-Dichloro-	Trichloro-
				Dichloroethene 156-60-5 <u>µg/L</u>	Dichloroethene 156-59-2 <u>µg/L</u>		ethane 107-06-2 <u>µg/L</u>	78-93-3 <u>µg/L</u>	chloroethane 71-55-6 <u>µg/L</u>	tetrachloride 56-23-5 <u>µg/L</u>	dichloromethane 75-27-4 <u>µg/L</u>	propane 78-87-5 <u>µg/L</u>	propene 10061-01-5 <u>µg/L</u>	ethene 79-01-6 <u>µg/L</u>
ICS-DOF-MW1-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.15 J	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW2-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW3-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW4-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW5-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW6-GW-110912	grd water	11/9/2012		0.34	0.22	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DUP-GW-110912	grd water	11/9/2012	dup. of DOF-MW6	0.34	0.24	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW7-GW-110912	grd water	11/9/2012		0.36	25	0.16 J	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.79
ICS-DOF-MW8-GW-110912	grd water	11/9/2012		0.40	0.42	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-SA-MW2-GW-110912	grd water	11/9/2012		0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-HC-B1-GW-111312	grd water	11/13/2012		0.20 U	0.16 J	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-SA-MW3-GW-111312	grd water	11/13/2012		0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-SA-MW1-GW-111312	NAPL	11/13/2012												
Trip Blank	water		VOC's trip/transport blank	0.20 U	0.20 U	0.20 U	0.20 U	0.98 J	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-SA-MW1-NAPL-112712	NAPL	11/27/2012	results in µg/kg											

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Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Groundwater & NAPL Analyses, November 2012

Field I.D.	Matrix	Collection Date	Comments	Dibromo-	1,1,2-Trichloro-	Benzene	<i>trans</i> -1,3-	Bromo-form	4-Methyl-2-	2-Hexanone	Tetrachloro-	1,1,2,2-Tetra-	Toluene	Chloro-
				chloromethane 124-48-1 <u>µg/L</u>	ethane 79-00-5 <u>µg/L</u>	71-43-2 <u>µg/L</u>	Dichloropropene 10061-02-6 <u>µg/L</u>	75-25-2 <u>µg/L</u>	pentanone 108-10-1 <u>µg/L</u>	591-78-6 <u>µg/L</u>	ethene 127-18-4 <u>µg/L</u>	chloroethane 79-34-5 <u>µg/L</u>	108-88-3 <u>µg/L</u>	benzene 108-90-7 <u>µg/L</u>
ICS-DOF-MW1-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW2-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW3-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW4-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW5-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW6-GW-110912	grd water	11/9/2012		0.20 U	0.20 U	3.6	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	1.5	13
ICS-DUP-GW-110912	grd water	11/9/2012	dup. of DOF-MW6	0.20 U	0.20 U	3.6	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	1.5	13
ICS-DOF-MW7-GW-110912	grd water	11/9/2012		0.20 U	0.20 U	1.7	0.20 U	0.20 U	5.0 U	5.0 U	0.43	0.20 U	28	0.14 J
ICS-DOF-MW8-GW-110912	grd water	11/9/2012		0.20 U	0.20 U	61	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	2.6	0.81
ICS-SA-MW2-GW-110912	grd water	11/9/2012		0.20 U	0.20 U	0.15 J	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-HC-B1-GW-111312	grd water	11/13/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-SA-MW3-GW-111312	grd water	11/13/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-SA-MW1-GW-111312	NAPL	11/13/2012												
Trip Blank	water		VOC's trip/transport blank	0.20 U	0.20 U	0.91	0.20 U	0.20 U	5.0 U	5.0 U	0.20 U	0.20 U	5.0	0.20 U
ICS-SA-MW1-NAPL-112712	NAPL	11/27/2012	results in µg/kg											

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Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Groundwater & NAPL Analyses, November 2012

Field ID.	Matrix	Collection Date	Comments	Ethyl-	Styrene	Trichloro-	1,1,2-Trichloro-1,2,2-	<i>m</i> - & <i>p</i> -	<i>o</i> -Xylene	1,2-Dichloro-	1,3-Dichloro-	1,4-Dichloro-	Acrolein	Bromoethane
				benzene 100-41-4 µg/L	100-42-5 µg/L	fluoromethane 75-69-4 µg/L	trifluoroethane 76-13-1 µg/L	Xylenes 179601-23-1 µg/L	95-47-6 µg/L	benzene 95-50-1 µg/L	benzene 541-73-1 µg/L	benzene 106-46-7 µg/L	107-02-8 µg/L	74-96-4 µg/L
ICS-DOF-MW1-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-DOF-MW2-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-DOF-MW3-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-DOF-MW4-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-DOF-MW5-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-DOF-MW6-GW-110912	grd water	11/9/2012		2.7	0.20 U	0.20 U	0.20 U	1.8	1.5	0.67	3.6	22	5.0 U	0.20 U
ICS-DUP-GW-110912	grd water	11/9/2012	dup. of DOF-MW6	2.7	0.20 U	0.20 U	0.20 U	1.8	1.5	0.71	3.6	22	5.0 U	0.20 U
ICS-DOF-MW7-GW-110912	grd water	11/9/2012		21	1.7	0.20 U	0.20 U	51	18	0.36	0.20 U	0.12 J	5.0 U	0.20 U
ICS-DOF-MW8-GW-110912	grd water	11/9/2012		2.0	0.20 U	0.20 U	0.20 U	7.6	1.3	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-SA-MW2-GW-110912	grd water	11/9/2012		0.20	0.20 U	0.20 U	0.20 U	0.25 J	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-HC-B1-GW-111312	grd water	11/13/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-SA-MW3-GW-111312	grd water	11/13/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-SA-MW1-GW-111312	NAPL	11/13/2012												
Trip Blank	water		VOC's trip/transport blank	0.65	0.20 U	0.20 U	0.20 U	2.9	1.4	0.20 U	0.20 U	0.20 U	5.0 U	0.20 U
ICS-SA-MW1-NAPL-112712	NAPL	11/27/2012	results in µg/kg											

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Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Groundwater & NAPL Analyses, November 2012

Field ID.	Matrix	Collection Date	Comments	1,1-Dichloro-	Dibromo-	1,1,1,2-Tetra-	1,2,3-Trichloro-	trans -1,4-Dichloro-2-	1,3,5-Trimethyl-	1,2,4-Trimethyl-	1,2-Dibromo-	Bromochloro-	2,2-Dichloro-	1,3-Dichloro-
				propene 563-58-6 µg/L	methane 74-95-3 µg/L	chloroethane 630-20-6 µg/L	propane 96-18-4 µg/L	butene 110-57-6 µg/L	benzene 108-67-8 µg/L	benzene 95-63-6 µg/L	ethane 106-93-4 µg/L	methane 74-97-5 µg/L	propane 294-20-7 µg/L	propane 142-28-9 µg/L
ICS-DOF-MW1-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW2-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW3-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW4-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW5-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW6-GW-110912	grd water	11/9/2012		0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	1.5	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DUP-GW-110912	grd water	11/9/2012	dup. of DOF-MW6	0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	1.5	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW7-GW-110912	grd water	11/9/2012		0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	1.8	5.2	0.20 U	0.20 U	0.20 U	0.20 U
ICS-DOF-MW8-GW-110912	grd water	11/9/2012		0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.29	0.20 U	0.20 U	0.20 U	0.20 U
ICS-SA-MW2-GW-110912	grd water	11/9/2012		0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.16 J	0.20 U	0.20 U	0.20 U	0.20 U
ICS-HC-B1-GW-111312	grd water	11/13/2012		0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-SA-MW3-GW-111312	grd water	11/13/2012		0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
ICS-SA-MW1-GW-111312	NAPL	11/13/2012												
Trip Blank	water		VOC's trip/transport blank	0.20 U	0.20 U	0.20 U	0.50 U	1.0 U	0.20 U	1.3	0.20 U	0.20 U	0.20 U	0.20 U
ICS-SA-MW1-NAPL-112712	NAPL	11/27/2012	results in µg/kg											

*J = estimate associated with value less than the verifiable lower quantitation limit.
U = nondetected at the associated lower reporting limit.*

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Groundwater & NAPL Analyses, November 2012

Field I.D.	Matrix	Collection Date	Comments	Isopropyl-	n-Propyl-	Bromo-	2-Chloro-	4-Chloro-	tert-Butyl-	sec-Butyl-	4-Isopropyl-	n-Butyl-	1,2,4-Trichloro-	1,2,3-Trichloro-
				benzene 98-82-8 µg/L	benzene 103-65-1 µg/L	benzene 108-86-1 µg/L	toluene 95-49-8 µg/L	toluene 106-43-4 µg/L	benzene 98-06-6 µg/L	benzene 135-98-8 µg/L	toluene 99-87-6 µg/L	benzene 104-51-8 µg/L	benzene 120-82-1 µg/L	benzene 87-61-6 µg/L
ICS-DOF-MW1-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U	0.50 U
ICS-DOF-MW2-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U	0.50 U
ICS-DOF-MW3-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U	0.50 U
ICS-DOF-MW4-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U	0.50 U
ICS-DOF-MW5-GW-110812	grd water	11/8/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U	0.50 U
ICS-DOF-MW6-GW-110912	grd water	11/9/2012		0.33	0.37	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.28	0.23 J_B	0.27 J	0.50 U
ICS-DUP-GW-110912	grd water	11/9/2012	dup. of DOF-MW6	0.33	0.36	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.26	0.20 U	0.29 J	0.50 U
ICS-DOF-MW7-GW-110912	grd water	11/9/2012		0.50	0.53	0.20 U	0.20 U	0.20 U	0.20 U	0.23	0.35	0.23 J_B	1.3	0.39 J
ICS-DOF-MW8-GW-110912	grd water	11/9/2012		0.45	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U	0.50 U
ICS-SA-MW2-GW-110912	grd water	11/9/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U	0.50 U
ICS-HC-B1-GW-111312	grd water	11/13/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U	0.50 U
ICS-SA-MW3-GW-111312	grd water	11/13/2012		0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U	0.50 U
ICS-SA-MW1-GW-111312	NAPL	11/13/2012											0.50 U	0.50 U
Trip Blank	water		VOC's trip/transport blank	0.20 U	0.13 J	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.50 U	0.50 U
ICS-SA-MW1-NAPL-112712	NAPL	11/27/2012	results in µg/kg											

J = estimate associated with value less than the verifiable lower quantitation limit.

J_B = estimate; associated value may be biased high due to contribution from laboratory background or method blank.

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Groundwater & NAPL Analyses, November 2012

Field I.D.	Matrix	Collection Date	Comments	Phenol	2-Chloro-	Benzyl alcohol	2-Methyl-	4-Methyl-	N-Nitroso-di-n-	Hexachloro-	Nitrobenzene	Isophorone	2,4-Dimethyl-	Benzoic acid
				108-95-2 µg/L	phenol 95-57-8 µg/L	100-51-6 µg/L	phenol 95-48-7 µg/L	phenol 106-44-5 µg/L	propylamine 621-64-7 µg/L	ethane 67-72-1 µg/L	98-95-3 µg/L	78-59-1 µg/L	phenol 105-67-9 µg/L	65-85-0 µg/L
ICS-DOF-MW1-GW-110812	grd water	11/8/2012		1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U
ICS-DOF-MW2-GW-110812	grd water	11/8/2012		1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U
ICS-DOF-MW3-GW-110812	grd water	11/8/2012		1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U
ICS-DOF-MW4-GW-110812	grd water	11/8/2012		1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U
ICS-DOF-MW5-GW-110812	grd water	11/8/2012		1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U
ICS-DOF-MW6-GW-110912	grd water	11/9/2012		1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U
ICS-DUP-GW-110912	grd water	11/9/2012	dup. of DOF-MW6	1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U
ICS-DOF-MW7-GW-110912	grd water	11/9/2012		2.1	1.0 U	2.0 U	1.0 U	8.9	1.0 U	2.0 U	1.0 U	1.0 U	8.5	20 U
ICS-DOF-MW8-GW-110912	grd water	11/9/2012		1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U
ICS-SA-MW2-GW-110912	grd water	11/9/2012		1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U
ICS-HC-B1-GW-111312	grd water	11/13/2012		1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U
ICS-SA-MW3-GW-111312	grd water	11/13/2012		1.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	3.0 U	20 U
ICS-SA-MW1-GW-111312	NAPL	11/13/2012												
Trip Blank	water		VOC's trip/transport blank											
ICS-SA-MW1-NAPL-112712	NAPL	11/27/2012	results in µg/kg											

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Groundwater & NAPL Analyses, November 2012

Field I.D.	Matrix	Collection Date	Comments	2,4-Dichloro-	Naphthalene	4-Chloro-3-	2-Methyl-	2,4,6-Trichloro-	2,4,5-Trichloro-	2-Chloro-	Dimethyl-	Acenaph-	Acenaphthene
				phenol 120-83-2	91-20-3	methylphenol 59-50-7	naphthalene 91-57-6	phenol 88-06-2	phenol 95-95-4	naphthalene 91-58-7	phthalate 131-11-3	thylene 208-96-8	83-32-9
				<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>
ICS-DOF-MW1-GW-110812	grd water	11/8/2012		3.0 U	0.10 U	3.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U
ICS-DOF-MW2-GW-110812	grd water	11/8/2012		3.0 U	0.10 U	3.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U
ICS-DOF-MW3-GW-110812	grd water	11/8/2012		3.0 U	0.10 U	3.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U
ICS-DOF-MW4-GW-110812	grd water	11/8/2012		3.0 U	0.10 U	3.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U
ICS-DOF-MW5-GW-110812	grd water	11/8/2012		3.0 U	0.10 U	3.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U
ICS-DOF-MW6-GW-110912	grd water	11/9/2012		3.0 U	0.48	3.0 U	1.4	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.11
ICS-DUP-GW-110912	grd water	11/9/2012	dup. of DOF-MW6	3.0 U	0.40	3.0 U	0.8 J	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.09 J
ICS-DOF-MW7-GW-110912	grd water	11/9/2012		3.0 U	1.7	3.0 U	59	0.25 U	5.0 U	1.0 U	1.0 U	0.10 J	0.48
ICS-DOF-MW8-GW-110912	grd water	11/9/2012		3.0 U	0.10	3.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.07 J	0.10 U
ICS-SA-MW2-GW-110912	grd water	11/9/2012		3.0 U	0.06 J	3.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 J
ICS-HC-B1-GW-111312	grd water	11/13/2012		3.0 U	0.10 U	3.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U
ICS-SA-MW3-GW-111312	grd water	11/13/2012		3.0 U	0.10 U	3.0 U	1.0 U	0.25 U	5.0 U	1.0 U	1.0 U	0.10 U	0.10 U
ICS-SA-MW1-GW-111312	NAPL	11/13/2012											
Trip Blank	water		VOC's trip/transport blank										
ICS-SA-MW1-NAPL-112712	NAPL	11/27/2012	results in µg/kg										

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Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Groundwater & NAPL Analyses, November 2012

Field ID.	Matrix	Collection Date	Comments	Dibenzo-furan	2,6-Dinitro-	2,4-Dinitro-	Diethyl-	4-Chlorophenyl-	Fluorene	N-Nitrosodi-	Pentachloro-	Phenanthrene
				132-64-9	toluene	toluene	phthalate	phenylether		phenylamine	phenol	
				<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>
ICS-DOF-MW1-GW-110812	grd water	11/8/2012		1.0 U	3.0 U	3.0 U	1.0 U	1.0 U	0.10 U	1.0 U	0.25 U	0.10 U
ICS-DOF-MW2-GW-110812	grd water	11/8/2012		1.0 U	3.0 U	3.0 U	1.0 U	1.0 U	0.10 U	1.0 U	0.25 U	0.10 U
ICS-DOF-MW3-GW-110812	grd water	11/8/2012		1.0 U	3.0 U	3.0 U	1.0 U	1.0 U	0.10 U	1.0 U	0.25 U	0.10 U
ICS-DOF-MW4-GW-110812	grd water	11/8/2012		1.0 U	3.0 U	3.0 U	1.0 U	1.0 U	0.10 U	1.0 U	0.25 U	0.10 U
ICS-DOF-MW5-GW-110812	grd water	11/8/2012		1.0 U	3.0 U	3.0 U	1.0 U	1.0 U	0.10 U	1.0 U	0.25 U	0.10 U
ICS-DOF-MW6-GW-110912	grd water	11/9/2012		0.10 U	3.0 U	3.0 U	1.0 U	1.0 U	0.22	1.0 U	0.25 U	0.12
ICS-DUP-GW-110912	grd water	11/9/2012	dup. of DOF-MW6	0.10 U	3.0 U	3.0 U	1.0 U	1.0 U	0.16	1.0 U	0.25 U	0.11
ICS-DOF-MW7-GW-110912	grd water	11/9/2012		0.06 J	3.0 U	3.0 U	1.0 U	1.0 U	0.40	1.0 U	240	0.48
ICS-DOF-MW8-GW-110912	grd water	11/9/2012		0.10 U	3.0 U	3.0 U	1.0 U	1.0 U	0.10 U	1.0 U	0.76	0.10 U
ICS-SA-MW2-GW-110912	grd water	11/9/2012		0.10 U	3.0 U	3.0 U	1.0 U	1.0 U	0.10 U	1.0 U	0.25 U	0.10 U
ICS-HC-B1-GW-111312	grd water	11/13/2012		0.10 U	3.0 U	3.0 U	1.0 U	1.0 U	0.10 U	1.0 U	0.25 U	0.10 U
ICS-SA-MW3-GW-111312	grd water	11/13/2012		0.10 U	3.0 U	3.0 U	1.0 U	1.0 U	0.10 U	1.0 U	0.25 U	0.10 U
ICS-SA-MW1-GW-111312	NAPL	11/13/2012										
Trip Blank	water		VOC's trip/transport blank									
ICS-SA-MW1-NAPL-112712	NAPL	11/27/2012	results in µg/kg									

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Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Groundwater & NAPL Analyses, November 2012

Field I.D.	Matrix	Collection Date	Comments	Carbazole	Anthracene	Di-n-butyl-	Fluoranthene	Pyrene	Butylbenzyl-	Benzo(a)-	bis (2-Ethylhexyl)-	Chrysene	Di-n-octyl-
				86-74-8	120-12-7	phthalate	206-44-0	129-00-0	phthalate	anthracene	phthalate	218-01-9	phthalate
				<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>
ICS-DOF-MW1-GW-110812	grd water	11/8/2012		1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U
ICS-DOF-MW2-GW-110812	grd water	11/8/2012		1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U
ICS-DOF-MW3-GW-110812	grd water	11/8/2012		1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U
ICS-DOF-MW4-GW-110812	grd water	11/8/2012		1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U
ICS-DOF-MW5-GW-110812	grd water	11/8/2012		1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	1.6 J	0.10 U	1.0 U
ICS-DOF-MW6-GW-110912	grd water	11/9/2012		1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U
ICS-DUP-GW-110912	grd water	11/9/2012	dup. of DOF-MW6	1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U
ICS-DOF-MW7-GW-110912	grd water	11/9/2012		1.0 U	0.07 J	1.0 U	0.09 J	0.08 J	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U
ICS-DOF-MW8-GW-110912	grd water	11/9/2012		1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U
ICS-SA-MW2-GW-110912	grd water	11/9/2012		1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U
ICS-HC-B1-GW-111312	grd water	11/13/2012		1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U
ICS-SA-MW3-GW-111312	grd water	11/13/2012		1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	1.0 U	0.10 U	3.0 U	0.10 U	1.0 U
ICS-SA-MW1-GW-111312	NAPL	11/13/2012											
Trip Blank	water		VOC's trip/transport blank										
ICS-SA-MW1-NAPL-112712	NAPL	11/27/2012	results in µg/kg										

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Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Groundwater & NAPL Analyses, November 2012

Field ID.	Matrix	Collection Date	Comments	total Benzo-	Benzo(a)-	Indeno(1,2,3-	Dibenz(a,h)-	Benzo(g,h,i)-	LPAH	HPAH	alpha-BHC	beta-BHC	delta-BHC
				fluoranthenes	pyrene 50-32-8	cd)pyrene 193-39-5	anthracene 53-70-3	perylene 191-24-2			319-84-6	319-85-7	319-86-8
				<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>	<u>µg/L</u>
ICS-DOF-MW1-GW-110812	grd water	11/8/2012		0.20 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.050 U	0.050 U	0.050 U
ICS-DOF-MW2-GW-110812	grd water	11/8/2012		0.20 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.050 U	0.050 U	0.050 U
ICS-DOF-MW3-GW-110812	grd water	11/8/2012		0.20 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.050 U	0.050 U	0.050 U
ICS-DOF-MW4-GW-110812	grd water	11/8/2012		0.20 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.050 U	0.050 U	0.050 U
ICS-DOF-MW5-GW-110812	grd water	11/8/2012		0.20 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.050 U	0.050 U	0.050 U
ICS-DOF-MW6-GW-110912	grd water	11/9/2012		0.20 U	0.10 U	0.10 U	0.10 U	0.10 U	0.93	0.20 U	0.050 U	0.050 U	0.050 U
ICS-DUP-GW-110912	grd water	11/9/2012	dup. of DOF-MW6	0.20 U	0.10 U	0.10 U	0.10 U	0.10 U	0.76	0.20 U			
ICS-DOF-MW7-GW-110912	grd water	11/9/2012		0.20 U	0.10 U	0.10 U	0.10 U	0.10 U	3.23	0.17	0.050 U	0.050 U	0.22 U
ICS-DOF-MW8-GW-110912	grd water	11/9/2012		0.20 U	0.10 U	0.10 U	0.10 U	0.10 U	0.17	0.20 U	0.050 U	0.050 U	0.050 U
ICS-SA-MW2-GW-110912	grd water	11/9/2012		0.20 U	0.10 U	0.10 U	0.10 U	0.10 U	0.16	0.20 U	0.050 U	0.050 U	0.050 U
ICS-HC-B1-GW-111312	grd water	11/13/2012		0.20 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.050 U	0.050 U	0.050 U
ICS-SA-MW3-GW-111312	grd water	11/13/2012		0.20 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.20 U	0.050 U	0.050 U	0.050 U
ICS-SA-MW1-GW-111312	NAPL	11/13/2012											
Trip Blank	water		VOC's trip/transport blank										
ICS-SA-MW1-NAPL-112712	NAPL	11/27/2012	results in µg/kg										

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Groundwater & NAPL Analyses, November 2012

Field I.D.	Matrix	Collection Date	Comments	gamma-BHC	Heptachlor	Aldrin	Heptachlor	Endosulfan I	Dieldrin	4,4'-DDE	Endrin	Endosulfan II	4,4'-DDD
				(Lindane) 58-89-9 µg/L	76-44-8 µg/L	309-00-2 µg/L	1024-57-3 µg/L	959-98-8 µg/L	60-57-1 µg/L	72-55-9 µg/L	72-20-8 µg/L	33213-65-9 µg/L	72-54-8 µg/L
ICS-DOF-MW1-GW-110812	grd water	11/8/2012		0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
ICS-DOF-MW2-GW-110812	grd water	11/8/2012		0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
ICS-DOF-MW3-GW-110812	grd water	11/8/2012		0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
ICS-DOF-MW4-GW-110812	grd water	11/8/2012		0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
ICS-DOF-MW5-GW-110812	grd water	11/8/2012		0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
ICS-DOF-MW6-GW-110912	grd water	11/9/2012		0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
ICS-DUP-GW-110912	grd water	11/9/2012	dup. of DOF-MW6										
ICS-DOF-MW7-GW-110912	grd water	11/9/2012		0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
ICS-DOF-MW8-GW-110912	grd water	11/9/2012		0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
ICS-SA-MW2-GW-110912	grd water	11/9/2012		0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
ICS-HC-B1-GW-111312	grd water	11/13/2012		0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
ICS-SA-MW3-GW-111312	grd water	11/13/2012		0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
ICS-SA-MW1-GW-111312	NAPL	11/13/2012											
Trip Blank	water		VOC's trip/transport blank										
ICS-SA-MW1-NAPL-112712	NAPL	11/27/2012	results in µg/kg										

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Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Groundwater & NAPL Analyses, November 2012

Field I.D.	Matrix	Collection Date	Comments	Endosulfan	4,4'-DDT	Methoxychlor	Endrin	Endrin	trans-	cis-	Hexachloro-	Hexachloro-
				sulfate 1031-07-8 µg/L	50-29-3 µg/L	72-43-5 µg/L	ketone 53494-70-5 µg/L	aldehyde 7421-93-4 µg/L	Chlordane 5103-74-2 µg/L	Chlordane 5103-71-9 µg/L	benzene 118-74-1 µg/L	butadiene 87-68-3 µg/L
ICS-DOF-MW1-GW-110812	grd water	11/8/2012		0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.050 U
ICS-DOF-MW2-GW-110812	grd water	11/8/2012		0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.050 U
ICS-DOF-MW3-GW-110812	grd water	11/8/2012		0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.050 U
ICS-DOF-MW4-GW-110812	grd water	11/8/2012		0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.050 U
ICS-DOF-MW5-GW-110812	grd water	11/8/2012		0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.050 U
ICS-DOF-MW6-GW-110912	grd water	11/9/2012		0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.050 U
ICS-DUP-GW-110912	grd water	11/9/2012	dup. of DOF-MW6									
ICS-DOF-MW7-GW-110912	grd water	11/9/2012		0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.050 U
ICS-DOF-MW8-GW-110912	grd water	11/9/2012		0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.050 U
ICS-SA-MW2-GW-110912	grd water	11/9/2012		0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.050 U
ICS-HC-B1-GW-111312	grd water	11/13/2012		0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.050 U
ICS-SA-MW3-GW-111312	grd water	11/13/2012		0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.050 U
ICS-SA-MW1-GW-111312	NAPL	11/13/2012										
Trip Blank	water		VOC's trip/transport blank									
ICS-SA-MW1-NAPL-112712	NAPL	11/27/2012	results in µg/kg									

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Groundwater & NAPL Analyses, November 2012

Field ID.	Matrix	Collection Date	Comments	Aroclor 1016	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1221	Aroclor 1232	total PCBs
				12674-11-2 µg/L	53469-21-9 µg/L	12672-29-6 µg/L	11097-69-1 µg/L	11096-82-5 µg/L	11104-28-2 µg/L	11141-16-5 µg/L	
ICS-DOF-MW1-GW-110812	grd water	11/8/2012		0.010 U	0.010 U	0.12	0.16	0.14	0.010 U	0.010 U	0.42
ICS-DOF-MW2-GW-110812	grd water	11/8/2012		0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
ICS-DOF-MW3-GW-110812	grd water	11/8/2012		0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
ICS-DOF-MW4-GW-110812	grd water	11/8/2012		0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
ICS-DOF-MW5-GW-110812	grd water	11/8/2012		0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
ICS-DOF-MW6-GW-110912	grd water	11/9/2012		0.010 U	0.010 U	0.12 U	0.062 U	0.068	0.010 U	0.010 U	0.12 U
ICS-DUP-GW-110912	grd water	11/9/2012	dup. of DOF-MW6	0.010 U	0.010 U	0.088 U	0.050 U	0.052	0.010 U	0.010 U	0.088 U
ICS-DOF-MW7-GW-110912	grd water	11/9/2012		0.010 U	0.10	0.010 U	0.028	0.012	0.010 U	0.010 U	0.14
ICS-DOF-MW8-GW-110912	grd water	11/9/2012		0.010 U	0.010 U	0.033	0.029	0.017	0.010 U	0.010 U	0.079
ICS-SA-MW2-GW-110912	grd water	11/9/2012		0.010 U	0.063	0.010 U	0.036	0.016	0.010 U	0.010 U	0.12
ICS-HC-B1-GW-111312	grd water	11/13/2012		0.010 U	0.052	0.010 U	0.012 U	0.010 U	0.010 U	0.010 U	0.052
ICS-SA-MW3-GW-111312	grd water	11/13/2012		0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
ICS-SA-MW1-GW-111312	NAPL	11/13/2012									
Trip Blank	water		VOC's trip/transport blank								
ICS-SA-MW1-NAPL-112712	NAPL	11/27/2012	results in µg/kg	100,000 U	100,000 U	1,000,000	470,000	200,000	100,000 U	100,000 U	1,670,000 µg/kg

U = nondetected at the associated lower reporting limit.



D.M.D., Inc.

Environmental & Toxicological Services

13706 SW Caster Road, Vashon, WA 98070-7428 (206) 463-6223 fax: (206) 463-4013

MEMORANDUM

TO: Matt Dalton (DOF)
FROM: Raleigh Farlow
DATE: January 18, 2013
SUBJECT: Data Evaluation/Assessment for 41 Subsurface Sediment Samples Collected during November-December 2012 from the ICS / [former] NW Cooperage Site, Seattle, WA

Seventy subsurface sediment samples were collected from 13 sediment cores by Dalton, Olmsted & Fuglevand (DOF) staff during November 26-30 and December 10 of 2012 for the evaluation of sediment quality. All sediment samples were delivered in four delivery groups to Analytical Resources Inc. (ARI) of Tukwila, Washington within nine days of collection. Samples held for up to nine days were received at temperatures between 0.6 and 4.0 degrees C, and one sample received within an hour of collection was received at ambient temperature. All samples were maintained at the project laboratory at 4 degrees C prior to analyses. No chemical preservatives were specified nor required.

Sample collection, handling, and analyses were conducted in accordance with the project sampling and analysis plan (SAP) (*Sampling and Analysis Plan to Complete Remedial Investigation Sampling ICS / Former NW Cooperage Site, Seattle, Washington*, prepared by DOF, February 2012). All analyses were performed by methods presented in Table SAP-3 of the SAP.

grain size	ASTM D422/D421	Atterberg limits	ASTM D4318
bulk density	ASTM D7263	moisture content	ASTM D2216
TOC	Plumb, 1981 (PSEP)	SVOC's	SW846-M.8270
SVOC's (selected)	M.8270D-SIM	chlor. pesticides	SW846-M.8081
PCB's as Aroclors	SW846-M.8082	metals (exc Hg)	SW846-M.6020A
TBT	Krone/8270-SIM	Hg	SW846-M.7471A
total petroleum HC's	NWTPH-Dx		

Atterberg limits are not reported in the attached data/results table. Semivolatile organic compound (SVOC's) analyses were performed by SW846 M.8270 in full-scan mode, and selected analytes were further analyzed and reported from analyses performed in the (M.8270D) SIM (selected ion monitoring) mode to improve/lower the reporting limits. These selected analytes include 1,4-dichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,2,4-trichlorobenzene, 2-methylphenol, 2,4-dimethylphenol, N-nitrosodiphenylamine (as diphenylamine), benzyl alcohol, butylbenzylphthalate, and pentachlorophenol. Results for detected analytes were reported from the full-scan analyses or from the mode that yielded non-

qualified data. For nondetected analytes, the lowest reporting limit between the two analytical modes was reported in the attached results table; generally from the SIM mode of analyses.

Samples were relinquished by DOF under chain-of-custody (C-O-C) procedure. All analyses for parameters reported in the attached results table were completed within the technical holding time requirements identified in the project SAP (table SAP-2) and/or within the recommended maximum holding times recommended by the U.S. EPA. Sample holding times/conditions are determined to be within acceptable technical limits and/or within SAP specifications.

Generally, [lower] **reporting limits** were consistent with specified-limits presented in the SAP (table SAP-3) and achieved the sediment PQL goals when contaminant levels allowed it. Exceptions are noted principally for organic compound analytes due to presence of chemical interferences and elevated levels of other target analytes. Specifically, samples B-SE-3, G-SE-5, I-SE-3, and DSS-01-SE required extract dilutions due to elevated levels of organic contaminants resulting in the elevation of some analyte nondetection reporting limits. Sample G-SE-5, for example, exhibited elevated levels of both target analytes and petroleum hydrocarbons necessitating extract dilutions in order to prevent instrumental overloading. Most of the elevated nondetects for the chlorinated pesticides are due to chemical interferences and elevated PCB's for samples B-SE-3, G-SE-5, H-SE-3, and DSS-01-SE. Considerable effort was made by the analysts to achieve the specified lower reporting limits when the sample matrix and chemical interferences would allow it. Analyte concentrations reported at less than the lower reporting limit or the established linear concentration range are qualified as estimated with the "J" qualifier code.

Method blanks were analyzed and reported for all analytical parameters and groups (analytical groups are ≤ 20 samples). All method blanks reported nondetects, with the exception of *bis*(2-ethylhexyl)phthalate in three analytical groups at 26, 44, and 15 $\mu\text{g}/\text{kg}$, and 1,3-dichlorobenzene in group VV01 by M.8270-SIM at 6.3 $\mu\text{g}/\text{kg}$. *bis*(2-Ethylhexyl)phthalate and 1,3-dichlorobenzene results were qualified as estimated with potential positive bias with the "J_B" qualifier code when results have the potential to be significantly impacted by laboratory background levels. *bis*(2-Ethylhexyl)phthalate and 1,3-dichlorobenzene values were qualified as estimated when the results were less than or equal to 2x the associated method blank values. Seventeen sample results were sufficiently low to require "J_B" qualification. No other data required qualification due to method blanks performance.

No field equipment **rinse blanks** were specified in the project SAP nor were any collected.

Laboratory control sample (**LCS/LCSD**) and matrix spike (**MS/MSD**) recoveries were within acceptable ranges for most analytes. Some recoveries were nonevaluable due to high native levels of analyte interfering with [low] spike levels, such as lead (Pb), nickel (Ni), and zinc (Zn) in sample DSS-01-SE. δ -BHC recoveries were typically reported lower than specified for LCS/LCSD's at 52.5%, 52.0%, 38.8% and 39.2%. MS/MSD recoveries for δ -BHC were within acceptable limits with the exception of a single pair in sample M-SE-3 at 39.4% and 42.0%. No δ -BHC or any other BHC's were detected in any project samples; no associated results required qualification. Endrin aldehyde exhibited the lowest MS/MSD recoveries in sample F-SE-8 outside advisory limits at 41.3% and 39.9%. LCS/LCSD recoveries for endrin aldehyde are

within specification. No significant adverse effect on data quality is anticipated as a consequence – no endrin aldehyde was detected in any project samples. The MS recovery for TOC was outside of specification high in H-SE-4 at 133.7% - no significant adverse effect on sample results is expected. MS recoveries for metals in sample DSS-01-SE are highly variable (from nonmeasurable for lead due to high native levels and up to 170% in the case of chromium) and attributed to the high heterogeneity of the sample matrix. Variability associated with duplicate analyses for DSS-01-SE exhibited RPD's up to 120 in the case of silver, and 87.5 for copper. Antimony (Sb) matrix spike recoveries are reported consistently low in samples A-SE-4, H-SE-4, and DSS-01-SE at 2.1%, 4.7% and 20.8%, respectively. Sb LCS recoveries are determined to be acceptable. This behavior for Sb is typical due to formation of Sb-SiO₄ complexes in the presence of soil minerals; however, positive hits for Sb are thus qualified with the "J_R" qualifier code to indicate results are considered estimates (biased low) due to low matrix spike recoveries. Recoveries of spike analytes for all analyses were determined to be acceptable, with the exceptions noted above for antimony, requiring qualification of associated results as estimates with the "J_R" code.

Surrogate compound recoveries (for organic analytes) were evaluated for SVOC's, TPH-Dx, tributyl tin, chlorinated pesticides (including hexachlorobutadiene [HCBd] and hexachlorobenzene [HCB]), and PCB's. Tetrachloro-*meta*-xylene (TCMX) and decachlorobiphenyl (DCBP) were utilized as the surrogates for evaluation of chlorinated pesticides and PCB's analytical performance. Tributyl tin recovery performance is evaluated by the use of tripropyl and triphenyl tin chlorides. *o*-Terphenyl was utilized as the surrogate for the TPH-Dx analyses. SVOC (M.8270 full scan) recoveries were evaluated with the use of four labeled phenols and four labeled neutral compounds, while the SIM analyses recoveries were evaluated with the surrogates 2-fluorophenol and d₁₄-*p*-terphenyl. All surrogate compound performances were within specification with some minor exceptions. The PCB's surrogate, TCMX, in J-SE-5 reported 116%, which does not adversely affect the nondetected results for the sample. The PCB's surrogate, DCBP, in L-SE-2 reported 136%, which is attributed to small additional contributions from elevated levels of [native] Aroclor 1260 (Aroclor 1260 contains small amounts of DCBP). The TPH-Dx surrogate, *o*-terphenyl, exhibited slightly low recoveries (46.7%) in sample M-SE-2 (acceptance range = 50-150% recovery). The analytical group (VV10) MS/MSD performance for TPH-Dx was evaluated on M-SE-2, which yielded acceptable and within specification recoveries. Consequently, the noncompliant (slightly low) surrogate recovery is considered sufficiently minor to not require qualification of associated TPH-Dx results. No qualification of results was required due to surrogate compounds performance.

SVOC continuing calibration verification (CCV) checks revealed lowered responses for phenol (VV01 & VV10), 2-methylphenol (VV01 & VV10), 4-methylphenol (VV10), N-nitrosodi-n-propylamine (VV01 & VV10), isophorone (VV01), and carbazole (VV01), and elevated responses for 2,4,5-trichlorophenol (VV01 & VV10), benzyl alcohol (VW14), benzoic acid (VW14) and pentachlorophenol (VV01, VV10 & VW14 by M.8270-SIM). Reported data for detected analytes associated with noncompliant CCV's are qualified as estimates with the "J_Q" code, even though the data quality by other measures, such as LCS/LCSD and MS/MSD performance, is within acceptance limits. Affected [detected] results are for phenol, 4-methylphenol and pentachlorophenol in selected samples. The closing DDT breakdown/degradation check for group VV01 was noncompliant, while the closing DDT

CCV/CCAL was within specification. This is expected to have minimal adverse effect on data quality for the DDT class of analytes.

Two pairs of blind **field duplicate** samples were collected and submitted for analyses for the assessment of monitoring variability for TOC, metals and total PCB's. Duplicate pairs are identified in the attached table of sample results. Variability in terms of relative percent difference (RPD) for all parameters generally averaged less than 20% for duplicate pairs. Greatest RPDs (up to 24 & 39) were observed for total PCB's. Laboratory duplicate analyses were generally less than 20 RPD (within SAP specifications) for all parameters, with the exception of metals in sample DSS-01-SE. DSS-01-SE exhibited high replicate variability for metals (replicate analyses were not performed for other parameters); metals exceeding an RPD of 20 are Cr at 64.6 RPD, 87.5 for Cu, 51.9 for Ni and 120 for silver (0.2 mg/kg U and 0.8 mg/kg for Ag). Sample DSS-01-SE exhibits unusually high heterogeneity. Grain size triplicate analyses yielded acceptable performance.

TPH-Dx analyses indicate the principal recognizable pattern is associated with unresolved complex mixtures (UCM's) typically associated with weathered diesel fuel (or heating oil) and lubricant petroleum hydrocarbons. Bold type values are associated with the patterns that most likely identify the hydrocarbon mixture present, such as [weathered] diesel fuel and/or motor/lubricant oil. No unweathered or moderately weathered diesel fuel patterns were found, only severely weathered diesel range and lubricant-like hydrocarbons were found and highlighted in bold in the attached results table.

Dual-column analyses were performed for chlorinated pesticides (M.8081) and PCB's (M.8082), as specified. Variability in responses between the two columns is specified to be less than 40% RPD for compound identification and assignment. In some cases, however, the analyst has determined that the analyte is likely present, even though the variability in responses exceeds the criterion of < 40%. 4,4'-DDE was determined to be likely present and at estimated concentrations for several project samples, even though the 40%-criterion was not met. In these cases, estimated concentrations (by M.8081) of DDE are reported in the attached results table with the associated "J_P" qualifier code.

Excess variability was exhibited in the total solids determinations for sample G-SE-6. Three separate determinations of total solids reported 57.1% (for SVOC's), 62.8% (for metals) and 80.1% (for conventionals/TOC). The mean for the SVOC's and metals determinations of 60% is reported in the attached results table. A potential inconsistency was observed in the fluoranthene and pyrene relative concentrations for sample G-SE-5. A review of the laboratory instrumental raw data indicates the concentrations are accurately reported based on the instrumental responses.

Sample results reported here are determined to be in general compliance with method and SAP requirements. Most deviations of data quality from SAP and method specifications are associated with generally elevated levels of multiple contaminants in site sediments. All reported data for sediment samples (attached) are considered usable for the intended purposes of the project.

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Subsurface Sediment Analyses, November - December 2012

Field I.D.	Matrix	Collection Date	Comments	Lab I.D.	% solids	Wet density	Moisture content	Dry density	TOC	Antimony	Arsenic	Beryllium	Cadmium	Chromium
					%	lb/ft ³	%	lb/ft ³	%	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry
ICS-A-SE-1-112612	sediment	11/26/2012	mid = 0.4'	1223977-VV01U										
ICS-A-SE-2-112612	sediment	11/26/2012	mid = 1.3'	1223970-VV01N	76				1.37	0.3 U	11.5	0.3 U	0.3	19.5
ICS-A-SE-3-112612	sediment	11/26/2012	mid = 2.7'	1223978-VV01V										
ICS-A-SE-4-112612	sediment	11/26/2012	mid = 3.9'	1223957-VV01A	61				2.77	0.3 U	9.7	0.4	0.2	21.5
ICS-A-SE-5-112612	sediment	11/26/2012	mid = 5.1'	1223958-VV01B	66				1.61	0.3 U	6.5	0.5	0.1 U	22
ICS-A-SE-6-112612	sediment	11/26/2012	mid = 6.3'	1223979-VV01W										
ICS-A-SE-7-112612	sediment	11/26/2012	mid = 7.2'	1223980-VV01X										
ICS-B-SE-1-112712	sediment	11/27/2012	mid = 1.1'	1223971-VV01O	65				0.775	0.3 U	19.8	0.3 U	0.2 U	22.7
ICS-B-SE-2-112712	sediment	11/27/2012	mid = 2.2'	1223981-VV01Y										
ICS-B-SE-3-112712	sediment	11/27/2012	mid = 3.3'	1223959-VV01C	49				3.96	0.8 J_R	31.1	0.4 U	5.4	153
ICS-B-SE-4-112712	sediment	11/27/2012	mid = 4.4'	1223982-VV01Z										
ICS-B-SE-5-112712	sediment	11/27/2012	mid = 5.5'	1223960-VV01D	61				3.64	0.3 U	7.7	0.5	0.2	24
ICS-B-SE-6-112712	sediment	11/27/2012	mid = 6.6'	1223983-VV01AA		100.6	65.8	60.7						
ICS-C-SE-1-112712	sediment	11/27/2012	mid = 0.5'	1223984-VV01AB										
ICS-C-SE-2-112712	sediment	11/27/2012	mid = 2.3'	1223972-VV01P	73				0.894	0.3 U	5.6	0.3 U	0.1 U	11.0
ICS-C-SE-3-112712	sediment	11/27/2012	mid = 3.3'	1223961-VV01E	62				2.29	0.3 U	7.3	0.4	0.1	18.9
ICS-C-SE-4-112712	sediment	11/27/2012	mid = 4.4'	1223962-VV01F	80				1.57	0.2 U	4.1	0.2 U	0.1 U	10.8
ICS-D-SE-1-112712	sediment	11/27/2012	mid = 0.7'	1223985-VV01AC										
ICS-D-SE-2-112712	sediment	11/27/2012	mid = 2.1'	1223973-VV01Q	66				6.91	1.1 J_R	15.1	0.3 U	8.8	431
ICS-D-SE-3-112712	sediment	11/27/2012	mid = 3.8'	1223963-VV01G	65				2.07	0.3 U	8.7	0.4	0.2	25
ICS-D-SE-4-112712	sediment	11/27/2012	mid = 5.3'	1223964-VV01H	62				2.70	0.3 U	8.8	0.6	0.2	27
ICS-D-SE-5-112712	sediment	11/27/2012	mid = 6.7'	1223986-VV01AD										
ICS-F-SE-1-112712	sediment	11/27/2012	mid = 0.5'	1223987-VV01AE										
ICS-F-SE-2-112712	sediment	11/27/2012	mid = 1.7'	1223988-VV01AF										
ICS-F-SE-3-112712	sediment	11/27/2012	mid = 3.1'	1223989-VV01AG										
ICS-F-SE-3-121012	sediment	12/10/2012	mid = 3.1'	1224451-VV82A		99.5	70.8	58.3						
ICS-F-SE-4-112712	sediment	11/27/2012	mid = 4.5'	1223990-VV01AH										
ICS-F-SE-5-112712	sediment	11/27/2012	mid = 5.8'	1223974-VV01R	60				2.67	0.3 U	11.2	0.5	0.2	24.4
ICS-F-SE-6-112712	sediment	11/27/2012	mid = 7.0'	1223991-VV01AI										
ICS-F-SE-7-112712	sediment	11/27/2012	mid = 8.3'	1223965-VV01I	66				1.26	0.3 U	5.8	0.4	0.1 U	18.4
ICS-F-SE-8-112712	sediment	11/27/2012	mid = 9.7'	1223966-VV01J	76	115.7	28.5	90.1	0.436	0.3 U	2.0	0.3 U	0.1 U	12.2
ICS-F-SE-9-112712	sediment	11/27/2012	mid = 10.9'	1223992-VV01AJ										
ICS-G-SE-1-112812	sediment	11/28/2012	mid = 0.6'	1223993-VV01AK										
ICS-G-SE-2-112812	sediment	11/28/2012	mid = 1.8'	1223994-VV01AL										
ICS-G-SE-3-112812	sediment	11/28/2012	mid = 3.0'	1223975-VV01S	63				1.78	0.3 U	11.9	0.5	0.5	23.7
ICS-DUP1-SE-112812	sediment	11/28/2012	dup. of G-SE-3	1224067-VV10Q	61				1.32	0.3 U	10.1	0.5	0.5	22.5
ICS-G-SE-4-112812	sediment	11/28/2012	mid = 4.1'	1223995-VV01AM										
ICS-G-SE-5-112812	sediment	11/28/2012	mid = 5.1'	1223967-VV01K	58				1.85	0.3 U	24.9	0.4	2.6	112
ICS-G-SE-6-112812	sediment	11/28/2012	mid = 6.8'	1223968-VV01L	60				1.60	0.3 U	11.6	0.5	0.3	23.0
ICS-H-SE-1-112812	sediment	11/28/2012	mid = 0.4'	1223996-VV01AN										
ICS-H-SE-2-112812	sediment	11/28/2012	mid = 1.7'	1223976-VV01T	79				2.00	0.2 U	4.7	0.3	0.5	59.7
ICS-H-SE-3-112812	sediment	11/28/2012	mid = 3.3'	1223969-VV01M	69				3.41	0.2 U	7.2	0.2 U	1.3	96.4

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Field I.D.	Matrix	Collection Date	Comments	Lab I.D.	% solids	Wet density	Moisture content	Dry density	TOC	Antimony	Arsenic	Beryllium	Cadmium	Chromium
					%	lb/ft ³	%	lb/ft ³	%	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry
ICS-H-SE-4-112812	sediment	11/28/2012	mid = 4.7'	1224051-VV10A	74				0.856	0.3 U	2.7	0.3 U	0.1 U	14.0
ICS-I-SE-1-112812	sediment	11/28/2012	mid = 0.9'	1224069-VV10S										
ICS-I-SE-2-112812	sediment	11/28/2012	mid = 2.6'	1224062-VV10L	70				3.13	0.3	10.1	0.3	0.4	24.9
ICS-I-SE-3-112812	sediment	11/28/2012	mid = 4.2'	1224052-VV10B	58	96.2	84.7	52.1	2.28	0.3 U	6.6	0.4	0.2	18.4
ICS-I-SE-4-112812	sediment	11/28/2012	mid = 5.9'	1224070-VV10T										
ICS-I-SE-5-112812	sediment	11/28/2012	mid = 7.8'	1224053-VV10C	67	114	35.6	84.1	1.02	0.3 U	5.1	0.3 U	0.1 U	14.4
ICS-I-SE-6-112812	sediment	11/28/2012	mid = 9.5'	1224071-VV10U										
ICS-J-SE-1-112812	sediment	11/28/2012	mid = 0.8'	1224072-VV10V										
ICS-J-SE-2-112812	sediment	11/28/2012	mid = 2.6'	1224073-VV10W										
ICS-J-SE-3-112812	sediment	11/28/2012	mid = 4.9'	1224063-VV10M	56				2.31	0.4 U	26.0	0.5	2.2	64.4
ICS-J-SE-4-112812	sediment	11/28/2012	mid = 6.8'	1224074-VV10X										
ICS-J-SE-5-112812	sediment	11/28/2012	mid = 8.5'	1224054-VV10D	67				1.33	0.3 U	5.6	0.3	0.1 U	15.3
ICS-J-SE-6-112812	sediment	11/28/2012	mid = 10.4'	1224055-VV10E	63				1.55	0.3 U	7.2	0.4	0.1 U	17.8
ICS-K-SE-1-113012	sediment	11/30/2012	mid = 0.7'	1224075-VV10Y										
ICS-K-SE-2-113012	sediment	11/30/2012	mid = 2.2'	1224064-VV10N	57				2.37	0.3 U	11.3	0.3 U	2.5	52.4
ICS-DUP2-SE-113012	sediment	11/30/2012	dup. of K-SE-2	1224068-VV10R	57				2.03	0.3 U	12.6	0.3 U	1.5	59.3
ICS-K-SE-3-113012	sediment	11/30/2012	mid = 3.8'	1224076-VV10Z										
ICS-K-SE-4-113012	sediment	11/30/2012	mid = 5.5'	1224056-VV10F	60				2.31	0.3 U	21.0	0.4	1.6	45.2
ICS-K-SE-5-113012	sediment	11/30/2012	mid = 7.0'	1224057-VV10G	73				1.83	0.3 U	6.9	0.3	0.1 U	14.9
ICS-L-SE-1-113012	sediment	11/30/2012	mid = 0.7'	1224077-VV10AA										
ICS-L-SE-2-113012	sediment	11/30/2012	mid = 1.9'	1224065-VV10O	74				1.66	0.3 U	6.3	0.3 U	0.4	23.6
ICS-L-SE-3-113012	sediment	11/30/2012	mid = 3.5'	1224058-VV10H	62				1.55	0.3 U	7.1	0.3	0.3	17.9
ICS-L-SE-4-113012	sediment	11/30/2012	mid = 5.0'	1224059-VV10I	70				1.44	0.3 U	6.2	0.3	0.1 U	18.4
ICS-L-SE-5-113012	sediment	11/30/2012	mid = 6.7'	1224078-VV10AB										
ICS-M-SE-1-113012	sediment	11/30/2012	mid = 0.6'	1224066-VV10P	66				2.55	0.3 U	7.7	0.3	0.4	21.7
ICS-M-SE-2-113012	sediment	11/30/2012	mid = 1.6'	1224060-VV10J	84				2.95	0.2 U	2.9	0.2 U	0.1 U	13.0
ICS-M-SE-3-113012	sediment	11/30/2012	mid = 2.7'	1224061-VV10K	80				0.283	0.2 U	1.1	0.2 U	0.1 U	8.9
ICS-DSS-01-SE-121012	sediment	12/10/2012	surface	1224655-VV10A	77				2.65	0.5 J_R	61.1	0.2 U	0.3	35.2

J_R = estimate; due to low matrix spike recovery. Value likely biased low.

U = nondetected at the associated lower reporting limit.

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Field I.D.	Copper	Lead	Mercury	Nickel	Silver	Zinc	Total Petroleum Hydrocarbons **		Phenol	2-Chloro-phenol	1,3-Dichloro-benzene
	7440-50-8	7439-92-1	7439-97-6	7440-02-0	7440-22-4	7440-66-6	Diesel-range	Lube-range	108-95-2	95-57-8	541-73-1
	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry
ICS-A-SE-1-112612											
ICS-A-SE-2-112612	427	86.7	0.24	15.8	0.3 U	111	180	450			
ICS-A-SE-3-112612											
ICS-A-SE-4-112612	42.8	10.3	0.17	20.5	0.3 U	61	32	52	72 J _Q	20 U	4.9 J _B
ICS-A-SE-5-112612	33.7	10.6	0.12	17.9	0.3 U	52	29	43	34 J _Q	19 U	4.8 U
ICS-A-SE-6-112612											
ICS-A-SE-7-112612											
ICS-B-SE-1-112712	34.8	14.9	0.04	26.6	0.3 U	80	29	56			
ICS-B-SE-2-112712											
ICS-B-SE-3-112712	169	796	13.1	29	0.5	670	6700	7600	60 J _Q	57 U	94
ICS-B-SE-4-112712											
ICS-B-SE-5-112712	43.1	12.4	0.13	21.3	0.3 U	65	39	75	37 J _Q	20 U	20
ICS-B-SE-6-112712											
ICS-C-SE-1-112712											
ICS-C-SE-2-112712	36.0	13.1	0.04	8.3	0.3 U	31	34	57			
ICS-C-SE-3-112712	34.0	7.9	0.12	18.1	0.3 U	53	27	39	17 J	18 U	3.0 J
ICS-C-SE-4-112712	11.0	8.0	0.03	7.3	0.2 U	26	20	41	20 U	20 U	47
ICS-D-SE-1-112712											
ICS-D-SE-2-112712	254	4430	38.8	43.9	0.4	3240	12,000	9900			
ICS-D-SE-3-112712	41.3	28.3	2.05	21.1	0.3 U	79	39	64	24 J _Q	19 U	3.0 J
ICS-D-SE-4-112712	47.7	10.6	0.14	24.3	0.3 U	68	27	44	21 J _Q	20 U	5.0 U
ICS-D-SE-5-112712											
ICS-F-SE-1-112712											
ICS-F-SE-2-112712											
ICS-F-SE-3-112712											
ICS-F-SE-3-121012											
ICS-F-SE-4-112712											
ICS-F-SE-5-112712	50.9	17.4	0.17	22.7	0.3 U	66	40	49			
ICS-F-SE-6-112712											
ICS-F-SE-7-112712	33.7	11.5	0.09	17.9	0.3 U	54	17	26	13 J	20 U	4.9 U
ICS-F-SE-8-112712	14.2	2.1	0.02	10.8	0.3 U	28	6.5 U	13 U	18 U	18 U	4.6 U
ICS-F-SE-9-112712											
ICS-G-SE-1-112812											
ICS-G-SE-2-112812											
ICS-G-SE-3-112812	41.7	22.5	0.20	22.0	0.4	91	85	140			
ICS-DUP1-SE-112812	39.3	20.4	0.21	21.2	0.4	84	82	130			
ICS-G-SE-4-112812											
ICS-G-SE-5-112812	141	1340	0.49	49.0	0.6	840	6700	9600	110 U	110 U	38 J _B
ICS-G-SE-6-112812	65.3	33.9	0.20	24.2	0.3 U	81	73	120	18 J	19 U	4.8 U
ICS-H-SE-1-112812											
ICS-H-SE-2-112812	46.9	168	0.39	32.8	0.2 U	149	300	580			
ICS-H-SE-3-112812	61.3	936	4.85	19.8	0.2 U	377	1400	2000	20 J	26 U	210

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Field I.D.	Copper	Lead	Mercury	Nickel	Silver	Zinc	Total Petroleum Hydrocarbons **		Phenol	2-Chloro-phenol	1,3-Dichloro-benzene
	7440-50-8	7439-92-1	7439-97-6	7440-02-0	7440-22-4	7440-66-6	Diesel-range	Lube-range	108-95-2	95-57-8	541-73-1
	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry	mg/kg, dry	µg/kg, dry	µg/kg, dry	µg/kg, dry
ICS-H-SE-4-112812	18.1	6.5	0.04	10.5	0.3 U	37	28	50	19 U	19 U	10
ICS-I-SE-1-112812											
ICS-I-SE-2-112812	37.3	123	1.77	17.3	0.2 U	109	290	560			
ICS-I-SE-3-112812	41.4	25.4	0.30	16.6	0.3 U	60	76	130	57 U	57 U	14 U
ICS-I-SE-4-112812											
ICS-I-SE-5-112812	34.7	18.8	0.14	12.5	0.3 U	40	250	460	18 U	18 U	4.6 U
ICS-I-SE-6-112812											
ICS-J-SE-1-112812											
ICS-J-SE-2-112812											
ICS-J-SE-3-112812	61.1	224	0.29	20.2	0.9	201	1600	1400			
ICS-J-SE-4-112812											
ICS-J-SE-5-112812	25.3	13.7	0.11	13.1	0.3 U	44	33	62	13 J	19 U	4.7 U
ICS-J-SE-6-112812	43.6	22.4	0.11	16.3	0.3 U	56	41	58	10 J	19 U	4.8 U
ICS-K-SE-1-113012											
ICS-K-SE-2-113012	129	310	1.95	19.2	0.5	213	560	1200			
ICS-DUP2-SE-113012	115	364	2.32	21.6	0.6	261	530	1200			
ICS-K-SE-3-113012											
ICS-K-SE-4-113012	46.3	241	0.21	18.0	0.5	143	620	440	26 J _Q	20 U	5.0 U
ICS-K-SE-5-113012	25.1	17.7	0.12	13.2	0.3 U	46	28	55	20 U	20 U	4.9 U
ICS-L-SE-1-113012											
ICS-L-SE-2-113012	21.9	87.2	0.34	10.5	0.3 U	82	1200	1400			
ICS-L-SE-3-113012	44.3	62.0	0.63	14.0	0.3 U	89	77	120	17 J	20 U	4.9 U
ICS-L-SE-4-113012	29.5	11.9	0.31	17.0	0.3 U	52	24	42	11 J	19 U	4.8 U
ICS-L-SE-5-113012											
ICS-M-SE-1-113012	52.9	57.9	0.21	17.8	0.3 U	116	55	160			
ICS-M-SE-2-113012	16.8	23.7	0.04	10.1	0.2 U	48	16	29	20 U	20 U	4.9 U
ICS-M-SE-3-113012	8.0	1.9	0.3 U	7.4	0.2 U	21	6.1 U	12 U	19 U	19 U	4.7 U
ICS-DSS-01-SE-121012	96.3	69.8	0.17	35.8	0.2 U	125	84	550	35 J	58 U	14 U

J = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

** bold-typed values resemble corresponding petroleum hydrocarbon mixture

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Field I.D.	1,4-Dichloro- benzene 106-46-7 <u>µg/kg, dry</u>	Benzyl alcohol 100-51-6 <u>µg/kg, dry</u>	1,2-Dichloro- benzene 95-50-1 <u>µg/kg, dry</u>	2-Methyl- phenol 95-48-7 <u>µg/kg, dry</u>	4-Methyl- phenol 106-44-5 <u>µg/kg, dry</u>	N-Nitroso-di-n- propylamine 621-64-7 <u>µg/kg, dry</u>	Hexachloro- ethane 67-72-1 <u>µg/kg, dry</u>	Nitrobenzene 98-95-3 <u>µg/kg, dry</u>	Isophorone 78-59-1 <u>µg/kg, dry</u>	2,4-Dimethyl- phenol 105-67-9 <u>µg/kg, dry</u>	Benzoic acid 65-85-0 <u>µg/kg, dry</u>	2,4-Dichloro- phenol 120-83-2 <u>µg/kg, dry</u>
ICS-A-SE-1-112612												
ICS-A-SE-2-112612												
ICS-A-SE-3-112612												
ICS-A-SE-4-112612	3.0 J	130	6.5	5.5	57	20 U	20 U	20 U	20 U	15 J	620	200 U
ICS-A-SE-5-112612	2.9 J	130	10	3.8 J	25 J	19 U	19 U	19 U	19 U	4.6 J	400	190 U
ICS-A-SE-6-112612												
ICS-A-SE-7-112612												
ICS-B-SE-1-112712												
ICS-B-SE-2-112712												
ICS-B-SE-3-112712	300	57 U	97	14 J	110 U	57 U	57 U	57 U	57 U	58	1100 U	570 U
ICS-B-SE-4-112712												
ICS-B-SE-5-112712	22	150	22	4.1 J	28 J	20 U	20 U	20 U	20 U	5.4 J	440	200 U
ICS-B-SE-6-112712												
ICS-C-SE-1-112712												
ICS-C-SE-2-112712												
ICS-C-SE-3-112712	4.6 U	54	4.6 U	3.2 J	18 J	18 U	18 U	18 U	18 U	92	210 J	180 U
ICS-C-SE-4-112712	33	20 U	2.8 J	4.9 U	39 U	20 U	20 U	20 U	20 U	22	390 U	200 U
ICS-D-SE-1-112712												
ICS-D-SE-2-112712												
ICS-D-SE-3-112712	15	41	76	9.2	25 J	19 U	19 U	19 U	19 U	82	230 J	190 U
ICS-D-SE-4-112712	5.0 U	100	5.0 U	3.1 J	23 J	20 U	20 U	20 U	20 U	4.3 J	320 J	200 U
ICS-D-SE-5-112712												
ICS-F-SE-1-112712												
ICS-F-SE-2-112712												
ICS-F-SE-3-112712												
ICS-F-SE-3-121012												
ICS-F-SE-4-112712												
ICS-F-SE-5-112712												
ICS-F-SE-6-112712												
ICS-F-SE-7-112712	4.9 U	42	4.9 U	4.9 U	13 J	20 U	20 U	20 U	20 U	20 U	120 J	200 U
ICS-F-SE-8-112712	4.6 U	18 U	4.6 U	4.6 U	37 U	18 U	18 U	18 U	18 U	18 U	370 U	180 U
ICS-F-SE-9-112712												
ICS-G-SE-1-112812												
ICS-G-SE-2-112812												
ICS-G-SE-3-112812												
ICS-DUP1-SE-112812												
ICS-G-SE-4-112812												
ICS-G-SE-5-112812	140	110 U	29 U	29 U	230 U	110 U	110 U	110 U	110 U	58 J	2300 U	1100 U
ICS-G-SE-6-112812	4.8 U	61	3.2 J	2.6 J	25 J	19 U	19 U	19 U	19 U	4.9 J	170 J	190 U
ICS-H-SE-1-112812												
ICS-H-SE-2-112812												
ICS-H-SE-3-112812	1000	26 U	100	4.2 J	51 U	26 U	26 U	26 U	26 U	15 J	510 U	260 U

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Field I.D.	1,4-Dichloro- benzene 106-46-7 <u>µg/kg, dry</u>	Benzyl alcohol 100-51-6 <u>µg/kg, dry</u>	1,2-Dichloro- benzene 95-50-1 <u>µg/kg, dry</u>	2-Methyl- phenol 95-48-7 <u>µg/kg, dry</u>	4-Methyl- phenol 106-44-5 <u>µg/kg, dry</u>	N-Nitroso-di-n- propylamine 621-64-7 <u>µg/kg, dry</u>	Hexachloro- ethane 67-72-1 <u>µg/kg, dry</u>	Nitrobenzene 98-95-3 <u>µg/kg, dry</u>	Isophorone 78-59-1 <u>µg/kg, dry</u>	2,4-Dimethyl- phenol 105-67-9 <u>µg/kg, dry</u>	Benzoic acid 65-85-0 <u>µg/kg, dry</u>	2,4-Dichloro- phenol 120-83-2 <u>µg/kg, dry</u>
ICS-H-SE-4-112812	24	19 U	7.4	4.9 U	39 U	19 U	19 U	19 U	19 U	6.4 J	390 U	190 U
ICS-I-SE-1-112812												
ICS-I-SE-2-112812												
ICS-I-SE-3-112812	14 U	36 J	14 U	14 U	110 U	57 U	57 U	57 U	57 U	57 U	1100 U	570 U
ICS-I-SE-4-112812												
ICS-I-SE-5-112812	4.6 U	18 U	4.6 U	4.6 U	37 U	18 U	18 U	18 U	18 U	18 U	370 U	180 U
ICS-I-SE-6-112812												
ICS-J-SE-1-112812												
ICS-J-SE-2-112812												
ICS-J-SE-3-112812												
ICS-J-SE-4-112812												
ICS-J-SE-5-112812	4.7 U	27	4.7 U	2.4 J	42 J_Q	19 U	19 U	19 U	19 U	3.0 J	110 J	190 U
ICS-J-SE-6-112812	4.8 U	44	4.8 U	4.8 U	14 J	19 U	19 U	19 U	19 U	19 U	380 U	190 U
ICS-K-SE-1-113012												
ICS-K-SE-2-113012												
ICS-K-SE-3-113012												
ICS-K-SE-4-113012	2.7 J	57	5.0 U	3.7 J	34 J	20 U	20 U	20 U	20 U	11 J	170 J	200 U
ICS-K-SE-5-113012	4.9 U	20 U	4.9 U	4.9 U	39 U	20 U	20 U	20 U	20 U	20 U	390 U	200 U
ICS-L-SE-1-113012												
ICS-L-SE-2-113012												
ICS-L-SE-3-113012	4.9 U	25	4.9 U	3.7 J	28 J	20 U	20 U	20 U	20 U	6.4 J	390 U	200 U
ICS-L-SE-4-113012	4.8 U	27	4.8 U	7.1	38 J	19 U	19 U	19 U	19 U	3.5 J	390 U	190 U
ICS-L-SE-5-113012												
ICS-M-SE-1-113012												
ICS-M-SE-2-113012	4.9 U	20 U	4.9 U	4.9 U	39 U	20 U	20 U	20 U	20 U	20 U	390 U	200 U
ICS-M-SE-3-113012	4.7 U	19 U	4.7 U	4.7 U	38 U	19 U	19 U	19 U	19 U	19 U	380 U	190 U
ICS-DSS-01-SE-121012	14 U	58 U	14 U	14 U	70 J	58 U	58 U	58 U	58 U	29 J	1200 U	580 U

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J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

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Field I.D.	1,2,4-Trichloro- benzene 120-82-1 <u>µg/kg, dry</u>	Naphthalene 91-20-3 <u>µg/kg, dry</u>	4-Chloro-3- methylphenol 59-50-7 <u>µg/kg, dry</u>	2-Methyl- naphthalene 91-57-6 <u>µg/kg, dry</u>	2,4,6-Trichloro- phenol 88-06-2 <u>µg/kg, dry</u>	2,4,5-Trichloro- phenol 95-95-4 <u>µg/kg, dry</u>	2-Chloro- naphthalene 91-58-7 <u>µg/kg, dry</u>	Dimethyl- phthalate 131-11-3 <u>µg/kg, dry</u>	Acenaph- thylene 208-96-8 <u>µg/kg, dry</u>	Acenaphthene 83-32-9 <u>µg/kg, dry</u>	Dibenzo-furan 132-64-9 <u>µg/kg, dry</u>
ICS-A-SE-1-112612											
ICS-A-SE-2-112612											
ICS-A-SE-3-112612											
ICS-A-SE-4-112612	6.9	66	98 U	41	98 U	98 U	20 U	20 U	20 U	46	43
ICS-A-SE-5-112612	4.8 U	50	95 U	34	95 U	95 U	19 U	19 U	19 U	21	30
ICS-A-SE-6-112612											
ICS-A-SE-7-112612											
ICS-B-SE-1-112712											
ICS-B-SE-2-112712											
ICS-B-SE-3-112712	66	360	280 U	260	280 U	280 U	57 U	57 U	57 U	910	57 U
ICS-B-SE-4-112712											
ICS-B-SE-5-112712	4.9 U	57	97 U	44	97 U	97 U	20 U	20 U	20 U	29	39
ICS-B-SE-6-112712											
ICS-C-SE-1-112712											
ICS-C-SE-2-112712											
ICS-C-SE-3-112712	4.6 U	24	92 U	13 J	92 U	92 U	18 U	18 U	18 U	21	20
ICS-C-SE-4-112712	4.9 U	18 J	98 U	20 U	98 U	98 U	20 U	20 U	20 U	23	20 U
ICS-D-SE-1-112712											
ICS-D-SE-2-112712											
ICS-D-SE-3-112712	4.8 U	620	96 U	520	96 U	96 U	19 U	19 U	19	34	33
ICS-D-SE-4-112712	5.0 U	69	100 U	45	100 U	100 U	20 U	20 U	12 J	31	42
ICS-D-SE-5-112712											
ICS-F-SE-1-112712											
ICS-F-SE-2-112712											
ICS-F-SE-3-112712											
ICS-F-SE-3-121012											
ICS-F-SE-4-112712											
ICS-F-SE-5-112712											
ICS-F-SE-6-112712											
ICS-F-SE-7-112712	4.9 U	22	97 U	20	97 U	97 U	20 U	20 U	20 U	20 U	14 J
ICS-F-SE-8-112712	4.6 U	18 U	92 U	18 U	92 U	92 U	18 U	18 U	18 U	18 U	18 U
ICS-F-SE-9-112712											
ICS-G-SE-1-112812											
ICS-G-SE-2-112812											
ICS-G-SE-3-112812											
ICS-DUP1-SE-112812											
ICS-G-SE-4-112812											
ICS-G-SE-5-112812	29 U	380	570 U	220	570 U	570 U	110 U	110 U	110 U	330	91 J
ICS-G-SE-6-112812	4.8 U	84	96 U	40	96 U	96 U	19 U	19 U	34	34	35
ICS-H-SE-1-112812											
ICS-H-SE-2-112812											
ICS-H-SE-3-112812	36	190	130 U	91	130 U	130 U	26 U	26 U	26 U	240	86

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Field I.D.	1,2,4-Trichloro- benzene 120-82-1 <u>µg/kg, dry</u>	Naphthalene 91-20-3 <u>µg/kg, dry</u>	4-Chloro-3- methylphenol 59-50-7 <u>µg/kg, dry</u>	2-Methyl- naphthalene 91-57-6 <u>µg/kg, dry</u>	2,4,6-Trichloro- phenol 88-06-2 <u>µg/kg, dry</u>	2,4,5-Trichloro- phenol 95-95-4 <u>µg/kg, dry</u>	2-Chloro- naphthalene 91-58-7 <u>µg/kg, dry</u>	Dimethyl- phthalate 131-11-3 <u>µg/kg, dry</u>	Acenaph- thylene 208-96-8 <u>µg/kg, dry</u>	Acenaphthene 83-32-9 <u>µg/kg, dry</u>	Dibenzo-furan 132-64-9 <u>µg/kg, dry</u>
ICS-H-SE-4-112812	6.1	20	97 U	19 U	97 U	97 U	19 U	19 U	19 U	19 U	19 U
ICS-I-SE-1-112812											
ICS-I-SE-2-112812											
ICS-I-SE-3-112812	14 U	86	290 U	29 J	290 U	290 U	57 U	57 U	37 J	77	29 J
ICS-I-SE-4-112812											
ICS-I-SE-5-112812	4.6 U	23	92 U	11 J	92 U	92 U	18 U	18 U	18 U	520	23
ICS-I-SE-6-112812											
ICS-J-SE-1-112812											
ICS-J-SE-2-112812											
ICS-J-SE-3-112812											
ICS-J-SE-4-112812											
ICS-J-SE-5-112812	4.7 U	64	94 U	17 J	94 U	94 U	19 U	19 U	22	44	25
ICS-J-SE-6-112812	4.8 U	23	96 U	36	96 U	96 U	19 U	19 U	19 U	23	15 J
ICS-K-SE-1-113012											
ICS-K-SE-2-113012											
ICS-DUP2-SE-113012											
ICS-K-SE-3-113012											
ICS-K-SE-4-113012	5.0 U	100	100 U	140	100 U	100 U	20 U	20 U	20 U	62	34
ICS-K-SE-5-113012	4.9 U	83	98 U	21	98 U	98 U	20 U	20 U	28	80	28
ICS-L-SE-1-113012											
ICS-L-SE-2-113012											
ICS-L-SE-3-113012	4.9 U	160	98 U	39	98 U	98 U	20 U	20 U	51	66	48
ICS-L-SE-4-113012	4.8 U	71	97 U	38	97 U	97 U	19 U	19 U	22	23	32
ICS-L-SE-5-113012											
ICS-M-SE-1-113012											
ICS-M-SE-2-113012	4.9 U	20 U	98 U	20 U	98 U	98 U	20 U	20 U	20 U	20 U	20 U
ICS-M-SE-3-113012	4.7 U	19 U	94 U	19 U	94 U	94 U	19 U	19 U	19 U	19 U	19 U
ICS-DSS-01-SE-121012	14 U	52 J	290 U	38 J	290 U	290 U	58 U	58 U	58 U	260	67

J = estimate associated with value less than the verifiable lower quantitation limit.

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Field I.D.	2,6-Dinitro- toluene 606-20-2 <u>µg/kg, dry</u>	2,4-Dinitro- toluene 121-14-2 <u>µg/kg, dry</u>	Diethyl- phthalate 84-66-2 <u>µg/kg, dry</u>	4-Chlorophenyl- phenylether 7005-72-3 <u>µg/kg, dry</u>	Fluorene 86-73-7 <u>µg/kg, dry</u>	N-Nitrosodi- phenylamine 86-30-6 <u>µg/kg, dry</u>	Pentachloro- phenol 87-86-5 <u>µg/kg, dry</u>	Phenanthrene 85-01-8 <u>µg/kg, dry</u>	Carbazole 86-74-8 <u>µg/kg, dry</u>	Anthracene 120-12-7 <u>µg/kg, dry</u>	Di-n-butyl- phthalate 84-74-2 <u>µg/kg, dry</u>	Fluoranthene 206-44-0 <u>µg/kg, dry</u>
ICS-A-SE-1-112612												
ICS-A-SE-2-112612												
ICS-A-SE-3-112612												
ICS-A-SE-4-112612	98 U	98 U	49 U	20 U	51	20 U	18 J	180	13 J	45	20 U	200
ICS-A-SE-5-112612	95 U	95 U	37 J	19 U	33	11 J	48 U	110	19 U	22	19 U	92
ICS-A-SE-6-112612												
ICS-A-SE-7-112612												
ICS-B-SE-1-112712												
ICS-B-SE-2-112712												
ICS-B-SE-3-112712	280 U	280 U	140 U	57 U	450	57 U	800	400	57 U	600	57 U	2200
ICS-B-SE-4-112712												
ICS-B-SE-5-112712	97 U	97 U	60	20 U	45	6.6 J	49 U	140	20 U	26	20 U	120
ICS-B-SE-6-112712												
ICS-C-SE-1-112712												
ICS-C-SE-2-112712												
ICS-C-SE-3-112712	92 U	92 U	46 U	18 U	22	2.4 J	46 U	53	18 U	15 J	18 U	71
ICS-C-SE-4-112712	98 U	98 U	51	20 U	13 J	20 U	49 U	49	20 U	14 J	20 U	83
ICS-D-SE-1-112712												
ICS-D-SE-2-112712												
ICS-D-SE-3-112712	96 U	96 U	48 U	19 U	51	6.1 J	48 U	130	17 J	39	19 U	240
ICS-D-SE-4-112712	100 U	100 U	50 U	20 U	51	3.5 J	50 U	160	20 U	30	20 U	140
ICS-D-SE-5-112712												
ICS-F-SE-1-112712												
ICS-F-SE-2-112712												
ICS-F-SE-3-112712												
ICS-F-SE-3-121012												
ICS-F-SE-4-112712												
ICS-F-SE-5-112712												
ICS-F-SE-6-112712												
ICS-F-SE-7-112712	97 U	97 U	49 U	20 U	20	20 U	49 U	54	20 U	16 J	20 U	74
ICS-F-SE-8-112712	92 U	92 U	220	18 U	18 U	18 U	46 U	12 J	18 U	18 U	18 U	12 J
ICS-F-SE-9-112712												
ICS-G-SE-1-112812												
ICS-G-SE-2-112812												
ICS-G-SE-3-112812												
ICS-DUP1-SE-112812												
ICS-G-SE-4-112812												
ICS-G-SE-5-112812	570 U	570 U	290 U	110 U	1200	1800	880 J_Q	940	110 U	730	110 U	1600
ICS-G-SE-6-112812	96 U	96 U	48 U	19 U	52	9.6 J	48 U	170	13 J	59	19 U	250
ICS-H-SE-1-112812												
ICS-H-SE-2-112812												
ICS-H-SE-3-112812	130 U	130 U	64 U	26 U	490	260	190 J_Q	800	26 U	300	120	910

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
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Field I.D.	2,6-Dinitro- toluene 606-20-2 <u>µg/kg, dry</u>	2,4-Dinitro- toluene 121-14-2 <u>µg/kg, dry</u>	Diethyl- phthalate 84-66-2 <u>µg/kg, dry</u>	4-Chlorophenyl- phenylether 7005-72-3 <u>µg/kg, dry</u>	Fluorene 86-73-7 <u>µg/kg, dry</u>	N-Nitrosodi- phenylamine 86-30-6 <u>µg/kg, dry</u>	Pentachloro- phenol 87-86-5 <u>µg/kg, dry</u>	Phenanthrene 85-01-8 <u>µg/kg, dry</u>	Carbazole 86-74-8 <u>µg/kg, dry</u>	Anthracene 120-12-7 <u>µg/kg, dry</u>	Di-n-butyl- phthalate 84-74-2 <u>µg/kg, dry</u>	Fluoranthene 206-44-0 <u>µg/kg, dry</u>
ICS-H-SE-4-112812	97 U	97 U	49	19 U	16 J	3.3 J	49 U	35	19 U	19 U	19 U	41
ICS-I-SE-1-112812												
ICS-I-SE-2-112812												
ICS-I-SE-3-112812	290 U	290 U	140 U	57 U	52 J	8.9 J	140 U	150	29 J	97	57 U	460
ICS-I-SE-4-112812												
ICS-I-SE-5-112812	92 U	92 U	46 U	18 U	41	2.8 J	46 U	500	87	150	18 U	770
ICS-I-SE-6-112812												
ICS-J-SE-1-112812												
ICS-J-SE-2-112812												
ICS-J-SE-3-112812												
ICS-J-SE-4-112812												
ICS-J-SE-5-112812	94 U	94 U	47 U	19 U	35	19 U	47 U	120	12 J	57	19 U	380
ICS-J-SE-6-112812	96 U	96 U	48 U	19 U	21	19 U	48 U	84	10 J	33	19 U	260
ICS-K-SE-1-113012												
ICS-K-SE-2-113012												
ICS-DUP2-SE-113012												
ICS-K-SE-3-113012												
ICS-K-SE-4-113012	100 U	100 U	50 U	20 U	49	20 U	59 J	100	20 U	44	20 U	180
ICS-K-SE-5-113012	98 U	98 U	49 U	20 U	39	20 U	49 U	110	20 U	71	16 J	280
ICS-L-SE-1-113012												
ICS-L-SE-2-113012												
ICS-L-SE-3-113012	98 U	98 U	49 U	20 U	59	4.0 J	49 U	200	17 J	65	20 U	400
ICS-L-SE-4-113012	97 U	97 U	48 U	19 U	45	2.6 J	48 U	130	11 J	37	19 U	180
ICS-L-SE-5-113012												
ICS-M-SE-1-113012												
ICS-M-SE-2-113012	98 U	98 U	40 J	20 U	20 U	20 U	49 U	20 U	20 U	20 U	20 U	26
ICS-M-SE-3-113012	94 U	94 U	47 U	19 U	19 U	19 U	47 U	19 U	19 U	19 U	19 U	19 U
ICS-DSS-01-SE-121012	290 U	290 U	140 U	58 U	220	58 U	150 J_Q	3700	470	720	58 U	5100

J = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
Subsurface Sediment Analyses, November - December 2012

Field I.D.	Pyrene 129-00-0 µg/kg, dry	Butylbenzyl- phthalate 85-68-7 µg/kg, dry	Benzo(a)- anthracene 56-55-3 µg/kg, dry	bis (2-Ethylhexyl)- phthalate 117-81-7 µg/kg, dry	Chrysene 218-01-9 µg/kg, dry	Di-n-octyl- phthalate 117-84-0 µg/kg, dry	total Benzo- fluoranthenes µg/kg, dry	Benzo(a)- pyrene 50-32-8 µg/kg, dry	Indeno(1,2,3- cd)pyrene 193-39-5 µg/kg, dry	Dibenz(a,h)- anthracene 53-70-3 µg/kg, dry	Benzo(g,h,i)- perylene 191-24-2 µg/kg, dry	LPAH µg/kg, dry	HPAH µg/kg, dry
ICS-A-SE-1-112612													
ICS-A-SE-2-112612													
ICS-A-SE-3-112612													
ICS-A-SE-4-112612	160	4.9 U	53	40 J_B	65	20 U	78	53	23	20 U	30	388	662
ICS-A-SE-5-112612	78	4.8 U	26	40 J_B	38	19 U	43	19 U	12 J	19 U	19	236	308
ICS-A-SE-6-112612													
ICS-A-SE-7-112612													
ICS-B-SE-1-112712													
ICS-B-SE-2-112712													
ICS-B-SE-3-112712	2000	47	640	5600	1100	57 U	930	480	120	57	140	2720	7667
ICS-B-SE-4-112712													
ICS-B-SE-5-112712	95	4.9 U	29	66	43	20 U	48	20 U	20 U	20 U	20	297	355
ICS-B-SE-6-112712													
ICS-C-SE-1-112712													
ICS-C-SE-2-112712													
ICS-C-SE-3-112712	58	3.2 J	19	92	22	18 U	30 J	18 U	18 U	18 U	12 J	135	212
ICS-C-SE-4-112712	86	4.9 U	35	28 J_B	36	20 U	48	31	14 J	20 U	18 J	117	351
ICS-D-SE-1-112712													
ICS-D-SE-2-112712													
ICS-D-SE-3-112712	200	4.8 U	59	37 J_B	75	19 U	100	48	27	10 J	34	893	793
ICS-D-SE-4-112712	100	5.0 U	34	32 J_B	44	20 U	48	20 U	13 J	20 U	18 J	322	397
ICS-D-SE-5-112712													
ICS-F-SE-1-112712													
ICS-F-SE-2-112712													
ICS-F-SE-3-112712													
ICS-F-SE-3-121012													
ICS-F-SE-4-112712													
ICS-F-SE-5-112712													
ICS-F-SE-6-112712													
ICS-F-SE-7-112712	62	4.9 U	18 J	32 J_B	26	20 U	16 J	20 U	14 J	20 U	16 J	112	226
ICS-F-SE-8-112712	11 J	4.6 U	18 U	29 J_B	18 U	18 U	37 U	18 U	18 U	18 U	18 U	18 U	23
ICS-F-SE-9-112712													
ICS-G-SE-1-112812													
ICS-G-SE-2-112812													
ICS-G-SE-3-112812													
ICS-DUPI-SE-112812													
ICS-G-SE-4-112812													
ICS-G-SE-5-112812	4200	170	740	2800	1800	110 U	890	110 U	140	110 U	180	3580	9550
ICS-G-SE-6-112812	330	4.8 U	110	37 J_B	130	19 U	180	110	45	16 J	56	433	1227
ICS-H-SE-1-112812													
ICS-H-SE-2-112812													
ICS-H-SE-3-112812	920	51	350	1400	490	26 U	490	260	68	26	67	2020	3581

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ICS / [former] NW Cooperage, Seattle, WA
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Field I.D.	Pyrene 129-00-0 <u>µg/kg, dry</u>	Butylbenzyl- phthalate 85-68-7 <u>µg/kg, dry</u>	Benzo(a)- anthracene 56-55-3 <u>µg/kg, dry</u>	bis (2-Ethylhexyl)- phthalate 117-81-7 <u>µg/kg, dry</u>	Chrysene 218-01-9 <u>µg/kg, dry</u>	Di-n-octyl- phthalate 117-84-0 <u>µg/kg, dry</u>	total Benzo- fluoranthenes <u>µg/kg, dry</u>	Benzo(a)- pyrene 50-32-8 <u>µg/kg, dry</u>	Indeno(1,2,3- cd)pyrene 193-39-5 <u>µg/kg, dry</u>	Dibenz(a,h)- anthracene 53-70-3 <u>µg/kg, dry</u>	Benzo(g,h,i)- perylene 191-24-2 <u>µg/kg, dry</u>	LPAH <u>µg/kg, dry</u>	HPAH <u>µg/kg, dry</u>
ICS-H-SE-4-112812	41	4.9 U	14 J	32 J_B	15 J	19 U	20 J	19 U	19 U	19 U	19 U	71	131
ICS-I-SE-1-112812													
ICS-I-SE-2-112812													
ICS-I-SE-3-112812	360	14 U	300	72 U	540	57 U	780	360	180	63	210	499	3253
ICS-I-SE-4-112812													
ICS-I-SE-5-112812	840	4.6 U	310	37 J_B	350	18 U	470	360	170	73	220	1234	3563
ICS-I-SE-6-112812													
ICS-J-SE-1-112812													
ICS-J-SE-2-112812													
ICS-J-SE-3-112812													
ICS-J-SE-4-112812													
ICS-J-SE-5-112812	270	4.7 U	94	25 J_B	160	19 U	140	72	36	11 J	34	342	1197
ICS-J-SE-6-112812	220	4.8 U	80	24 U	78	19 U	120	64	34	16 J	42	184	914
ICS-K-SE-1-113012													
ICS-K-SE-2-113012													
ICS-DUP2-SE-113012													
ICS-K-SE-3-113012													
ICS-K-SE-4-113012	200	5.0 U	54	46 J_B	79	20 U	90	38	28	20 U	32	355	701
ICS-K-SE-5-113012	230	4.9 U	120	24 J_B	170	20 U	210	110	49	17 J	65	411	1251
ICS-L-SE-1-113012													
ICS-L-SE-2-113012													
ICS-L-SE-3-113012	320	4.9 U	91	25 U	120	20 U	160	93	50	21	56	601	1311
ICS-L-SE-4-113012	150	4.8 U	40	24 U	50	19 U	67	19 U	21	19 U	32	328	540
ICS-L-SE-5-113012													
ICS-M-SE-1-113012													
ICS-M-SE-2-113012	26	4.9 U	20 U	41 J_B	14 J	20 U	25 J	9.8 J	20 U	20 U	20 U	20 U	101
ICS-M-SE-3-113012	19 U	4.7 U	19 U	24 J_B	19 U	19 U	38 U	19 U	19 U	19 U	19 U	19 U	19 U
ICS-DSS-01-SE-121012	5400	13 J	3500	520	3800	58 U	5000	3000	1200	510	1200	4952	28,710

J = estimate associated with value less than the verifiable lower quantitation limit.

J_B = associated value may be biased high due to contribution from laboratory background or method blank.

U = nondetected at the associated lower reporting limit.

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Field I.D.	Tributyltin ion 36643-28-4 µg/kg, dry	alpha-BHC 319-84-6 µg/kg, dry	beta-BHC 319-85-7 µg/kg, dry	delta-BHC 319-86-8 µg/kg, dry	gamma-BHC (Lindane) 58-89-9 µg/kg, dry	Heptachlor 76-44-8 µg/kg, dry	Aldrin 309-00-2 µg/kg, dry	Heptachlor epoxide 1024-57-3 µg/kg, dry	Endosulfan I 959-98-8 µg/kg, dry	Dieldrin 60-57-1 µg/kg, dry	4,4'-DDE 72-55-9 µg/kg, dry
ICS-A-SE-1-112612											
ICS-A-SE-2-112612											
ICS-A-SE-3-112612											
ICS-A-SE-4-112612		2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.7 U	2.4 U	4.7 U	4.7 U
ICS-A-SE-5-112612		0.48 U	1.2 U	1.4 U	0.48 U	0.48 U	0.62 U	0.96 U	0.48 U	0.96 U	0.96 U
ICS-A-SE-6-112612											
ICS-A-SE-7-112612											
ICS-B-SE-1-112712											
ICS-B-SE-2-112712											
ICS-B-SE-3-112712		25 U	120 U	25 U	25 U	100 U	190 U	340 U	25 U	430 U	870 J_P
ICS-B-SE-4-112712											
ICS-B-SE-5-112712		2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	4.9 U	2.5 U	4.9 U	4.9 U
ICS-B-SE-6-112712											
ICS-C-SE-1-112712											
ICS-C-SE-2-112712											
ICS-C-SE-3-112712		2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.7 U	2.4 U	4.7 U	4.7 U
ICS-C-SE-4-112712		0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.94 U	0.47 U	0.94 U	0.94 U
ICS-D-SE-1-112712											
ICS-D-SE-2-112712											
ICS-D-SE-3-112712		2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.9 U	2.4 U	4.9 U	4.9 U
ICS-D-SE-4-112712		2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.8 U	2.4 U	4.8 U	4.8 U
ICS-D-SE-5-112712											
ICS-F-SE-1-112712											
ICS-F-SE-2-112712											
ICS-F-SE-3-112712											
ICS-F-SE-3-121012											
ICS-F-SE-4-112712											
ICS-F-SE-5-112712											
ICS-F-SE-6-112712											
ICS-F-SE-7-112712		2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.7 U	2.4 U	4.7 U	4.7 U
ICS-F-SE-8-112712		0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.92 U	0.46 U	0.92 U	0.92 U
ICS-F-SE-9-112712											
ICS-G-SE-1-112812											
ICS-G-SE-2-112812											
ICS-G-SE-3-112812											
ICS-DUP1-SE-112812											
ICS-G-SE-4-112812											
ICS-G-SE-5-112812		24 U	24 U	24 U	24 U	36 U	24 U	120 U	24 U	48 U	480
ICS-G-SE-6-112812		2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.9 U	2.4 U	4.9 U	4.9 U
ICS-H-SE-1-112812											
ICS-H-SE-2-112812											
ICS-H-SE-3-112812		36 U	36 U	36 U	36 U	100 U	340 U	390 U	36 U	410 U	650 J_P

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Field I.D.	Tributyltin ion 36643-28-4 <u>µg/kg, dry</u>	alpha-BHC 319-84-6 <u>µg/kg, dry</u>	beta-BHC 319-85-7 <u>µg/kg, dry</u>	delta-BHC 319-86-8 <u>µg/kg, dry</u>	gamma-BHC (Lindane) 58-89-9 <u>µg/kg, dry</u>	Heptachlor 76-44-8 <u>µg/kg, dry</u>	Aldrin 309-00-2 <u>µg/kg, dry</u>	Heptachlor epoxide 1024-57-3 <u>µg/kg, dry</u>	Endosulfan I 959-98-8 <u>µg/kg, dry</u>	Dieldrin 60-57-1 <u>µg/kg, dry</u>	4,4'-DDE 72-55-9 <u>µg/kg, dry</u>
ICS-H-SE-4-112812		0.47 U	0.47 U	0.47 U	1.5 U	4.2 U	8.9 U	4.8 U	0.47 U	2.2 U	24
ICS-I-SE-1-112812											
ICS-I-SE-2-112812											
ICS-I-SE-3-112812		2.4 U	3.7 U	2.4 U	2.4 U	2.4 U	2.4 U	4.9 U	2.4 U	4.9 U	29
ICS-I-SE-4-112812											
ICS-I-SE-5-112812		0.48 U	1.0 U	0.48 U	0.48 U	0.98 U	1.1 U	2.2 U	0.48 U	0.96 U	31 J_p
ICS-I-SE-6-112812											
ICS-J-SE-1-112812											
ICS-J-SE-2-112812											
ICS-J-SE-3-112812											
ICS-J-SE-4-112812											
ICS-J-SE-5-112812		2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	5.0 U	2.5 U	5.0 U	5.0 U
ICS-J-SE-6-112812		2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.9 U	2.4 U	4.9 U	4.9 U
ICS-K-SE-1-113012											
ICS-K-SE-2-113012	59										
ICS-DUP2-SE-113012											
ICS-K-SE-3-113012											
ICS-K-SE-4-113012		2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.8 U	2.4 U	4.8 U	41
ICS-K-SE-5-113012		2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.7 U	2.4 U	4.7 U	4.7 U
ICS-L-SE-1-113012											
ICS-L-SE-2-113012	3.7 U										
ICS-L-SE-3-113012		2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	5.0 U	2.5 U	5.0 U	5.0 U
ICS-L-SE-4-113012		2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	4.8 U	2.4 U	4.8 U	4.8 U
ICS-L-SE-5-113012											
ICS-M-SE-1-113012											
ICS-M-SE-2-113012		2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	7.9 U	2.5 U	4.9 U	11 J_p
ICS-M-SE-3-113012		0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.95 U	0.48 U	0.95 U	0.95 U
ICS-DSS-01-SE-121012		4.9 U	4.9 U	6.9 U	4.9 U	4.9 U	4.9 U	9.9 U	4.9 U	9.9 U	51 J_p

J_p = estimated value due to high variability exhibited between dual column responses on GC/ECD (M.8081).

U = nondetected at the associated lower reporting limit.

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Field I.D.	Endrin 72-20-8 µg/kg, dry	Endosulfan II 33213-65-9 µg/kg, dry	4,4'-DDD 72-54-8 µg/kg, dry	Endosulfan sulfate 1031-07-8 µg/kg, dry	4,4'-DDT 50-29-3 µg/kg, dry	Methoxychlor 72-43-5 µg/kg, dry	Endrin ketone 53494-70-5 µg/kg, dry	Endrin aldehyde 7421-93-4 µg/kg, dry	<i>trans</i> - Chlordane 5103-74-2 µg/kg, dry	<i>cis</i> - Chlordane 5103-71-9 µg/kg, dry	Toxaphene 8001-35-2 µg/kg, dry
ICS-A-SE-1-112612											
ICS-A-SE-2-112612											
ICS-A-SE-3-112612											
ICS-A-SE-4-112612	4.7 U	4.7 U	4.7 U	4.7 U	5.8 U	24 U	4.7 U	4.7 U	2.4 U	2.4 U	470 U
ICS-A-SE-5-112612	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	4.8 U	0.96 U	0.96 U	0.48 U	0.48 U	96 U
ICS-A-SE-6-112612											
ICS-A-SE-7-112612											
ICS-B-SE-1-112712											
ICS-B-SE-2-112712											
ICS-B-SE-3-112712	120 U	210 U	640 U	140 U	990 U	250 U	50 U	50 U	300 U	25 U	5000 U
ICS-B-SE-4-112712											
ICS-B-SE-5-112712	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	25 U	4.9 U	4.9 U	2.5 U	2.5 U	490 U
ICS-B-SE-6-112712											
ICS-C-SE-1-112712											
ICS-C-SE-2-112712											
ICS-C-SE-3-112712	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	24 U	4.7 U	4.7 U	2.4 U	2.4 U	470 U
ICS-C-SE-4-112712	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	4.7 U	0.94 U	0.94 U	0.47 U	0.47 U	94 U
ICS-D-SE-1-112712											
ICS-D-SE-2-112712											
ICS-D-SE-3-112712	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	24 U	4.9 U	4.9 U	2.4 U	2.4 U	490 U
ICS-D-SE-4-112712	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	24 U	4.8 U	4.8 U	2.4 U	2.4 U	480 U
ICS-D-SE-5-112712											
ICS-F-SE-1-112712											
ICS-F-SE-2-112712											
ICS-F-SE-3-112712											
ICS-F-SE-3-121012											
ICS-F-SE-4-112712											
ICS-F-SE-5-112712											
ICS-F-SE-6-112712											
ICS-F-SE-7-112712	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	24 U	4.7 U	4.7 U	2.4 U	2.4 U	470 U
ICS-F-SE-8-112712	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	4.6 U	0.92 U	0.92 U	0.46 U	0.46 U	92 U
ICS-F-SE-9-112712											
ICS-G-SE-1-112812											
ICS-G-SE-2-112812											
ICS-G-SE-3-112812											
ICS-DUP1-SE-112812											
ICS-G-SE-4-112812											
ICS-G-SE-5-112812	48 U	48 U	870	48 U	290 U	240 U	79 U	48 U	92 U	24 U	4800 U
ICS-G-SE-6-112812	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	24 U	4.9 U	4.9 U	2.4 U	2.4 U	490 U
ICS-H-SE-1-112812											
ICS-H-SE-2-112812											
ICS-H-SE-3-112812	210 U	71 U	640 U	71 U	1100 U	360 U	220 U	71 U	36 U	36 U	7100 U

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 ICS / [former] NW Cooperage, Seattle, WA
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Field I.D.	Endrin 72-20-8 <u>µg/kg, dry</u>	Endosulfan II 33213-65-9 <u>µg/kg, dry</u>	4,4'-DDD 72-54-8 <u>µg/kg, dry</u>	Endosulfan sulfate 1031-07-8 <u>µg/kg, dry</u>	4,4'-DDT 50-29-3 <u>µg/kg, dry</u>	Methoxychlor 72-43-5 <u>µg/kg, dry</u>	Endrin ketone 53494-70-5 <u>µg/kg, dry</u>	Endrin aldehyde 7421-93-4 <u>µg/kg, dry</u>	<i>trans</i> - Chlordane 5103-74-2 <u>µg/kg, dry</u>	<i>cis</i> - Chlordane 5103-71-9 <u>µg/kg, dry</u>	Toxaphene 8001-35-2 <u>µg/kg, dry</u>
ICS-H-SE-4-112812	0.94 U	1.3 U	16	0.94 U	3.6 U	4.7 U	0.94 U	0.94 U	2.5 U	0.47 U	94 U
ICS-I-SE-1-112812											
ICS-I-SE-2-112812											
ICS-I-SE-3-112812	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	24 U	4.9 U	4.9 U	2.4 U	2.4 U	490 U
ICS-I-SE-4-112812											
ICS-I-SE-5-112812	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	4.8 U	0.96 U	0.96 U	0.48 U	0.48 U	96 U
ICS-I-SE-6-112812											
ICS-J-SE-1-112812											
ICS-J-SE-2-112812											
ICS-J-SE-3-112812											
ICS-J-SE-4-112812											
ICS-J-SE-5-112812	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	5.0 U	2.5 U	2.5 U	500 U
ICS-J-SE-6-112812	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	24 U	4.9 U	4.9 U	2.4 U	2.4 U	490 U
ICS-K-SE-1-113012											
ICS-K-SE-2-113012											
ICS-DUP2-SE-113012											
ICS-K-SE-3-113012											
ICS-K-SE-4-113012	4.8 U	4.8 U	27	4.8 U	4.8 U	24 U	4.8 U	4.8 U	2.4 U	2.4 U	480 U
ICS-K-SE-5-113012	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	24 U	4.7 U	4.7 U	2.4 U	2.4 U	470 U
ICS-L-SE-1-113012											
ICS-L-SE-2-113012											
ICS-L-SE-3-113012	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	5.0 U	2.5 U	2.5 U	500 U
ICS-L-SE-4-113012	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	24 U	4.8 U	4.8 U	2.4 U	2.4 U	480 U
ICS-L-SE-5-113012											
ICS-M-SE-1-113012											
ICS-M-SE-2-113012	4.9 U	4.9 U	4.9 U	4.9 U	16 U	25 U	4.9 U	4.9 U	2.5 U	2.5 U	490 U
ICS-M-SE-3-113012	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U	4.8 U	0.95 U	0.95 U	0.48 U	0.48 U	95 U
ICS-DSS-01-SE-121012	9.9 U	9.9 U	9.9 U	9.9 U	12 U	49 U	9.9 U	9.9 U	4.9 U	4.9 U	990 U

U = nondetected at the associated lower reporting limit.

Remedial Investigation
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Field I.D.	Hexachloro- benzene 118-74-1 <u>µg/kg, dry</u>	Hexachloro- butadiene 87-68-3 <u>µg/kg, dry</u>	Aroclor 1016 12674-11-2 <u>µg/kg, dry</u>	Aroclor 1242 53469-21-9 <u>µg/kg, dry</u>	Aroclor 1248 12672-29-6 <u>µg/kg, dry</u>	Aroclor 1254 11097-69-1 <u>µg/kg, dry</u>	Aroclor 1260 11096-82-5 <u>µg/kg, dry</u>	Aroclor 1221 11104-28-2 <u>µg/kg, dry</u>	Aroclor 1232 11141-16-5 <u>µg/kg, dry</u>	total PCBs <u>µg/kg, dry</u>
ICS-A-SE-1-112612										
ICS-A-SE-2-112612			75 U	75 U	810	870	690	75 U	75 U	2370
ICS-A-SE-3-112612										
ICS-A-SE-4-112612	4.7 U	4.7 U	3.8 U	3.8 U	42	31	26	3.8 U	3.8 U	99
ICS-A-SE-5-112612	0.96 U	0.96 U	3.8 U	3.8 U	12	7.8	7.3	3.8 U	3.8 U	27.1
ICS-A-SE-6-112612										
ICS-A-SE-7-112612										
ICS-B-SE-1-112712			37 U	37 U	170	140	120	37 U	37 U	430
ICS-B-SE-2-112712										
ICS-B-SE-3-112712	57 U	50 U	400 U	400 U	9600	11,000	8600	400 U	400 U	29,200
ICS-B-SE-4-112712										
ICS-B-SE-5-112712	4.9 U	4.9 U	3.9 U	50	3.9 U	24	23	3.9 U	3.9 U	97
ICS-B-SE-6-112712										
ICS-C-SE-1-112712										
ICS-C-SE-2-112712			3.6 U	3.6 U	18	21	16	3.6 U	3.6 U	55
ICS-C-SE-3-112712	4.7 U	4.7 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-C-SE-4-112712	0.94 U	0.94 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U
ICS-D-SE-1-112712										
ICS-D-SE-2-112712			200 U	200 U	6200	7700	3100	200 U	200 U	17,000
ICS-D-SE-3-112712	4.9 U	4.9 U	3.9 U	3.9 U	27	30	10	3.9 U	3.9 U	67
ICS-D-SE-4-112712	4.8 U	4.8 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
ICS-D-SE-5-112712										
ICS-F-SE-1-112712										
ICS-F-SE-2-112712										
ICS-F-SE-3-112712										
ICS-F-SE-3-121012										
ICS-F-SE-4-112712										
ICS-F-SE-5-112712			4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
ICS-F-SE-6-112712										
ICS-F-SE-7-112712	4.7 U	4.7 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
ICS-F-SE-8-112712	0.92 U	0.92 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U
ICS-F-SE-9-112712										
ICS-G-SE-1-112812										
ICS-G-SE-2-112812										
ICS-G-SE-3-112812			39 U	39 U	610	670	270	39 U	39 U	1550
ICS-DUP1-SE-112812			38 U	38 U	390	440	210	38 U	38 U	1040
ICS-G-SE-4-112812										
ICS-G-SE-5-112812	48 U	48 U	78 U	78 U	3600	3600	2800	78 U	78 U	10,000
ICS-G-SE-6-112812	4.9 U	4.9 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
ICS-H-SE-1-112812										
ICS-H-SE-2-112812			170 U	170 U	7400	4900	5800	170 U	170 U	18,100
ICS-H-SE-3-112812	71 U	71 U	580 U	580 U	13,000	16,000	9100	580 U	580 U	38,100

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Field I.D.	Hexachloro- benzene 118-74-1 <u>µg/kg, dry</u>	Hexachloro- butadiene 87-68-3 <u>µg/kg, dry</u>	Aroclor 1016 12674-11-2 <u>µg/kg, dry</u>	Aroclor 1242 53469-21-9 <u>µg/kg, dry</u>	Aroclor 1248 12672-29-6 <u>µg/kg, dry</u>	Aroclor 1254 11097-69-1 <u>µg/kg, dry</u>	Aroclor 1260 11096-82-5 <u>µg/kg, dry</u>	Aroclor 1221 11104-28-2 <u>µg/kg, dry</u>	Aroclor 1232 11141-16-5 <u>µg/kg, dry</u>	total PCBs <u>µg/kg, dry</u>
ICS-H-SE-4-112812	0.94 U	0.94 U	18 U	260	18 U	93 U	18 U	18 U	18 U	260
ICS-I-SE-1-112812										
ICS-I-SE-2-112812			140 U	140 U	5100	6000	1900	140 U	140 U	13,000
ICS-I-SE-3-112812	4.9 U	4.9 U	3.9 U	3.9 U	170	160	65	3.9 U	3.9 U	395
ICS-I-SE-4-112812										
ICS-I-SE-5-112812	0.96 U	0.96 U	3.8 U	36	3.8 U	19 U	5.6	3.8 U	3.8 U	42
ICS-I-SE-6-112812										
ICS-J-SE-1-112812										
ICS-J-SE-2-112812										
ICS-J-SE-3-112812			3.8 U	3.8 U	47	110	180	3.8 U	3.8 U	337
ICS-J-SE-4-112812										
ICS-J-SE-5-112812	5.0 U	5.0 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
ICS-J-SE-6-112812	4.9 U	4.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
ICS-K-SE-1-113012										
ICS-K-SE-2-113012			170 U	170 U	5000	5100	2900	170 U	170 U	13,000
ICS-DUP2-SE-113012			220 U	220 U	6700	6500	3400	220 U	220 U	16,600
ICS-K-SE-3-113012										
ICS-K-SE-4-113012	4.8 U	4.8 U	3.8 U	3.8 U	22	76 U	81	3.8 U	3.8 U	103
ICS-K-SE-5-113012	4.7 U	4.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U
ICS-L-SE-1-113012										
ICS-L-SE-2-113012			38 U	38 U	910	880	520	38 U	38 U	2310
ICS-L-SE-3-113012	5.0 U	5.0 U	4.0 U	4.0 U	8.0	9.2	6.0	4.0 U	4.0 U	23
ICS-L-SE-4-113012	4.8 U	4.8 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
ICS-L-SE-5-113012										
ICS-M-SE-1-113012			37 U	37 U	370	360	380	37 U	37 U	1110
ICS-M-SE-2-113012	4.9 U	4.9 U	3.8 U	3.8 U	98	120	94	3.8 U	3.8 U	312
ICS-M-SE-3-113012	0.95 U	0.95 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U
ICS-DSS-01-SE-121012	9.9 U	9.9 U	20 U	20 U	420	420	350	20 U	20 U	1190

U = nondetected at the associated lower reporting limit.

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Field I.D.	gravel	coarse sand	medium sand	fine sand	v. coarse silt	coarse silt	medium silt	fine silt	v. fine silt	total silt	clay		total fines
	> 4750 μm	4750 - 2000 μm	2000 - 425 μm	425 - 75 μm	75 - 32 μm	32 - 22 μm	22 - 13 μm	13 - 7 μm	7 - 3.2 μm	32 - 3.2 μm	3.2 - 1.3 μm	< 1.3 μm	< 32 μm
	%	%	%	%	%	%	%	%	%	%	%	%	%
ICS-A-SE-1-112612													
ICS-A-SE-2-112612													
ICS-A-SE-3-112612													
ICS-A-SE-4-112612													
ICS-A-SE-5-112612													
ICS-A-SE-6-112612													
ICS-A-SE-7-112612													
ICS-B-SE-1-112712													
ICS-B-SE-2-112712													
ICS-B-SE-3-112712													
ICS-B-SE-4-112712													
ICS-B-SE-5-112712													
ICS-B-SE-6-112712	0.0	0.0	3.9	7.1	14.0	14.1	14.1	17.0	11.9	71.2	8.2	9.4	88.8
ICS-C-SE-1-112712													
ICS-C-SE-2-112712													
ICS-C-SE-3-112712													
ICS-C-SE-4-112712													
ICS-D-SE-1-112712													
ICS-D-SE-2-112712													
ICS-D-SE-3-112712													
ICS-D-SE-4-112712													
ICS-D-SE-5-112712													
ICS-F-SE-1-112712													
ICS-F-SE-2-112712													
ICS-F-SE-3-112712													
ICS-F-SE-3-121012	0.0	0.5	1.9	8.9	16.9	13.2	13.2	18.9	11.3	73.5	7.6	7.6	88.7
ICS-F-SE-4-112712													
ICS-F-SE-5-112712													
ICS-F-SE-6-112712													
ICS-F-SE-7-112712													
ICS-F-SE-8-112712	0.0	0.0	0.5	72.2	12.4	3.5	2.2	3.5	2.2	23.8	0.9	2.6	27.3
ICS-F-SE-9-112712													
ICS-G-SE-1-112812													
ICS-G-SE-2-112812													
ICS-G-SE-3-112812													
ICS-DUP1-SE-112812													
ICS-G-SE-4-112812													
ICS-G-SE-5-112812													
ICS-G-SE-6-112812													
ICS-H-SE-1-112812													
ICS-H-SE-2-112812													
ICS-H-SE-3-112812													

grain size analyses: % retained in each size fraction

Remedial Investigation
 ICS / [former] NW Cooperage, Seattle, WA
 Subsurface Sediment Analyses, November - December 2012

Field I.D.	gravel	coarse sand	medium sand	fine sand	v. coarse silt	coarse silt	medium silt	fine silt	v. fine silt	total silt	clay		total fines
	> 4750 μm %	4750 - 2000 μm %	2000 - 425 μm %	425 - 75 μm %	75 - 32 μm %	32 - 22 μm %	22 - 13 μm %	13 - 7 μm %	7 - 3.2 μm %	32 - 3.2 μm %	3.2 - 1.3 μm %	< 1.3 μm %	< 32 μm %
ICS-H-SE-4-112812													
ICS-I-SE-1-112812													
ICS-I-SE-2-112812													
ICS-I-SE-3-112812	8.7	1.7	1.5	3.3	10.0	10.1	13.4	19.3	14.3	67.1	9.2	8.4	84.7
ICS-I-SE-4-112812													
ICS-I-SE-5-112812	0.3	1.1	3.7	62.3	12.8	6.1	2.6	4.3	3.0	28.8	1.3	2.6	32.7
ICS-I-SE-6-112812													
ICS-J-SE-1-112812													
ICS-J-SE-2-112812													
ICS-J-SE-3-112812													
ICS-J-SE-4-112812													
ICS-J-SE-5-112812													
ICS-J-SE-6-112812													
ICS-K-SE-1-113012													
ICS-K-SE-2-113012													
ICS-DUP2-SE-113012													
ICS-K-SE-3-113012													
ICS-K-SE-4-113012													
ICS-K-SE-5-113012													
ICS-L-SE-1-113012													
ICS-L-SE-2-113012													
ICS-L-SE-3-113012													
ICS-L-SE-4-113012													
ICS-L-SE-5-113012													
ICS-M-SE-1-113012													
ICS-M-SE-2-113012													
ICS-M-SE-3-113012													
ICS-DSS-01-SE-121012													

grain size analyses: % retained in each size fraction



D.M.D., Inc.

Environmental & Toxicological Services

13706 SW Caster Road, Vashon, WA 98070-7428 (206) 463-6223 fax: (206) 463-4013

MEMORANDUM

TO: Matt Dalton (DOF)
FROM: Raleigh Farlow
DATE: October 11, 2013
SUBJECT: Data Evaluation/Assessment for one Soil and 10 Subsurface Sediment Samples Collected during October - November 2012 from the ICS / [former] NW Cooperage Site, Seattle, WA – Supplemental Analyses

One soil and ten sediment samples collected by Dalton, Olmsted & Fuglevand (DOF) staff during October and November of 2012 were removed from frozen archival storage and thawed for preparation of analyses of selected parameters. These samples were delivered to Analytical Resources Inc. (ARI) of Tukwila, Washington within one week of collection. Samples were received on ice at temperatures between 0.9 and 4.0 degrees C, and maintained at the project laboratory at -20 degrees C prior to analyses. No chemical preservatives were specified nor required.

Sample collection, handling, and analyses were conducted in accordance with the project sampling and analysis plan (SAP) (*Sampling and Analysis Plan to Complete Remedial Investigation Sampling ICS / Former NW Cooperage Site, Seattle, Washington*, prepared by DOF, February 2012). The extended holding time at -20 degrees C is consistent with EPA Region 10 guidance for sample handling and storage. The sample holding time for mercury analyses is outside the recommended limits of 28 days, however, this deviation is unlikely to adversely affect the data quality for mercury results. All analyses were performed by methods presented in Table SAP-3 of the SAP.

SVOC's	SW846-M.8270	TOC	Plumb, 1981 (PSEP)
selected SVOC's	M.8270 - SIM	chlor. pesticides	SW846-M.8081
PCB's as Aroclors	SW846-M.8082	metals (exc Hg)	SW846-M.6020A
Hg	SW846-M.7471A	total petroleum HC's	NWTPH-Dx

Semivolatile organic compound (SVOC's) analyses were performed by SW846 M.8270 with GPC cleanup of extracts in full-scan mode, and selected analytes were further analyzed and reported from analyses performed in the (M.8270D) SIM mode to improve/lower the reporting limits. These selected analytes include 1,4-dichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,2,4-trichlorobenzene, 2-methylphenol, 2,4-dimethylphenol, N-nitrosodiphenylamine (as diphenylamine), benzyl alcohol, and pentachlorophenol. Results for detected analytes were reported from the full-scan analyses or from the mode that yielded non-qualified data. For nondetected analytes, the lowest reporting limit between the two analytical modes was reported in the attached results table; generally from the SIM mode of analyses.

PCB's extracts were subjected to silica gel and strong-acid cleanups, as well as elemental [polymeric] sulfur (S_x) removal, prior to instrumental analyses. Chlorinated pesticides extracts were subjected to GPC, silica gel and S_x removal cleanup steps. TPH-Dx analyses were performed with silica gel and acid cleanup procedures on sample extracts.

Samples were relinquished by DOF under chain-of-custody (C-O-C) procedure. All analyses for parameters reported in the attached results table were completed within the technical holding time requirements identified in the project SAP (table SAP-2) and/or within the recommended maximum holding times recommended by the U.S. EPA. Mercury results are not expected to be adversely affected by the extended holding time, however, the results are qualified as estimated with the "J_{HT}" qualifier code due to exceedance of the recommended holding time. Sample holding times/conditions are determined to be within acceptable technical limits and/or within SAP specifications, with the exception of mercury results as noted above.

Generally, [lower] **reporting limits** were consistent with specified-limits presented in the SAP (table SAP-3) and achieved the sediment PQL goals when contaminant levels allowed it. Exceptions are noted principally for organic compound analytes due to presence of chemical interferences and elevated levels of other target analytes. Specifically, sample F-SE-2 required extract dilutions due to elevated levels of organic contaminants, principally diesel-range petroleum hydrocarbons resulting in the elevation of most analyte nondetection reporting limits. Samples LP3-SO-D, B-SE-4, F-SE-2 I-SE-4 and K-SE-3 exhibited elevated levels of PCBs resulting in subsequent elevation of lower reporting limits for many of the chlorinated pesticide target analytes due to extract dilutions and associated instrumental interferences. Some Aroclors (commercial PCB mixtures) were reported with elevated reporting limits or nondetects due to elevated levels of other detected Aroclors that have the potential to contribute overlapping signals. Considerable effort was made by the analysts to achieve the specified lower reporting limits when the sample matrix and chemical interferences would allow it. Analyte concentrations reported at less than the lower reporting limit or the established linear concentration range are qualified as estimated with the "J" qualifier code.

Method blanks were analyzed and reported for all analytical parameters and groups (analytical groups are ≤ 20 samples). All method blanks reported nondetects, with the exception of diethylphthalate at 30 $\mu\text{g}/\text{kg}$. Diethylphthalate results were qualified with the "J_B" qualifier code when results have the potential to be significantly impacted by laboratory background levels, up to 1.5x the level reported in the method blank (with consideration of extracted sample sizes and extract dilutions/volumes). Six sample results required "J_B" qualification. No other data required qualification due to method blanks performance.

No field equipment **rinsate blanks** were specified in the project SAP nor were any collected.

Laboratory control sample (**LCS/LCSD**) and matrix spike (**MS/MSD**) recoveries were within acceptable ranges for most analytes. Hexachloroethane MS and MSD recoveries in sample F-SE-4 were reported at 2.2% and 7.6%, while the LCS recovery was 71.2%. No hexachloroethane was detected in site samples and no results were qualified. N-Nitrosodiphenylamine MS/MSD recoveries during M.8270-SIM analyses were reported at 18.5 and 26.7%, while the LCS recovery was 86.2%. No N-nitrosodiphenylamine was detected in site

samples and no results were qualified. MS/MSD recoveries for chlorinated pesticides in sample K-SE-3 were generally high and associated with elevated background interferences. LCS recoveries for α -BHC and hexachlorobenzene (HCB) were slightly low at 63.5 and 56.5%, respectively. MS/MSD recoveries for PCBs in J-SE-4 were slightly low and ranged from 59.4 to 63.1% (for Aroclors 1016 and 1260), while LCS recoveries were within specified ranges. No significant adverse effects on data quality are anticipated as a consequence. Antimony (Sb) matrix spike recovery in LP3-SO-D is reported low at 7.0%. Sb LCS and SRM recoveries are determined to be acceptable. This behavior for Sb is typical due to formation of Sb-SiO₄ complexes in the presence of soil minerals; however, no positive hits for Sb are reported and the lower reporting limits should be considered biased low. Recoveries of spike analytes for all analyses were determined to be acceptable, with the exceptions noted above. No sample results are qualified due to spike recoveries

Surrogate compound recoveries (for organic analytes) were evaluated for SVOC's, TPH-Dx, chlorinated pesticides (including hexachlorobutadiene [HCBd] and hexachlorobenzene [HCB]), and PCB's. Tetrachloro-*meta*-xylene (TCMX) and decachlorobiphenyl (DCBP) were utilized as the surrogates for evaluation of chlorinated pesticides and PCB's analytical performance. *o*-Terphenyl was utilized as the surrogate for the TPH-Dx analyses. SVOC recoveries were evaluated with the use of four labeled phenols and four labeled neutral compounds. The SVOC surrogate, d₅-nitrobenzene, exhibited high recoveries (161%) for the initial and confirmatory analyses performed for F-SE-4, while all other surrogate recoveries were within specified ranges. All other surrogate compound performances were within specified acceptance ranges. No qualification of results was required due to surrogate compounds performance.

SVOC continuing calibration verification (CCV) checks revealed lower-than-specified responses for benzoic acid and pentachlorophenol (PCP). Positive (detectable) sample results for benzoic acid and PCP are consequently considered estimates and qualified with the "J_Q" qualifier code.

TPH-Dx analytical results are highlighted with **bold-type** values when the associated profiles resemble the respective calibrant/reference mixtures, such as diesel fuel (for DRO) and/or motor/lubricant oil (for RRO). All other non-bolded TPH-Dx values are associated with presence of discrete organic compounds and not petroleum hydrocarbon mixtures.

Examination of the raw GC/MS (M.8270) data files was performed for confirmation of selected pesticides results reported from M.8081 analyses, when appropriate. Nontarget chemical interferences elevated the reporting limits and interfered with accurate reporting of Heptachlor, Heptachlor epoxide, and the DDT analogs in the B-SE-4 extract. Lower reporting limits for these selected analytes in B-SE-4 were taken from M.8270 analyses and provided in the attached results table. It is also noted that the single soil sample (LP3-SO-D) contains multiple silane compounds, possibly associated with silicon oil, and *bis*Phenol A.

Sample results reported here are determined to be in general compliance with method and SAP requirements. Most deviations of data quality from SAP and method specifications are associated with generally elevated levels of multiple contaminants in site samples. All reported data for site samples (attached) are considered usable for the intended purposes of the project.

Remedial Investigation
ICS / [former] NW Cooperage, Seattle, WA
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Field I.D.	Matrix	Collection Date	Comments	Lab I.D.	% solids	TOC	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper
					%	%	7440-36-0 mg/kg, dry	7440-38-2 mg/kg, dry	7440-41-7 mg/kg, dry	7440-43-9 mg/kg, dry	7440-47-3 mg/kg, dry	7440-50-8 mg/kg, dry
ICS-LP3-SO-D-101512	soil	10/15/2012	15 - 16'	1318483-XD56A	80		0.2 U	1.5	0.2 U	0.2	18.0	11.7
ICS-A-SE-6-112612	sediment	11/26/2012	mid = 6.3'	1318484-XD56B	59	3.22	0.3 U	9.5	0.6	0.2	25.7	49.3
ICS-A-SE-7-112612	sediment	11/26/2012	mid = 7.2'	1318485-XD56C	62	4.22	0.3 U	9.2	0.6	0.2	23.3	43.5
ICS-B-SE-4-112712	sediment	11/27/2012	mid = 4.4'	1318486-XD56D	64	3.37	0.3 U	9.4	0.3 U	1.1	45.8	133
ICS-B-SE-6-112712	sediment	11/27/2012	mid = 6.6'	1318487-XD56E	60	2.66	0.3 U	10.1	0.6	0.3	25.4	50.6
ICS-D-SE-5-112712	sediment	11/27/2012	mid = 6.7'	1318488-XD56F	61	2.26	0.3 U	9.4	0.5	0.2	25.1	46.6
ICS-F-SE-2-112712	sediment	11/27/2012	mid = 1.7'	1318489-XD56G	56	3.15	0.3 U	12.7	0.3 U	3.4	114	56.6
ICS-F-SE-4-112712	sediment	11/27/2012	mid = 4.5'	1318490-XD56H	60	2.22	0.3 U	8.7	0.6	0.2	24.7	46.1
ICS-I-SE-4-112812	sediment	11/28/2012	mid = 5.9'	1318491-XD56I	61	2.84	0.3 U	11.1	0.5	0.2	26.3	58.5
ICS-J-SE-4-112812	sediment	11/28/2012	mid = 6.8'	1318492-XD56J	66	0.961	0.3 U	6.1	0.3 U	0.1 U	16.0	22.3
ICS-K-SE-3-113012	sediment	11/30/2012	mid = 3.8'	1318493-XD56K	88	0.879	0.2 U	4.1	0.2 U	0.2	26.4	25.1

U = nondetected at the associated lower reporting limit.

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Field I.D.	Lead	Mercury	Nickel	Silver	Zinc	Total Petroleum Hydrocarbons **		Phenol	2-Chloro-phenol	1,3-Dichloro-benzene
	7439-92-1 mg/kg, dry	7439-97-6 mg/kg, dry	7440-02-0 mg/kg, dry	7440-22-4 mg/kg, dry	7440-66-6 mg/kg, dry	Diesel-range mg/kg, dry	Lube-range mg/kg, dry	108-95-2 µg/kg, dry	95-57-8 µg/kg, dry	541-73-1 µg/kg, dry
ICS-LP3-SO-D-101512	23.3	0.08 J_{HT}	11.7	0.2 U	35	92	170	36	19 U	4.8 U
ICS-A-SE-6-112612	12.4	0.15 J_{HT}	24.0	0.3 U	72	29	58	61	20 U	5.0 U
ICS-A-SE-7-112612	10.4	0.14 J_{HT}	20.3	0.3 U	63	44	77	66	19 U	4.8 U
ICS-B-SE-4-112712	218	1.84 J_{HT}	17.8	0.3 U	286	4200	10,000	96	52 U	160
ICS-B-SE-6-112712	13.3	0.19 J_{HT}	24.6	0.3 U	74	47	100	42	20 U	4.9 U
ICS-D-SE-5-112712	11.6	0.15 J_{HT}	21.9	0.3 U	67	43	76	76	19 U	4.8 U
ICS-F-SE-2-112712	4380	0.29 J_{HT}	23.2	0.3 U	1420	12,000	2100	300 U	300 U	13 J
ICS-F-SE-4-112712	11.5	0.16 J_{HT}	23.0	0.3 U	70	43	72	38	20 U	4.9 U
ICS-I-SE-4-112812	38.5	0.24 J_{HT}	22.0	0.3 U	91	61	120	30	19 U	4.8 U
ICS-J-SE-4-112812	11.4	0.08 J_{HT}	11.7	0.3 U	51	40	72	20	19 U	4.7 U
ICS-K-SE-3-113012	79.3	0.38 J_{HT}	21.2	0.2 U	70	70	180	19 U	19 U	3.0 J

** bold-typed values resemble corresponding petroleum hydrocarbon mixture

$DRO = C_{12} - C_{24}$; $RRO = C_{24} - C_{38}$

J = estimate associated with value less than the verifiable lower quantitation limit.

J_{HT} = estimate; due to exceedance of recommended holding time.

U = nondetected at the associated lower reporting limit.

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ICS / [former] NW Cooperage, Seattle, WA
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Field I.D.	1,4-Dichloro- benzene 106-46-7 <u>µg/kg, dry</u>	Benzyl alcohol 100-51-6 <u>µg/kg, dry</u>	1,2-Dichloro- benzene 95-50-1 <u>µg/kg, dry</u>	2-Methyl- phenol 95-48-7 <u>µg/kg, dry</u>	4-Methyl- phenol 106-44-5 <u>µg/kg, dry</u>	N-Nitroso-di-n- propylamine 621-64-7 <u>µg/kg, dry</u>	Hexachloro- ethane 67-72-1 <u>µg/kg, dry</u>	Nitrobenzene 98-95-3 <u>µg/kg, dry</u>	Isophorone 78-59-1 <u>µg/kg, dry</u>	2,4-Dimethyl- phenol 105-67-9 <u>µg/kg, dry</u>	Benzoic acid 65-85-0 <u>µg/kg, dry</u>	2,4-Dichloro- phenol 120-83-2 <u>µg/kg, dry</u>
ICS-LP3-SO-D-101512	4.5 J	19 U	14	21	40	19 U	19 U	19 U	19 U	34	190 U	96 U
ICS-A-SE-6-112612	5.0 U	190	5.0 U	6.8	50	20 U	20 U	20 U	20 U	25 U	470 J_Q	99 U
ICS-A-SE-7-112612	4.8 U	140	4.8 U	6.5	41	19 U	19 U	19 U	19 U	24 U	380 J_Q	95 U
ICS-B-SE-4-112712	370	52 U	150	42	55	52 U	52 U	52 U	52 U	120	520 U	260 U
ICS-B-SE-6-112712	4.9 U	160	4.9 U	5.1	32	20 U	20 U	20 U	20 U	25 U	310 J_Q	98 U
ICS-D-SE-5-112712	4.8 U	170	4.8 U	8.0	44	19 U	19 U	19 U	19 U	24 U	540 J_Q	96 U
ICS-F-SE-2-112712	11 J	59 U	9.5 J	15 U	300 U	300 U	300 U	300 U	300 U	890	3000 U	1500 U
ICS-F-SE-4-112712	4.9 U	120	4.9 U	4.5 J	24	20 U	20 U	20 U	20 U	24 U	230 J_Q	98 U
ICS-I-SE-4-112812	4.8 U	72	3.0 J	3.9 J	21	19 U	19 U	19 U	19 U	24 U	190 U	97 U
ICS-J-SE-4-112812	4.7 U	37	4.7 U	2.9 J	49	19 U	19 U	19 U	19 U	24 U	190 U	95 U
ICS-K-SE-3-113012	5.0	19 U	3.1 J	4.7 U	19 U	19 U	19 U	19 U	19 U	24 U	190 U	94 U

J = estimate associated with value less than the verifiable lower quantitation limit.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

Remedial Investigation
 ICS / [former] NW Cooperage, Seattle, WA
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Field I.D.	1,2,4-Trichloro- benzene 120-82-1 <u>µg/kg, dry</u>	Naphthalene 91-20-3 <u>µg/kg, dry</u>	4-Chloro-3- methylphenol 59-50-7 <u>µg/kg, dry</u>	2-Methyl- naphthalene 91-57-6 <u>µg/kg, dry</u>	2,4,5-Trichloro- phenol 95-95-4 <u>µg/kg, dry</u>	2-Chloro- naphthalene 91-58-7 <u>µg/kg, dry</u>	Dimethyl- phthalate 131-11-3 <u>µg/kg, dry</u>	Acenaph- thylene 208-96-8 <u>µg/kg, dry</u>	Acenaphthene 83-32-9 <u>µg/kg, dry</u>	Dibenzo-furan 132-64-9 <u>µg/kg, dry</u>
ICS-LP3-SO-D-101512	7.0	180	96 U	180	96 U	19 U	19 U	19 U	42	32
ICS-A-SE-6-112612	5.0 U	71	99 U	44	99 U	20 U	20 U	19 J	27	39
ICS-A-SE-7-112612	4.8 U	52	95 U	39	95 U	19 U	19 U	19 U	25	37
ICS-B-SE-4-112712	52	120	260 U	180	260 U	52 U	52 U	99	220	100
ICS-B-SE-6-112712	4.9 U	73	98 U	48	98 U	20 U	20 U	20 U	32	45
ICS-D-SE-5-112712	4.8 U	77	96 U	63	96 U	19 U	19 U	19 U	23	47
ICS-F-SE-2-112712	15 U	17,000	1500 U	62,000	1500 U	300 U	300 U	900	980	1600
ICS-F-SE-4-112712	4.9 U	72	98 U	120	98 U	20 U	20 U	20 U	22	38
ICS-I-SE-4-112812	4.8 U	56	97 U	19	97 U	19 U	19 U	19 U	290	40
ICS-J-SE-4-112812	4.7 U	53	95 U	43	95 U	19 U	19 U	24	19	24
ICS-K-SE-3-113012	3.8 J	19 U	94 U	13 J	94 U	19 U	19 U	19 U	18 J	17 J

J = estimate associated with value less than the verifiable lower quantitation limit.

U = nondetected at the associated lower reporting limit.

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ICS / [former] NW Cooperage, Seattle, WA
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Field I.D.	2,6-Dinitro- toluene 606-20-2 <u>µg/kg, dry</u>	2,4-Dinitro- toluene 121-14-2 <u>µg/kg, dry</u>	Diethyl- phthalate 84-66-2 <u>µg/kg, dry</u>	4-Chlorophenyl- phenylether 7005-72-3 <u>µg/kg, dry</u>	Fluorene 86-73-7 <u>µg/kg, dry</u>	N-Nitrosodi- phenylamine 86-30-6 <u>µg/kg, dry</u>	Pentachloro- phenol 87-86-5 <u>µg/kg, dry</u>	Phenanthrene 85-01-8 <u>µg/kg, dry</u>	Carbazole 86-74-8 <u>µg/kg, dry</u>	Anthracene 120-12-7 <u>µg/kg, dry</u>	Di-n-butyl- phthalate 84-74-2 <u>µg/kg, dry</u>	Fluoranthene 206-44-0 <u>µg/kg, dry</u>	Pyrene 129-00-0 <u>µg/kg, dry</u>
ICS-LP3-SO-D-101512	96 U	96 U	39 J_B	19 U	53	4.8 U	72 J_Q	210	30	35	59	110	100
ICS-A-SE-6-112612	99 U	99 U	27 J_B	20 U	44	5.0 U	20 U	150	20 U	29	20 U	110	100
ICS-A-SE-7-112612	95 U	95 U	24 J_B	19 U	39	4.8 U	19 U	130	19 U	33	19 U	130	110
ICS-B-SE-4-112712	260 U	260 U	220	52 U	260	13 U	52 U	630	52 U	160	52 U	1700	980
ICS-B-SE-6-112712	98 U	98 U	20 J_B	20 U	54	4.9 U	20 U	170	20 U	28	20 U	130	110
ICS-D-SE-5-112712	96 U	96 U	19 U	19 U	40	4.8 U	19 U	140	19 U	34	19 U	140	120
ICS-F-SE-2-112712	1500 U	1500 U	300 U	300 U	5000	15 U	59 U	6800	300 U	440	300 U	860	740
ICS-F-SE-4-112712	98 U	98 U	35 J_B	20 U	42	4.9 U	20 U	130	20 U	24	20 U	100	93
ICS-I-SE-4-112812	97 U	97 U	80	19 U	59	4.8 U	19 U	67	19 U	25	19 U	130	130
ICS-J-SE-4-112812	95 U	95 U	42 J_B	19 U	21	4.7 U	19 U	90	19 U	20	19 U	87	89
ICS-K-SE-3-113012	94 U	94 U	86	19 U	12 J	4.7 U	19 U	34	19 U	15 J	19 U	36	76

J = estimate associated with value less than the verifiable lower quantitation limit.

J_B = associated value may be biased high due to contribution from laboratory background or method blank.

J_Q = estimate; due to noncompliant CCV check.

U = nondetected at the associated lower reporting limit.

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 ICS / [former] NW Cooperage, Seattle, WA
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Field I.D.	Butylbenzyl- phthalate 85-68-7 <u>µg/kg, dry</u>	Benzo(a)- anthracene 56-55-3 <u>µg/kg, dry</u>	bis (2-Ethylhexyl)- phthalate 117-81-7 <u>µg/kg, dry</u>	Chrysene 218-01-9 <u>µg/kg, dry</u>	Di-n-octyl- phthalate 117-84-0 <u>µg/kg, dry</u>	total Benzo- fluoranthenes <u>µg/kg, dry</u>	Benzo(a)- pyrene 50-32-8 <u>µg/kg, dry</u>	Indeno(1,2,3- cd)pyrene 193-39-5 <u>µg/kg, dry</u>	Dibenz(a,h)- anthracene 53-70-3 <u>µg/kg, dry</u>	Benzo(g,h,i)- perylene 191-24-2 <u>µg/kg, dry</u>	LPAH <u>µg/kg, dry</u>	HPAH <u>µg/kg, dry</u>
ICS-LP3-SO-D-101512	43	46	270	54	19 U	78	40	22	19 U	26	520	476
ICS-A-SE-6-112612	8.2	30	50 U	47	20 U	56	20 U	20	20 U	31	340	394
ICS-A-SE-7-112612	6.6	35	48 U	47	19 U	59	19 U	18 J	19 U	24	279	423
ICS-B-SE-4-112712	13 U	280	2900	480	52 U	460	200	83	52 U	83	1489	4266
ICS-B-SE-6-112712	5.2	33	37 J	45	20 U	56	20 U	17 J	20 U	25	357	416
ICS-D-SE-5-112712	5.0	39	48 U	50	19 U	66	19 U	18 J	19 U	23	314	456
ICS-F-SE-2-112712	15 U	280 J	740 U	410	300 U	410 J	220 J	300 U	300 U	300 U	31,020	2920
ICS-F-SE-4-112712	4.9 U	29	49 U	37	20 U	51	20 U	15 J	20 U	20	290	345
ICS-I-SE-4-112812	9.5	42	48 U	45	19 U	80	19 U	18 J	19 U	22	497	467
ICS-J-SE-4-112812	48	19	47 U	23	19 U	34 J	19 U	19 U	19 U	10 J	227	262
ICS-K-SE-3-113012	5.1	31	120	67	19 U	56	22	19 U	19 U	19 U	79	288

J = estimate associated with value less than the verifiable lower quantitation limit.

U = nondetected at the associated lower reporting limit.

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Field I.D.	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC	Heptachlor	Aldrin	Heptachlor	Endosulfan I	Dieldrin	4,4'-DDE
	319-84-6	319-85-7	319-86-8	(Lindane) 58-89-9	76-44-8	309-00-2	1024-57-3	959-98-8	60-57-1	72-55-9
	<u>µg/kg, dry</u>	<u>µg/kg, dry</u>	<u>µg/kg, dry</u>	<u>µg/kg, dry</u>	<u>µg/kg, dry</u>	<u>µg/kg, dry</u>	<u>µg/kg, dry</u>	<u>µg/kg, dry</u>	<u>µg/kg, dry</u>	<u>µg/kg, dry</u>
ICS-LP3-SO-D-101512	2.4 U	2.4 U	2.4 U	2.4 U	6.5 U	2.4 U	28 U	2.4 U	17 U	50 J_p
ICS-A-SE-6-112612	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.96 U	0.48 U	0.96 U	0.96 U
ICS-A-SE-7-112612	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.77 U	0.96 U	0.48 U	0.96 U	0.96 U
ICS-B-SE-4-112712	39 U	250 U	39 U	110 U	110 U	39 U	110 U	39 U	78 U	52 U
ICS-B-SE-6-112712	0.50 U	1.1 U	1.3 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	1.0 U
ICS-D-SE-5-112712	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.97 U	0.49 U	0.97 U	0.97 U
ICS-F-SE-2-112712	5.1 U	14 U	7.4 U	5.9 U	7.2 U	4.1 U	12 U	6.6 U	6.7 U	13 U
ICS-F-SE-4-112712	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.99 U	0.50 U	0.99 U	0.99 U
ICS-I-SE-4-112812	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	6.3 U	11 U	2.4 U	4.9 U	53 J_p
ICS-J-SE-4-112812	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.3 U	1.0 U	0.50 U	1.0 U	1.0 U
ICS-K-SE-3-113012	2.4 U	4.4 U	2.4 U	2.4 U	4.1 U	2.4 U	25 U	2.4 U	4.7 U	56 J_p

J_p = estimated value due to high variability exhibited between dual column responses on GC/ECD (M.8081).

U = nondetected at the associated lower reporting limit.

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Field I.D.	Endrin 72-20-8 <u>µg/kg, dry</u>	Endosulfan II 33213-65-9 <u>µg/kg, dry</u>	4,4'-DDD 72-54-8 <u>µg/kg, dry</u>	Endosulfan sulfate 1031-07-8 <u>µg/kg, dry</u>	4,4'-DDT 50-29-3 <u>µg/kg, dry</u>	Methoxychlor 72-43-5 <u>µg/kg, dry</u>	Endrin ketone 53494-70-5 <u>µg/kg, dry</u>	Endrin aldehyde 7421-93-4 <u>µg/kg, dry</u>	<i>trans</i> - Chlordane 5103-74-2 <u>µg/kg, dry</u>	<i>cis</i> - Chlordane 5103-71-9 <u>µg/kg, dry</u>	Toxaphene 8001-35-2 <u>µg/kg, dry</u>
ICS-LP3-SO-D-101512	4.9 U	4.9 U	24 J_p	4.9 U	35 U	24 U	20 U	4.9 U	2.4 U	2.4 U	120 U
ICS-A-SE-6-112612	0.96 U	0.96 U	0.96 U	0.96 U	1.3 U	4.8 U	0.96 U	0.96 U	0.94 U	0.48 U	24 U
ICS-A-SE-7-112612	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	4.8 U	0.96 U	0.96 U	0.48 U	0.48 U	24 U
ICS-B-SE-4-112712	550 U	78 U	52 U	78 U	52 U	390 U	510 U	78 U	39 U	39 U	2700 U
ICS-B-SE-6-112712	1.0 U	1.0 U	1.0 U	1.0 U	1.6 U	5.0 U	1.0 U	1.0 U	2.1 U	0.50 U	25 U
ICS-D-SE-5-112712	0.97 U	0.97 U	0.97 U	0.97 U	0.97 U	4.9 U	0.97 U	0.97 U	0.88 U	0.49 U	24 U
ICS-F-SE-2-112712	4.8 U	4.8 U	4.8 U	4.8 U	6.4 U	24 U	4.8 U	7.3 U	3.2 U	2.4 U	120 U
ICS-F-SE-4-112712	0.99 U	0.99 U	0.99 U	0.99 U	0.99 U	5.0 U	0.99 U	0.99 U	0.50 U	0.50 U	25 U
ICS-I-SE-4-112812	4.9 U	4.9 U	6.8	4.9 U	9.7 U	24 U	4.9 U	4.9 U	10 U	2.4 U	120 U
ICS-J-SE-4-112812	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	4.1 U	1.0 U	1.5 U	0.50 U	25 U
ICS-K-SE-3-113012	4.7 U	4.7 U	29 J_p	4.7 U	33 U	24 U	25 U	4.7 U	14 U	2.4 U	120 U

J_p = estimated value due to high variability exhibited between dual column responses on GC/ECD (M.8081).

U = nondetected at the associated lower reporting limit.

Remedial Investigation
 ICS / [former] NW Cooperage, Seattle, WA
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Field I.D.	Hexachloro- benzene 118-74-1 <u>µg/kg, dry</u>	Hexachloro- butadiene 87-68-3 <u>µg/kg, dry</u>	Aroclor 1016 12674-11-2 <u>µg/kg, dry</u>	Aroclor 1242 53469-21-9 <u>µg/kg, dry</u>	Aroclor 1248 12672-29-6 <u>µg/kg, dry</u>	Aroclor 1254 11097-69-1 <u>µg/kg, dry</u>	Aroclor 1260 11096-82-5 <u>µg/kg, dry</u>	Aroclor 1221 11104-28-2 <u>µg/kg, dry</u>	Aroclor 1232 11141-16-5 <u>µg/kg, dry</u>	total PCBs <u>µg/kg, dry</u>
ICS-LP3-SO-D-101512	4.9 U	4.9 U	39 U	39 U	460	380	210	39 U	39 U	1050
ICS-A-SE-6-112612	0.96 U	0.96 U	3.8 U	3.8 U	4.8 U	3.8 U	3.8 U	3.8 U	3.8 U	4.8 U
ICS-A-SE-7-112612	0.96 U	0.96 U	3.8 U	3.8 U	6.3 U	3.8 U	3.8 U	3.8 U	3.8 U	6.3 U
ICS-B-SE-4-112712	130 U	78 U	1500 U	1500 U	23,000	12,000	9100	1500 U	1500 U	44,100
ICS-B-SE-6-112712	1.0 U	1.0 U	4.0 U	4.0 U	5.6 U	4.0 U	4.0 U	4.0 U	4.0 U	5.6 U
ICS-D-SE-5-112712	0.97 U	0.97 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U
ICS-F-SE-2-112712	4.8 U	4.8 U	3.8 U	3.8 U	130 U	160	170	3.8 U	3.8 U	330
ICS-F-SE-4-112712	0.99 U	0.99 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
ICS-I-SE-4-112812	4.9 U	4.9 U	3.9 U	3.9 U	70	46	27	3.9 U	3.9 U	143
ICS-J-SE-4-112812	1.0 U	1.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
ICS-K-SE-3-113012	4.7 U	4.7 U	38 U	38 U	760	590	260	38 U	38 U	1610

U = nondetected at the associated lower reporting limit.

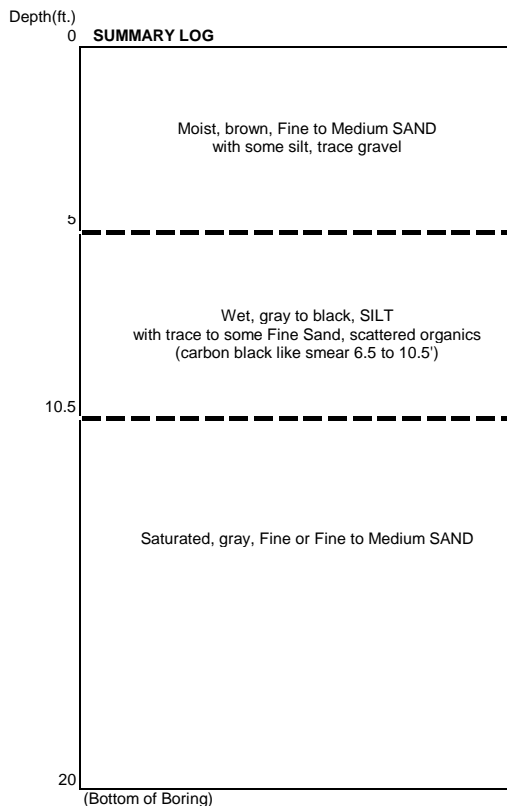
**ATTACHMENT C
WELL, PROBE AND CORE LOGS**

**DATA GAP TECHNICAL MEMORANDUM
ICS/NWC RI/FS
SEATTLE, WASHINGTON
October 2014**

BORING - DESCRIPTION OF SAMPLES & DATA

LP1

Field Rep: DG Cooper			Location: N199889 E1270243 NAD83			
Drilling Co.: Cascade			Elevation (Ft.): Approx. 15 ft. MLLW		Ground Surface: Quarry spalls	
Driller: Kasey			Date Completed: 10/15/12			
Drill Type: Geoprobe 6600			Weather: Rain 55F			
Size/Type Casing: 2" Rod			Hammer Type: Direct push		Sampler Type: 2" Macro w/ acrylic liner	
Spl.No.	Type sample saved	PID (ppm)	Spl Depth (Ft.) From - To	Spl length inches	Time	Sample Description
			0-5	48		0-5' Most, bwn, F-M SAND, w/some silt, trace gravel, ns, no
A	Grab 3-5'	1.0			0845	
			5-10	40		5-6.5' Wet, gry-blk, F sandy, SILT, ns, no
B	Grab 6.5-8'	220			0855	6.5-10' Wet, blk, SILT, w/trace sand, scattered organics, ns, no carbon black -like smear
			10-15	40		10-10.5' As above
C	Grab 10.5-12'	0.9			0905	10.5-15' Sat, gry, F SAND, ns, no
			15-20	50		15-20' Sat, gry, F-M SAND, ns, no
D	Grab 16-18'	0.9			0915	

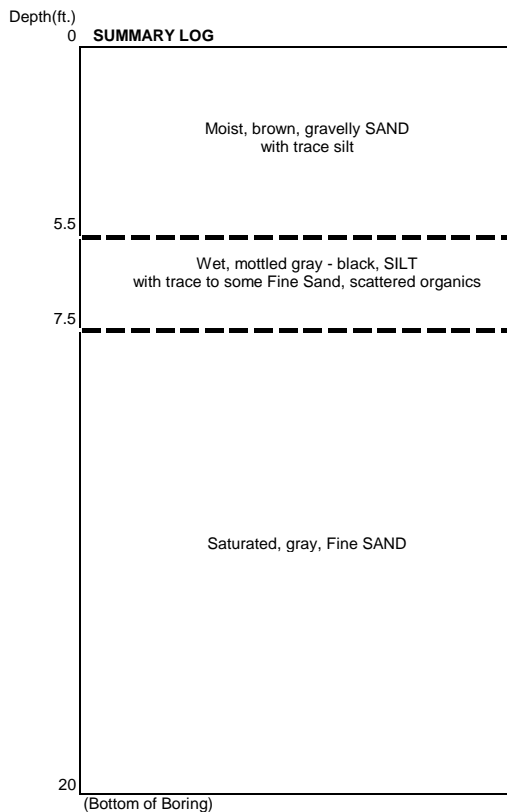


NOTES: Completed boring backfilled with granular bentonite
gry = gray; bwn = brown; blk = black
ns = no sheen
no = no odor
F = fine; M = medium
Sat = Pores saturated with water

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

BORING - DESCRIPTION OF SAMPLES & DATA

Field Rep: DG Cooper		Location: N199970 E1270215 NAD83				
Drilling Co.: Cascade		Elevation (Ft.): Approx. 15 ft. MLLW		Ground Surface: Quarry spalls		
Driller: Kasey		Date Completed: 10/15/12				
Drill Type: Geoprobe 6600		Weather: Rain 55F				
Size/Type Casing: 2" Rod		Hammer Type: Direct push		Sampler Type: 2" Macro w/ acrylic liner		
Spl.No.	Type sample saved	PID (ppm)	Spl Depth (Ft.) From - To	Spl length inches	Time	Sample Description
			0-5	48		0-5' Moist, bwn, gravelly, SAND, w/trace silt, ns, no
A	Grab 3-5'	2.3			1000	2-5' Moist, mot-bwn, silty SAND w/trace gravel, ns, no
			5-10	50		5-5.5' Wet, bwn, F Sandy, SILT, ns, no
B	Grab 5.5-7.5'	40			1010	5.5-7.5' Wet, mot gry-blk, SILT, w/trace F sand, ns, no
						7.5-10' Sat, gry, F SAND, w/trace silt, wood, organics
			10-15	60		10-15' Sat, gry, F SAND, ns, no
C	Grab 8-10'	1.3			1020	
D	Grab 15-16'	0.9	15-20	60	1030	15-20' As above

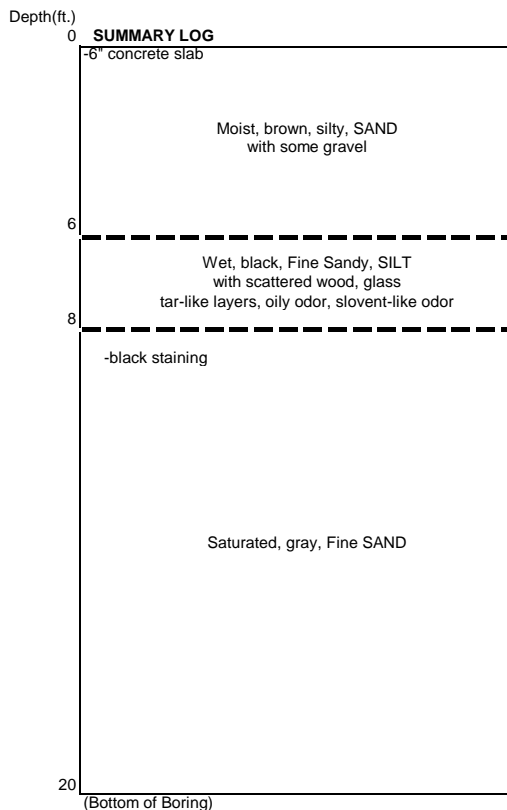


NOTES: Completed boring backfilled with granular bentonite
 mot - mottled
 gry = gray; bwn = brown; blk = black
 ns = no sheen
 no = no odor
 F = fine; M = medium
 Sat = Pores saturated with water

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

BORING - DESCRIPTION OF SAMPLES & DATA

Field Rep: DG Cooper		Location: N200044 E1270155 NAD83				
Drilling Co.: Cascade		Elevation (Ft.): Approx. 15.5 ft. MLLW		Ground Surface: Concrete slab		
Driller: Kasey		Date Completed: 10/15/12				
Drill Type: Geoprobe 6600		Weather: cloudy 55F				
Size/Type Casing: 2" Rod		Hammer Type: Direct push		Sampler Type: 2" Macro w/ acrylic liner		
Spl.No.	Type sample saved	PID (ppm)	Spl Depth (Ft.) From - To	Spl length inches	Time	Sample Description
			0-5	36		0-5' Moist, bwn, silty, SAND, w/some gravel, ns, no
A	Grab 3-5'	3.1			1045	
			5-10	40		5-6' As above
B	Grab 6-8'	340			1055	6-8' Wet, blk, F Sandy, SILT, w/scattered, wood, glass Tar-like layers, oily odor, solvent-like odor, no sheen
						8-10' Sat, blk-gry, F SAND, ns, no
			10-15	48		10-15' As above, with silty zones, becoming grayer with depth
C	Grab 10-12'	1.5			1105	
D	Grab 15-16'	1.0	15-20	60	1115	15-20' Sat, Dk gry, F SAND, ns, no

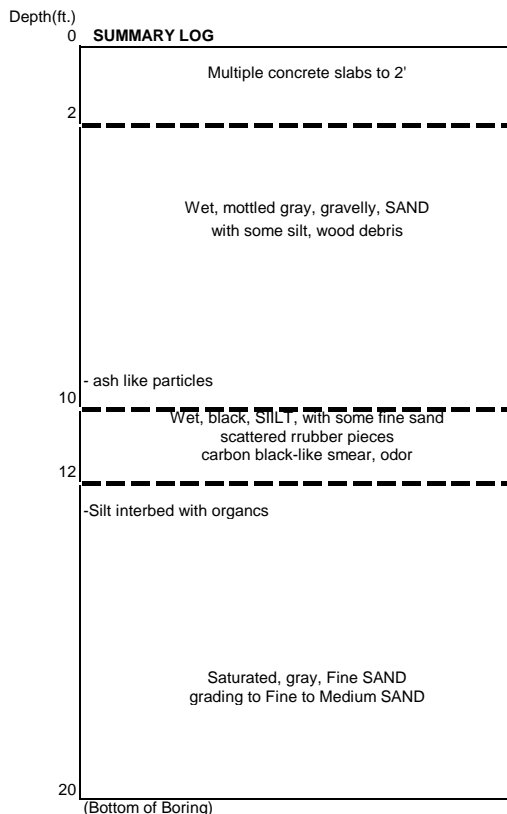


NOTES: Completed boring backfilled with granular bentonite
 gry = gray; bwn = brown; blk = black
 ns = no sheen
 no = no odor
 F = fine; M = medium
 Sat = Pores saturated with water

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

BORING - DESCRIPTION OF SAMPLES & DATA

Field Rep: DG Cooper			Location: N200125 E1270110 NAD83			
Drilling Co.: Cascade			Elevation (Ft.): Approx. 16 ft. MLLW		Ground Surface: Concrete slab	
Driller: Kasey			Date Completed: 10/15/12			
Drill Type: Geoprobe 6600			Weather: Cloudy 60F			
Size/Type Casing: 2" Rod			Hammer Type: Direct push		Sampler Type: 2" Macro w/ acrylic liner	
Spl.No.	Type sample saved	PID (ppm)	Spl Depth (Ft.) From - To	Spl length inches	Time	Sample Description
			0-5	36		0-2' Multiple concrete slabs, cored to 24"
						2-5' Wet, mot, gry-blk, gravelly, SAND, w/some silt, wood
			5-10	24		5-8' Poor recovery, slurry
A	Grab 8-10'	6.7			1400	8-10' Wet, mot gry, gravelly, SAND, w/wood, ash-like particles
			10-15	60		10-12' Wet, blk, SILT, w/some F Sand, scattered rubber
B	Grab 10-12'	920			1410	carbon black-like smear, slight odor, ns
C	Grab 14-15'	2.4			1420	12-12.5' Wet, gry-blk, F SAND, ns, no
						12.5-13' Wet, gry-blk, SILT, w/organics
						13-15' Sat, gry, F SAND, ns, no
D	Grab 17-18'	1.2	15-20	60	1430	15-20' Sat, gry, F SAND, ns, no
						grading to F-M SAND



NOTES Initial boring (N200127.5 E1270115.8) encountered a void from 4-5' The void contained approximately 1' of black oily fluid with the consistency of bunker oil or paint, paint thinner-like odor. A NAPL sample was collected as ICS-LP4-NAPL-101512 The boring was backfilled with bentonite chip. Drill rig was moved 5' to the west and Probe LP4 was advanced.

gry = gray; bwn = brown; blk = black
ns = no sheen
no = no odor
F = fine; M = medium
Sat = Pores saturated with water

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

DESCRIPTION OF SAMPLES, TESTS, AND INSTALLATION - MONITORING WELL NO.

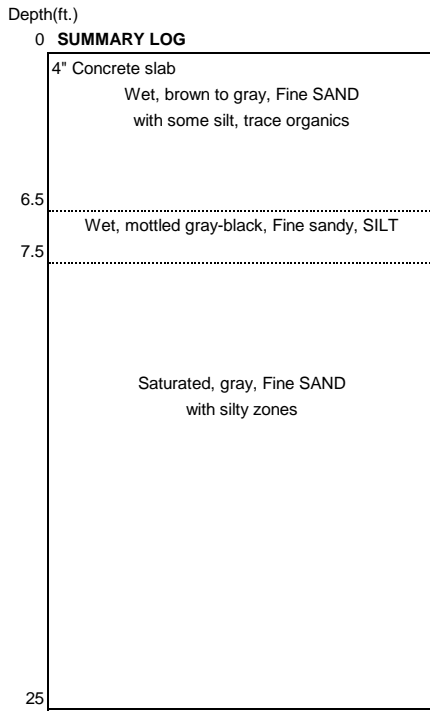
DOF-MW1

Field Rep: D. Cooper		Location: N199991 E1270150 NAD83		Ecology ID# BHS517	
Drilling Co.: Cascade		Ground surface elevation: 16.5 MLLW			
Driller: Kasey Goble		Date Completed: 10/15/2012			
Drill Type: Power Probe 9600		Weather: Rain 60F			
Size/Type Casing: 2.5"		Sampler: 2" macro w/acrylic liner, 5' continuous push			

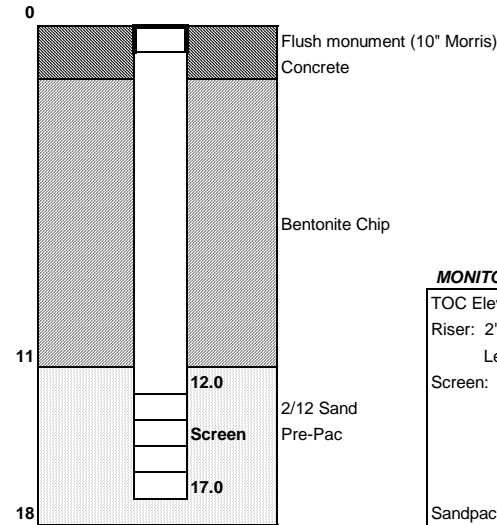
Spl. No.	Type Sample Saved	PID (ppm)	Spl Depth (Ft.) From - To	Spl length (inches)	Blows/ 6 inches	Time	Sample Description
A	grab @ 4-5'	1.6	0-5	48	-	1315	0.4-4.5' Moist, bwn, F SAND, w/some silt, ns, no 4.5-5' Wet, gry, F SAND, w/trace organics, ns, no
B	grab @ 6.5-7.5'	1.2	5-10	60	-	1325	5-6.5' As above 6.5-7.5' Wet, mot gry-blk, F Sandy, SILT, ns, no 7.5-10' Sat, gry, F SAND, w/some silt, ns, no
C	grab @ 11-12'	0.2	10-15	40	-	1335	10-15' Sat, gry, F SAND, ns, no
			15-20	40	-		15-20' Sat, gry, silty, F SAND, ns, no
			20-25	60	-		20-25' As above

Bottom of boring @ 25.0'

MONITORING WELL DIAGRAM



(Bottom of Boring)



MONITORING WELL INFORMATION

TOC Elevation: 16.17 MLLW
Riser: 2" dia. SCH 40 PVC
Length: 12.0'
Screen: 2" dia. SCH 40 PVC
Slot size: 0.010"
Length: 5'
(top/bot) 12.0/17.0
0.3' end cap
Sandpack: Pre-Pac 2/12 colorado sand
10-20 backfill (top/bot) 11/18
Seal: Bentonite chip
(top/bot) 2/11
Monument: 10" dia. Flush Mount (Morris)
-0.3' to top of PVC/TOC

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

Abbreviations: PID - photoionization detector - MiniRAE 3000
 F - fine
 M - medium
 Sat. - saturated
 mot - mottled
 ns - no sheen
 no - no odor

DOF-MW2

DESCRIPTION OF SAMPLES, TESTS, AND INSTALLATION - MONITORING WELL NO.

Field Rep: D. Cooper		Location: N199928 E1269979 NAD83		Ecology ID# BHS520	
Drilling Co.: Cascade		Ground surface elevation: 19.5 MLLW			
Driller: Kasey Goble		Date Completed: 10/16/2012			
Drill Type: Power Probe 9600		Weather: Clear 60F			
Size/Type Casing: 2.5"		Sampler: 2" macro w/acrylic liner, 5' continuous push			

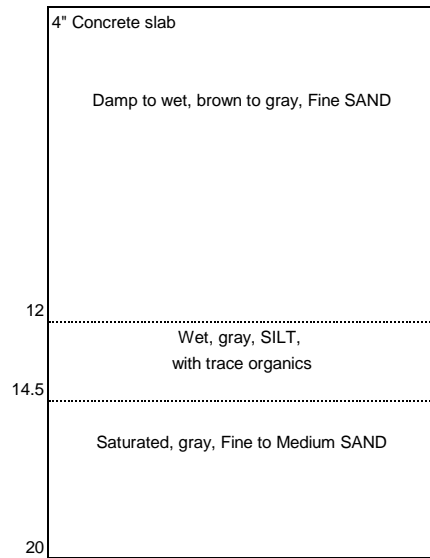
Spl. No.	Type Sample Saved	PID (ppm)	Spl Depth (Ft.) From - To	Spl length (inches)	Blows/ 6 inches	Time	Sample Description
A	grab @ 2-3'	1.3	0-5	40	-	1120	0.4-5' Damp, bwn, F SAND, ns, no
B	grab @ 8-9'	1.2	5-10	60	-	1130	5-9' As above 9-10' Wet, bwn-gry, F SAND, w/oxidation banding, ns, no
C	grab @ 12-13'	1	10-15	60	-	1140	10-12' As above 12-14.5' Wet, gry, SILT, w/trace organics 13-14', ns, no 14.5-15' Sat, gry, F-M SAND, ns, no
D	grab @ 16-17'	0.3	15-20	60	-	1150	15-20' As above

Bottom of boring @ 20.0'

MONITORING WELL DIAGRAM

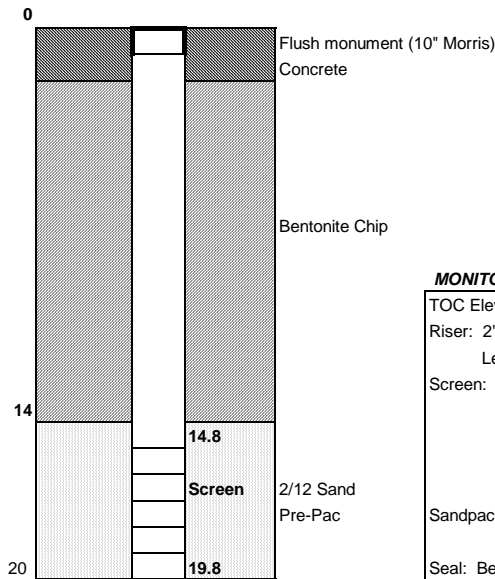
Depth(ft.)

SUMMARY LOG



(Bottom of Boring)

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.



MONITORING WELL INFORMATION

TOC Elevation: 19.29 MLLW
Riser: 2" dia. SCH 40 PVC
Length: 14.8'
Screen: 2" dia. SCH 40 PVC
Slot size: 0.010"
Length: 5'
(top/bot) 14.8/19.8
0.3' end cap
Sandpack: Pre-Pac 2/12 colorado sand
10-20 backfill (top/bot) 14/20
Seal: Bentonite chip
(top/bot) 2/14
Monument: 10" dia. Flush Mount (Morris)
-0.3' to top of PVC/TOC

Abbreviations: PID - photoionization detector - MiniRAE 3000

- F - fine
- M - medium
- Sat. - saturated
- mot - mottled
- ns - no sheen
- no - no odor

DESCRIPTION OF SAMPLES, TESTS, AND INSTALLATION - MONITORING WELL NO.

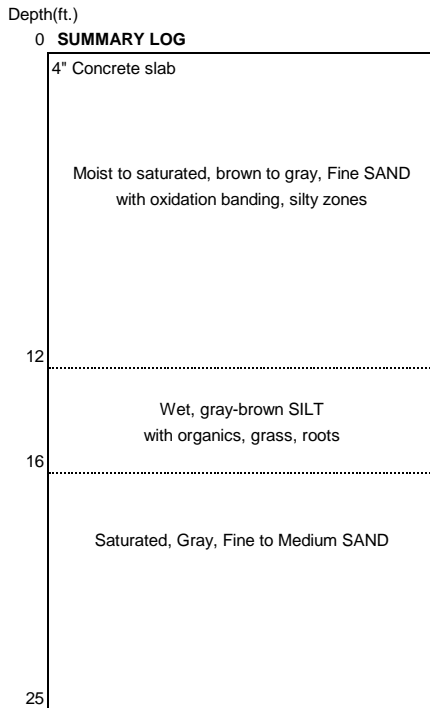
DOF-MW3

Field Rep: D. Cooper		Location: N199878 E1269775 NAD83		Ecology ID# BHS521	
Drilling Co.: Cascade		Ground surface elevation: 19.6 MLLW			
Driller: Kasey Goble		Date Completed: 10/16/2012			
Drill Type: Power Probe 9600		Weather: Clear 60F			
Size/Type Casing: 2.5"		Sampler: 2" macro w/acrylic liner, 5' continuous push			

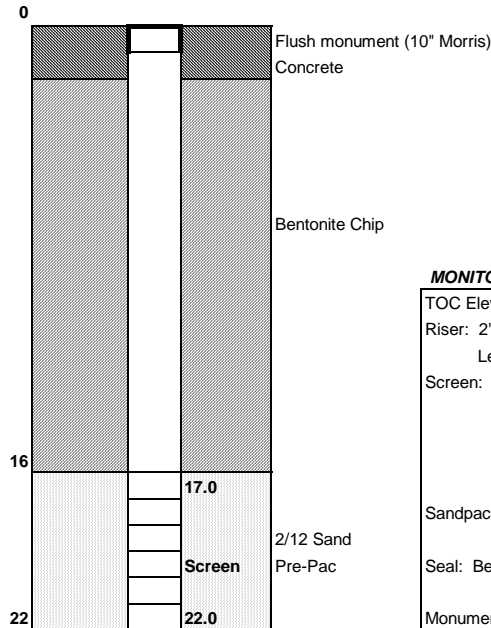
Spl. No.	Type Sample Saved	PID (ppm)	Spl Depth (Ft.) From - To	Spl length (inches)	Blows/ 6 inches	Time	Sample Description
A	grab @ 2-4'	0.8	0-5	48	-	1310	0.4-5' Moist, bwn, F SAND, ns, no
B	grab @ 7-8'	0.4	5-10	55	-	1320	5-8' Moist to wet, bwn, F SAND, oxidation band @ 8', ns, no 8-10' Wet to sat, gry, F SAND, sat @ 8.5', ns, no
C	grab @ 12-13'	0.9	10-15	55	-	1330	10-12' Sat, gry, silty F SAND, ns, no 12-13.5' Wet, gry, SILT, ns, no 13.5-15' Wet, bwn, SILT, w/organics, grass, roots
D	grab @ 17-18'	0.9	15-20	36	-	1340	15-16' As above 16-20' Sat, gry, F-M SAND, ns, no
			20-25	60	-		20-25' As above

Bottom of boring @ 25.0'

MONITORING WELL DIAGRAM



(Bottom of Boring)



MONITORING WELL INFORMATION

TOC Elevation: 19.34 MLLW
Riser: 2" dia. SCH 40 PVC
Length: 17.0'
Screen: 2" dia. SCH 40 PVC
Slot size: 0.010"
Length: 5'
(top/bot) 17.0/22.0
0.3' end cap
Sandpack: Pre-Pac 2/12 colorado sand
10-20 backfill (top/bot) 16/22
Seal: Bentonite chip
(top/bot) 2/16
Monument: 10" dia. Flush Mount (Morris)
-0.3' to top of PVC/TOC

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

Abbreviations: PID - photoionization detector - MiniRAE 3000
 F - fine
 M - medium
 Sat. - saturated
 mot - mottled
 ns - no sheen
 no - no odor

DESCRIPTION OF SAMPLES, TESTS, AND INSTALLATION - MONITORING WELL NO.

DOF-MW4

Field Rep: D. Cooper		Location: N199986 E1269797 NAD83		Ecology ID# BHS522	
Drilling Co.: Cascade		Ground surface elevation: 18.4 MLLW			
Driller: Kasey Goble		Date Completed: 10/17/2012			
Drill Type: Power Probe 9600		Weather: Clear 50F			
Size/Type Casing: 2.5"		Sampler: 2" macro w/acrylic liner, 5' continuous push			

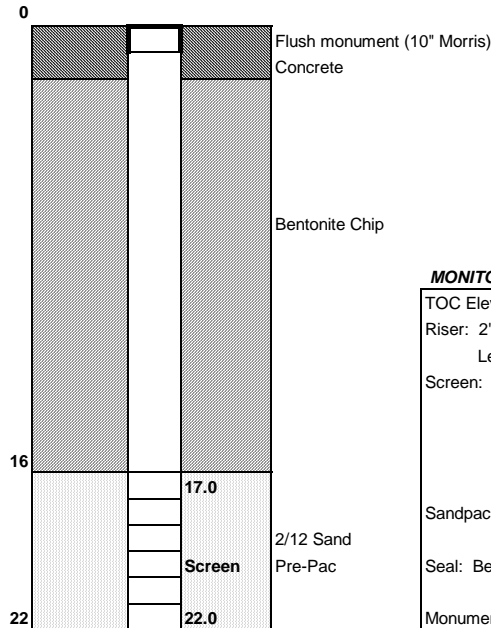
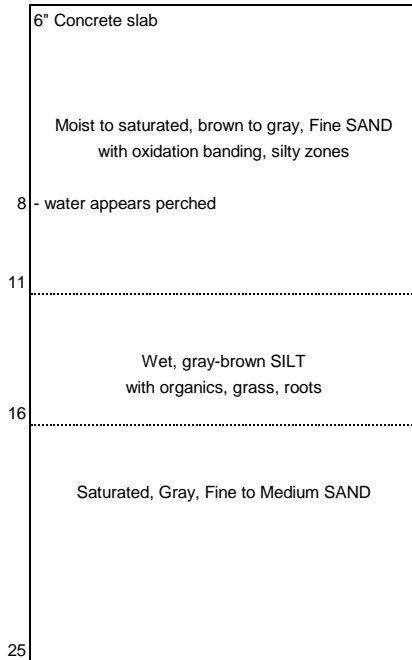
Spl. No.	Type Sample Saved	PID (ppm)	Spl Depth (Ft.) From - To	Spl length (inches)	Blows/ 6 inches	Time	Sample Description
A	grab @ 3-4'	24	0-5	36	-	0810	0.5-5' Moist, bwn-gry, F SAND, ns, no
B	grab @ 7-8'	2.3	5-10	48	-	0820	5-10' Wet, gry, F SAND, sat@ 8', ns, no (perched zone)
C	grab @ 10-11'	3.1	10-15	55	-	0830	10-11' Sat, gry, F SAND w/ some silt, ns, no 11-12' Wet, gry, SILT, ns, no 12-15' Wet, bwn, organic SILT, w/scattered fibrous organics
D	grab @ 16-17'	3.2	15-20	55	-	0840	15-16' As above 16-17' Sat, gry, fine SAND, ns, no 17-20' Sat, gry, F-M SAND, ns, no
			20-25	60	-		20-25' As above

Bottom of boring @ 25.0'

MONITORING WELL DIAGRAM

Depth(ft.)

SUMMARY LOG



MONITORING WELL INFORMATION

TOC Elevation: 18.08 MLLW
Riser: 2" dia. SCH 40 PVC
Length: 17.0'
Screen: 2" dia. SCH 40 PVC
Slot size: 0.010"
Length: 5'
(top/bot) 17.0/22.0
0.3' end cap
Sandpack: Pre-Pac 2/12 colorado sand
10-20 backfill (top/bot) 16/22
Seal: Bentonite chip
(top/bot) 2/16
Monument: 10" dia. Flush Mount (Morris)
-0.3' to top of PVC/TOC

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

Abbreviations: PID - photoionization detector - MiniRAE 3000
 F - fine
 M - medium
 Sat. - saturated
 mot - mottled
 ns - no sheen
 no - no odor

DESCRIPTION OF SAMPLES, TESTS, AND INSTALLATION - MONITORING WELL NO.

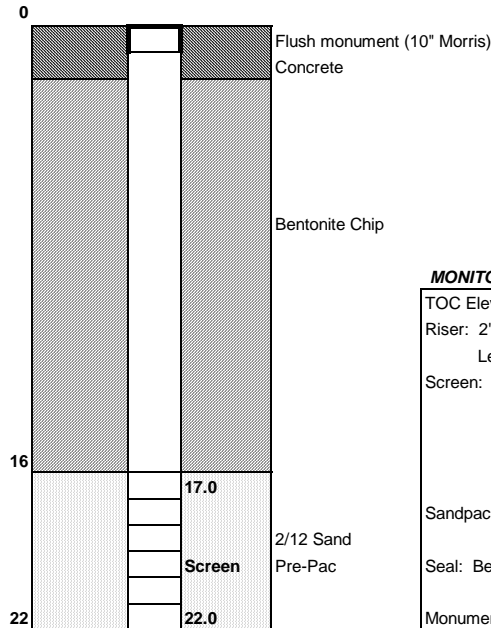
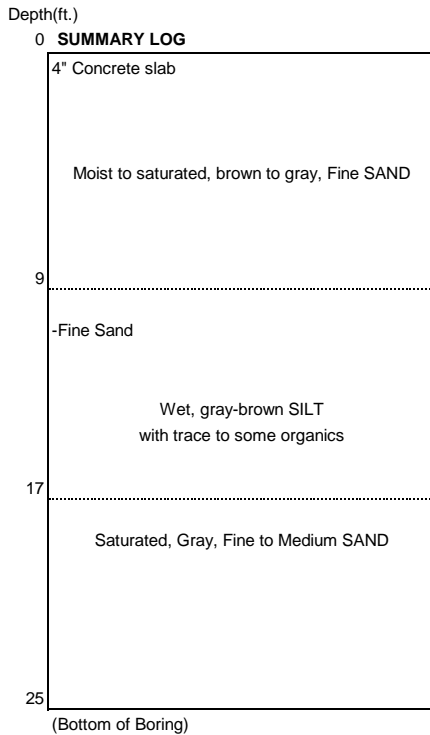
DOF-MW5

Field Rep: D. Cooper		Location: N200065 E1269721 NAD83		Ecology ID# BHS523	
Drilling Co.: Cascade		Ground surface elevation: 18.0 MLLW			
Driller: Kasey Goble		Date Completed: 10/17/2012			
Drill Type: Power Probe 9600		Weather: Clear 55F			
Size/Type Casing: 2.5"		Sampler: 2" macro w/acrylic liner, 5' continuous push			

Spl. No.	Type Sample Saved	PID (ppm)	Spl Depth (Ft.) From - To	Spl length (inches)	Blows/ 6 inches	Time	Sample Description
A	grab @ 3-4'	3.6	0-5	40	-	1010	0.4-5' Moist, bwn, F SAND, ns, no
B	grab @ 7-8'	0.5	5-10	55	-	1020	5-6' As above 6-9' Wet-sat, gry, F SAND, saturated @ 7.5' ns, no 9-10' Wet, gry, SILT, w/trace organics, ns, no
C	grab @ 12-13'	0.8	10-15	55	-	1030	10-10.5' Sat, gry, F SAND, ns, no 10.5-11.5' Wet, gry, F sandy, SILT, ns, no 11.5-15' Wet, bwn, SILT, w/trace to some organics, ns, no
D	grab @ 17-18'	1.1	15-20	55	-	1040	15-17' Wet, bwn, organic, SILT, soft, ns, no 17-20' Sat, gry, F-M SAND, ns, no
			20-25	60	-		20-25' As above

Bottom of boring @ 25.0'

MONITORING WELL DIAGRAM



MONITORING WELL INFORMATION

TOC Elevation: 17.69 MLLW
Riser: 2" dia. SCH 40 PVC
Length: 17.0'
Screen: 2" dia. SCH 40 PVC
Slot size: 0.010"
Length: 5'
(top/bot) 17.0/22.0
0.3' end cap
Sandpack: Pre-Pac 2/12 colorado sand
10-20 backfill (top/bot) 16/22
Seal: Bentonite chip
(top/bot) 2/16
Monument: 10" dia. Flush Mount (Morris)
-0.3' to top of PVC/TOC

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

Abbreviations: PID - photoionization detector - MiniRAE 3000
 F - fine
 M - medium
 Sat. - saturated
 mot - mottled
 ns - no sheen
 no - no odor

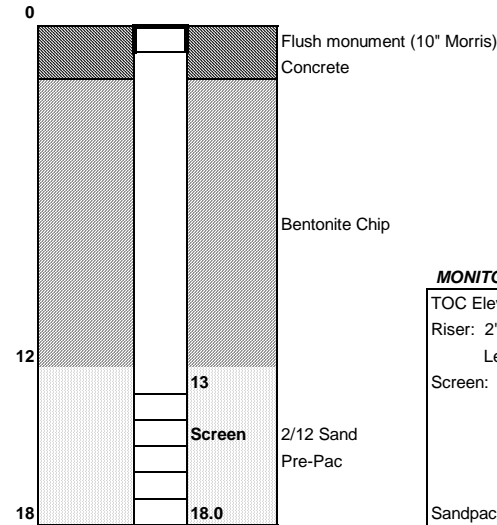
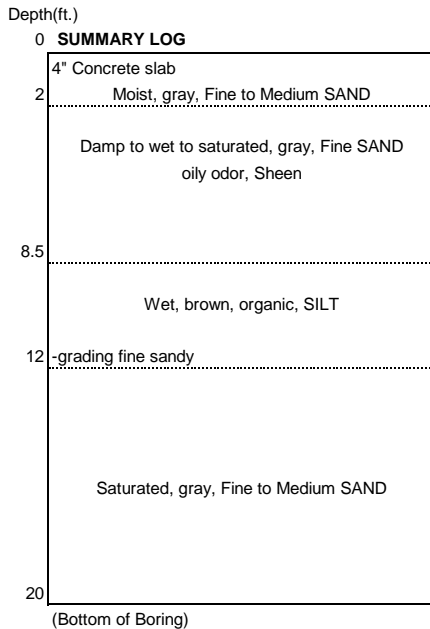
DESCRIPTION OF SAMPLES, TESTS, AND INSTALLATION - MONITORING WELL NO.

DOF-MW6

Field Rep: D. Cooper		Location: N200249 E1269827 NAD83		Ecology ID# BHS524			
Drilling Co.: Cascade		Ground surface elevation: 14.3 MLLW					
Driller: Kasey Goble		Date Completed: 10/17/2012					
Drill Type: Power Probe 9600		Weather: Clear 55F					
Size/Type Casing: 2.5"		Sampler: 2" macro w/acrylic liner, 5' continuous push					
Spl. No.	Type Sample Saved	PID (ppm)	Spl Depth (Ft.) From - To	Spl length (inches)	Blows/ 6 inches	Time	Sample Description
A	grab @ 3-5'	98	0-5	40	-	1150	0.4-2' Moist, gry, F-M SAND, w/brick fragments 2-5' Wet, gry, F SAND, strong oily odor, light sheen 4-5'
B	grab @ 6-8'	130	5-10	60	-	1200	5-8' As above, becomes saturated @ 6.5' slight sheen
C	grab @ 9-10	2.2				1210	8-8.5' Wet, gry, F SAND, ns, slight odor 8.5-10' Wet, bwn, organic, SILT, ns, no
D	grab @ 12-13	0.9	10-15	60	-	1220	10-12' As above, soft, grading F sandy, ns, no 12-15' Sat, gry, F SAND, grading coarser, ns, no
			15-20	60	-		15-20' Sat, gry, F-M SAND, ns, no

Bottom of boring @ 20.0'

MONITORING WELL DIAGRAM



MONITORING WELL INFORMATION

TOC Elevation: 14.06 MLLW
Riser: 2" dia. SCH 40 PVC
Length: 13.0'
Screen: 2" dia. SCH 40 PVC
Slot size: 0.010"
Length: 5'
(top/bot) 13.0/18.0
0.3' end cap
Sandpack: Pre-Pac 2/12 colorado sand
10-20 backfill (top/bot) 12/18
Seal: Bentonite chip
(top/bot) 2/12
Monument: 10" dia. Flush Mount (Morris)
-0.3' to top of PVC/TOC

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

Abbreviations: PID - photoionization detector - MiniRAE 3000
 F - fine
 M - medium
 Sat. - saturated
 mot - mottled
 ns - no sheen
 no - no odor

DESCRIPTION OF SAMPLES, TESTS, AND INSTALLATION - MONITORING WELL NO.

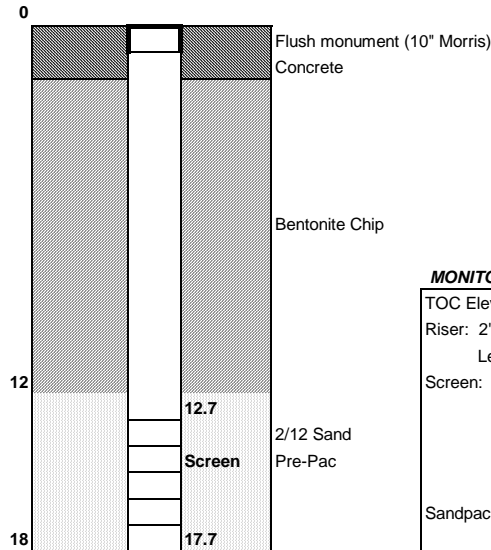
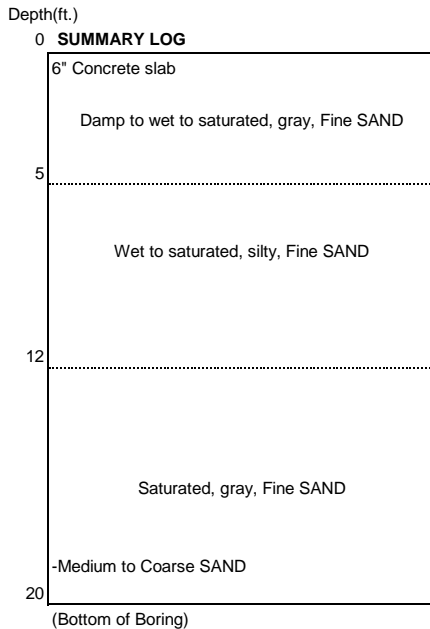
DOF-MW7

Field Rep: D. Cooper		Location: N200185 E1269970 NAD83		Ecology ID# BHS519	
Drilling Co.: Cascade		Ground surface elevation: 15.5 MLLW			
Driller: Kasey Goble		Date Completed: 10/16/2012			
Drill Type: Power Probe 9600		Weather: Clear 55F			
Size/Type Casing: 2.5"		Sampler: 2" macro w/acrylic liner, 5' continuous push			

Spl. No.	Type Sample Saved	PID (ppm)	Spl Depth (Ft.) From - To	Spl length (inches)	Blows/ 6 inches	Time	Sample Description
A	grab @ 3-4'	7.5	0-5	36	-	0940	0.5-5' Moist, gry, F SAND, ns, no
B	grab @ 7-8'	4.5	5-10	50	-	0950	5-10' Wet-sat, gry, silty, F SAND, w/F Sand interbeds, ns, no saturated @ 7'
C	grab @ 11-12'	2.5	10-15	55	-	1000	10-12' As above 12-15' Sat, gry, F SAND, w/trace silt, ns, no
D	grab @ 16-17'	0.8	15-20	50	-	1010	15-20' As above grading coarser @ 19' to medium to coarse SAND

Bottom of boring @ 20.0'

MONITORING WELL DIAGRAM



MONITORING WELL INFORMATION

TOC Elevation: 15.18 MLLW
Riser: 2" dia. SCH 40 PVC
Length: 12.7'
Screen: 2" dia. SCH 40 PVC
Slot size: 0.010"
Length: 5'
(top/bot) 12.7/17.7
0.3' end cap
Sandpack: Pre-Pac 2/12 colorado sand
10-20 backfill (top/bot) 12/18
Seal: Bentonite chip
(top/bot) 2/12
Monument: 10" dia. Flush Mount (Morris)
-0.3' to top of PVC/TOC

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

Abbreviations: PID - photoionization detector - MiniRAE 3000
 F - fine
 M - medium
 Sat. - saturated
 mot - mottled
 ns - no sheen
 no - no odor

DESCRIPTION OF SAMPLES, TESTS, AND INSTALLATION - MONITORING WELL NO.

DOF-MW8

Field Rep: D. Cooper		Location: N200097 E1270036 NAD83		Ecology ID# BHS518	
Drilling Co.: Cascade		Ground surface elevation: 16.2 MLLW			
Driller: Kasey Goble		Date Completed: 10/16/2012			
Drill Type: Power Probe 9600		Weather: Clear 55F			
Size/Type Casing: 2.5"		Sampler: 2" macro w/acrylic liner, 5' continuous push			

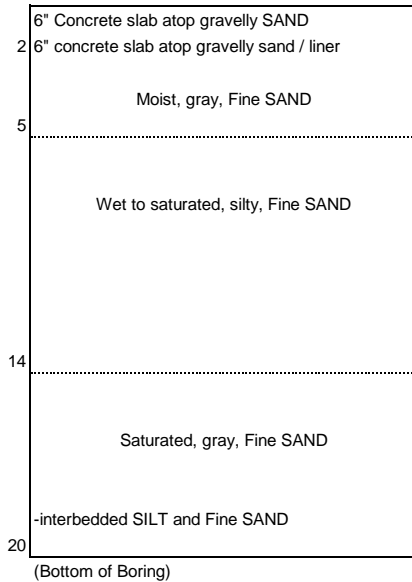
Spl. No.	Type Sample Saved	PID (ppm)	Spl Depth (Ft.) From - To	Spl length (inches)	Blows/ 6 inches	Time	Sample Description
A	grab @ 3-4'	1.5	0-5	56	-	0810	0.5-1' Wet, bwn, gravelly, SAND 1-1.5' concrete slab 1.5-2' Wet, gray, gravelly, SAND, w/some silt poured rubber liner at 2' (Gaco deck like) 2-5' Moist, gry, F SAND, ns, no
B	grab @ 7-8'	1.8	5-10	50	-	0820	5-10' Wet-sat, gry, silty, F SAND, ns, no saturated @ 8'
C	grab @ 11-12'	1.0	10-15	50	-	0830	10-14' As above 14-15' Sat, gry, F SAND, w/trace silt, ns, no
D	grab @ 15-16'	0.8	15-20	55	-	0840	15-18.5' As above 18.5-20' interbedded silt and F SAND, 4" layers

Bottom of boring @ 20.0'

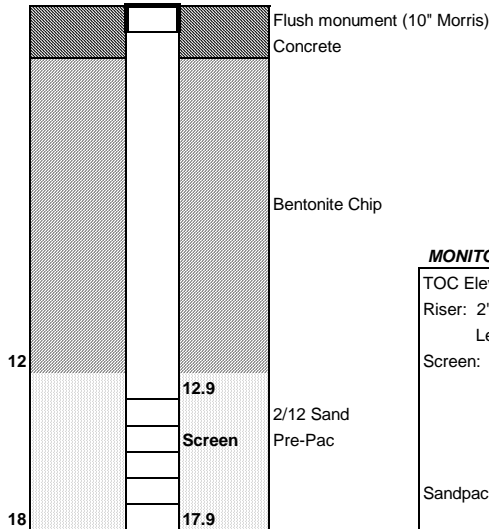
MONITORING WELL DIAGRAM

Depth(ft.)

0 SUMMARY LOG



0



MONITORING WELL INFORMATION

TOC Elevation: 15.89 MLLW
Riser: 2" dia. SCH 40 PVC
Length: 12.9'
Screen: 2" dia. SCH 40 PVC
Slot size: 0.010"
Length: 5'
(top/bot) 12.9/17.9
0.3' end cap
Sandpack: Pre-Pac 2/12 colorado sand
10-20 backfill (top/bot) 12/18
Seal: Bentonite chip
(top/bot) 2/12
Monument: 10" dia. Flush Mount (Morris)
-0.3' to top of PVC/TOC

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

Abbreviations: PID - photoionization detector - MiniRAE 3000
 F - fine
 M - medium
 Sat. - saturated
 mot - mottled
 ns - no sheen
 no - no odor

Sediment Core A

DESCRIPTION OF SEDIMENT SAMPLES AND TESTS - CORE NO.

Field Rep: D. Cooper	Location: N200360 E1269800 NAD83	Drive Length (ft.): 8.0
Drilling Co.: Marine Sampling Systems	Date Completed: 11/20/2012	Recovery Length (ft.): 7.1 Recovery efficiency: 89%
Driller: Bill Jaworski	Time: 0908	Depth to Mudline (ft.): 8.3
Drill Type: Vibracore	Weather: Rain 50F	Tide (MLLW): 10.5
Size/Type Casing: 4"	Date Processed: 11/26/2012	Bottom Elevation (MLLW): 2.2

DESCRIPTION OF CORE TUBE (based on recovered core tube length - feet)

Spl. No.	Sample Interval	Time	Sheen	PID (ppm)	Depth Inteval	Sample Description
1	0-0.8	1500	NS	1.0	0-0.8	Black, sandy, GRAVEL, w/trace silt, plastic fragment
2	0.8-1.5	1510	LS	2.5	0.8-1.5 1.5-1.8	Black, silty, SAND, w/some silt Grey precipitate, very hard
3	1.8-3.0	1520	LS	3.8	1.8-3.0	Black, silty, Fine SAND shiny, slimy texture, trace wood, sulfurous odor
4	3-4	1525	NS	1.3	3.0-4.0	Black to gray, Fine sandy, SILT grades gray with depth
5	4-5	1530	NS	1.9	4.0-5.5	Grey, silty, Fine SAND
6	5.2-6	1540	NS	1.5	5.5-6.8	Gray, silty, Fine SAND
7	6-6.8	1550	NS	1.8	6.8-7.1	Core catcher

INTERPRETED SUMMARY LOG

(adjusted for recovery)

Depth (Ft.)	Description	Mean Sample Depth
0.9	Sandy, GRAVEL	1 = 0.4'
1.6	Silty, SAND	2 = 1.3'
	-Hard precipitate	
3.3	Silty, Fine SAND	3 = 2.7'
4.5	Fine Sandy, SILT	4 = 3.9'
6.2	Silty, Fine SAND	5 = 5.1'
	SILT	6 = 6.3'
8		7 = 7.2'
	Bottom of core 8.0	
9		
10		
11		
12		

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Summary log depths have been adjusted based on recovery efficiency, and material type. Variations between what is shown and actual conditions should be anticipated.

Abbreviations: PID - photoionization detector - MiniRAE 3000
 F - fine
 M - medium
 NS - no sheen
 LS - light sheen
 MS - moderate sheen
 HS - heavy sheen

Sediment Core B

DESCRIPTION OF SEDIMENT SAMPLES AND TESTS - CORE NO.

Field Rep: D. Cooper	Location: N200357 E1269857 NAD83	Drive Length (ft.): 7.7
Drilling Co.: Marine Sampling Systems	Date Completed: 11/20/2012	Recovery Length (ft.): 7.1 Recovery efficiency: 92%
Driller: Bill Jaworski	Time: 1027	Depth to Mudline (ft.): 8.5
Drill Type: Vibracore	Weather: Rain 50F	Tide (MLLW): 11.6
Size/Type Casing: 4"	Date Processed: 11/27/2012	Bottom Elevation (MLLW): 3.1

DESCRIPTION OF CORE TUBE (based on recovered core tube length - feet)

**INTERPRETED SUMMARY LOG
 (adjusted for recovery)**

Spl. No.	Sample Interval	Time	Sheen	PID (ppm)	Depth Inteval	Sample Description	Depth (Ft.)	Description	Mean Sample Depth
1	0.5-1.5	1120	-	-	0-0.5	Brown, sandy, GRAVEL	0.5	sandy, GRAVEL	1 = 1.1'
					0.5-1.5	Gray, Precipitate, very hard, with sand, gravel inclusions	1.8	Precipitate	
2	1.5-2.5	1125	NS	5.6	1.5-2.5	Black, sandy, GRAVEL, w/silty sand at base atop 1" thick precipitate layer		Sandy, Gravel	2 = 2.2'
3	2.5-3.5	1135	MS	14.2	2.5-4.5	Black, Fine sandy, SILT, grading to silty, F SAND shiny, slimy appearance, oily odor	2.9		3 = 3.3'
4	3.5-4.5	1145	MS	4.5				Fine Sandy, SILT	4 = 4.4'
5	4.5-5.5	1150	NS	2.6	4.5-6.5	Dark gray, SILT, w/trace F sand, thin organic layer @ 5.5'	5.2		5 = 5.5'
6	5.5-6.5	1155	NS	1.1	6.5-7.1	Core catcher	7.7		6 = 6.6'
							8	Bottom of core 7.7'	
							9		
							10		
							11		
							12		

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Depths have been adjusted based on recovery efficiency. Variations between what is shown and actual conditions should be anticipated.

- Abbreviations:
- PID - photoionization detector - MiniRAE 3000
 - F - fine
 - M - medium
 - NS - no sheen
 - LS - light sheen
 - MS - moderate sheen
 - HS - heavy sheen

Sediment Core C

DESCRIPTION OF SEDIMENT SAMPLES AND TESTS - CORE NO.

Field Rep: D. Cooper	Location: N200352 E1269851 NAD83	Drive Length (ft.): 5.0
Drilling Co.: Marine Sampling Systems	Date Completed: 11/20/2012	Recovery Length (ft.): 4.3 Recovery efficiency: 86%
Driller: Bill Jaworski	Time: 0952	Depth to Mudline (ft.): 9.7
Drill Type: Vibracore	Weather: Rain 50F	Tide (MLLW): 11.3
Size/Type Casing: 4"	Date Processed: 11/27/2012	Bottom Elevation (MLLW): 1.6

DESCRIPTION OF CORE TUBE (based on recovered core tube length - feet)

Spl. No.	Sample Interval	Time	Sheen	PID (ppm)	Depth Inteval	Sample Description
1	0-0.8	1300	MS	46.2	0-0.8	Black, organic, silty, Fine SAND, fibrous organics, wood, throughout, oily odor
2	0.8-2.2	1305	LS	2.4	0.8-2.2	Black, Fine SAND, with some silt, shiny, loose
3	2.2-3.5	1310	NS	2.5	2.2-3.5	Black to dark gray, SILT, w/trace fine sand
4	3.5-4.0	1315	NS	4.2	3.5-4.0	Dark gray, Fine to Medium SAND Cored 1/2" piece of wood - refusal
					4.0-4.3	Core catcher

INTERPRETED SUMMARY LOG

(adjusted for recovery)

Depth (Ft.)	Description	Mean Sample Depth
0.9	Silty, Fine SAND	1 = 0.5'
2.5	Fine SAND with some silt	2 = 2.3'
3.3	SILT	3 = 3.3'
4.4	Fine to Medium SAND	4 = 4.4'
5.0	Bottom of core 5.0'	
6		
7		
8		
9		
10		
11		
12		

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Depths have been adjusted based on recovery efficiency. Variations between what is shown and actual conditions should be anticipated.

Abbreviations: PID - photoionization detector - MiniRAE 3000
 F - fine
 M - medium
 NS - no sheen
 LS - light sheen
 MS - moderate sheen
 HS - heavy sheen

Sediment Core D

DESCRIPTION OF SEDIMENT SAMPLES AND TESTS - CORE NO.

Field Rep: D. Cooper	Location: N200325 E1269895 NAD83	Drive Length (ft.): 8.0
Drilling Co.: Marine Sampling Systems	Date Completed: 11/20/2012	Recovery Length (ft.): 6.0 Recovery efficiency: 75%
Driller: Bill Jaworski	Time: 1104	Depth to Mudline (ft.): 10.4
Drill Type: Vibracore	Weather: Rain 50F	Tide (MLLW): 11.6
Size/Type Casing: 4"	Date Processed: 11/27/2012	Bottom Elevation (MLLW): 1.2

DESCRIPTION OF CORE TUBE (based on recovered core tube length - feet)

Spl. No.	Sample Interval	Time	Sheen	PID (ppm)	Depth Inteval	Sample Description
1	0-1.1	1420	HS	368	0-1.1	1" of hard precipitate at surface Black, organic, SAND, w/gravelly precipitate chunks wood, glass, debris, oily odor
2	1.1-2.2	1425	HS	240	1.1-2.2	Black, silty, SAND, w/scattered precipitate, wood oily odor
3	2.2-3.5	1430	LS	33.7	2.2-3.5	Mottled black gray, SILT, with trace fine sand
4	3.5-4.5	1435	NS	4.2	3.5-5.5	Dark gray, SILT
5	4.5-5.5	1440	NS	3.2	5.5-6.0	Core catcher

INTERPRETED SUMMARY LOG

(adjusted for recovery)

Depth (Ft.)	Description	Mean Sample Depth
1.5	Organic, SAND with precipitate	1 = 0.7'
2.9	Silty, SAND with scattered precipitate	2 = 2.1'
4.6	Mottled, SILT with trace fine sand	3 = 3.8'
8.0	SILT	4 = 5.3'
12.0	Bottom of core 8.0	5 = 6.7'

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Depths have been adjusted based on recovery efficiency. Variations between what is shown and actual conditions should be anticipated.

Abbreviations: PID - photoionization detector - MiniRAE 3000
 F - fine
 M - medium
 NS - no sheen
 LS - light sheen
 MS - moderate sheen
 HS - heavy sheen

Sediment Core F

DESCRIPTION OF SEDIMENT SAMPLES AND TESTS - CORE NO.

Field Rep: D. Cooper	Location: N200322 E1269928 NAD83	Drive Length (ft.): 12.0
Drilling Co.: Marine Sampling Systems	Date Completed: 11/21/2012	Recovery Length (ft.): 9.4 Recovery efficiency: 78%
Driller: Bill Jaworski	Time: 1240	Depth to Mudline (ft.): 9.5
Drill Type: Vibracore	Weather: Rain 50F	Tide (MLLW): 11.0
Size/Type Casing: 4"	Date Processed: 11/27/2012	Bottom Elevation (MLLW): 1.5

DESCRIPTION OF CORE TUBE (based on recovered core tube length - feet)

Spl. No.	Sample Interval	Time	Sheen	PID (ppm)	Depth Interval	Sample Description
1	0-0.8	1545	HS	42	0-0.8	Black, gravelly, SAND, with woody debris cemented ash-like fragments, debris, oily odor
2	0.8-1.9	1550	HS	365	0.8-1.9	Black, Fine sandy, SILT, with scattered wood shiny, oily odor, barrel bung gaskets
3	1.9-3.0	1555	LS	5.4	1.9-4.1	Mottled black-gray (banded), SILT, soft, shiny, oily odor
4	3-4	1600	NS	2.9	4.1-7.1	Mottled black-gray, SILT, mussle shells @ 5' grading fine sandy from 6.5-7' 1" wood branch @ 6'
5	4-5	1605	NS	68		
6	5-6	1610	NS	2.8		
7	6-7	1615	NS	2.5	7.1-9.0	Gray, Fine SAND 1" wood branch @ 8.5'
8	7.1-8	1620	NS	1.4		
9	8-9	1625	NS	3.2	9-9.4	Core catcher

INTERPRETED SUMMARY LOG

(adjusted for recovery)

Depth (Ft.)	Description	Mean Sample Depth
1	Gravelly, SAND	1 = 0.5'
2.4	Fine sandy, SILT	2 = 1.7'
3	Banded, SILT	3 = 3.1'
4		4 = 4.5'
5.2		
5	SILT	5 = 5.8'
6		6 = 7.0'
7		7 = 8.3'
9.1		
8	Fine SAND	8 = 9.7'
9		9 = 10.9'
12		

Bottom of core 12.0

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Depths have been adjusted based on recovery efficiency. Variations between what is shown and actual conditions should be anticipated.

Abbreviations: PID - photoionization detector - MiniRAE 3000
 F - fine
 M - medium
 NS - no sheen
 LS - light sheen
 MS - moderate sheen
 HS - heavy sheen

Sediment Core G

DESCRIPTION OF SEDIMENT SAMPLES AND TESTS - CORE NO.

Field Rep: D. Cooper	Location: NN200350 E1269965 NAD83	Drive Length (ft.): 8.0
Drilling Co.: Marine Sampling Systems	Date Completed: 11/21/2012	Recovery Length (ft.): 6.8 Recovery efficiency: 85%
Driller: Bill Jaworski	Time: 0828	Depth to Mudline (ft.): 5.1
Drill Type: Vibracore	Weather: Rain 50F	Tide (MLLW): 7.7
Size/Type Casing: 4"	Date Processed: 11/28/2012	Bottom Elevation (MLLW): 2.6

DESCRIPTION OF CORE TUBE (based on recovered core tube length - feet)

**INTERPRETED SUMMARY LOG
 (adjusted for recovery)**

Spl. No.	Sample Interval	Time	Sheen	PID (ppm)	Depth Inteval	Sample Description	Depth (Ft.)	Description	Mean Sample Depth
1	0-1	955	-	-	0-1.0	Gray, sandy, GRAVEL, cemented	1.2	Sandy, GRAVEL	1 = 0.6'
2	1-2.1	1000	LS	1.4	1.0-2.1	Black, silty, SAND, with scattered wood, sulfurous odor	2.4	Silty, SAND	2 = 1.8'
3 DUP1	2.1-3	1015 1016	LS	1.2	2.1-2.8 2.8-3.5	Black, SILT, soft, shiny, slight oil odor Gray to black, Fine SAND, with scattered wood		Black SILT -Fine sand	3 = 3.0'
4	3-4	1020	LS	1.2	3.5-4.2	Black, SILT, soft, shiny, oily odor			4 = 4.1'
5	4-4.8	1025	HS	36.5	4.2-4.8	Black, Fine sandy, SILT, soft, shiny, strong oily odor lamp black, fine woody debris	5.6		5 = 5.1'
6	5.1-6.5	1030	NS	1.0	4.8-6.5 6.5-6.8	Gray, SILT, with some fine sand wood, shells from 4.8-5.1 becomes black/reduced from 6-6.5 with scattered shells Core catcher		Gray SILT	6 = 6.8'
							8	Bottom of core 8.0	
							9		
							10		
							11		
							12		

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Depths have been adjusted based on recovery efficiency. Variations between what is shown and actual conditions should be anticipated.

Abbreviations: PID - photoionization detector - MiniRAE 3000
 F - fine
 M - medium
 NS - no sheen
 LS - light sheen
 MS - moderate sheen
 HS - heavy sheen

Sediment Core H

DESCRIPTION OF SEDIMENT SAMPLES AND TESTS - CORE NO.

Field Rep: D. Cooper	Location: N200317 E1269980 NAD83	Drive Length (ft.): 12.0
Drilling Co.: Marine Sampling Systems	Date Completed: 11/21/2012	Recovery Length (ft.): 5.6 Recovery efficiency: 46%**
Driller: Bill Jaworski	Time: 0858	Depth to Mudline (ft.): 8.6
Drill Type: Vibracore	Weather: Rain 50F	Tide (MLLW): 8.7
Size/Type Casing: 4"	Date Processed: 11/28/2012	Bottom Elevation (MLLW): 0.1

DESCRIPTION OF CORE TUBE (based on recovered core tube length - feet)

**INTERPRETED SUMMARY LOG
 (adjusted for recovery)**

Spl. No.	Sample Interval	Time	Sheen	PID (ppm)	Depth Inteval	Sample Description	Depth (Ft.)	Description	Mean Sample Depth
1	0-0.8	1140	LS	1.4	0-0.8	Black, sandy, GRAVEL, with coal	0.8	Sandy, GRAVEL	1 = 0.4'
2	0.8-2.5	1145	MS	4.3	0.8-2.5	Mottled gray, silty, SAND, with some gravel, brick, wood fibrous organics mixed in throughout, oily odor	2.5	Silty, SAND	2 = 1.7'
3	2.5-4.1	1150	HS	28.8	2.5-4.1	Black, interbedded SILT and Fine SAND, shiny oily odor, fine coal		Interbedded SILT with Fine SAND	3 = 3.3'
4	4.1-5.2	1155	NS	2.1	4.1-5.2	Dark gray, silty, Fine SAND, with wood fibers Cored 3" thick wood at base - shaved piling likely driven ahead to 12' without additional recovery	4.1		
					5.2-5.6	Core catcher	5.6	Fine SAND	4 = 4.7'
							6	Bottom of Core 5.6' see note **	
							7		
							8		
							9		
							10		
							11		
							12		

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Depths have been adjusted based on recovery efficiency. Variations between what is shown and actual conditions should be anticipated.

** This core encountered wood at 5' and was likely driven ahead rather than compacted/displaced

Abbreviations: PID - photoionization detector - MiniRAE 3000
 F - fine
 M - medium
 NS - no sheen
 LS - light sheen
 MS - moderate sheen
 HS - heavy sheen

Sediment Core I

DESCRIPTION OF SEDIMENT SAMPLES AND TESTS - CORE NO.

Field Rep: D. Cooper	Location: N200354 E1270036	Drive Length (ft.): 11.8
Drilling Co.: Marine Sampling Systems	Date Completed: 11/21/2012	Recovery Length (ft.): 6.8 Recovery efficiency: 58%
Driller: Bill Jaworski	Time: 0950	Depth to Mudline (ft.): 10.6
Drill Type: Vibracore	Weather: Rain 50F	Tide (MLLW): 10.2
Size/Type Casing: 4"	Date Processed: 11/28/2012	Bottom Elevation (MLLW): -0.4

DESCRIPTION OF CORE TUBE (based on recovered core tube length - feet)

**INTERPRETED SUMMARY LOG
 (adjusted for recovery)**

Spl. No.	Sample Interval	Time	Sheen	PID (ppm)	Depth Inteval	Sample Description	Depth (Ft.)	Description	Mean Sample Depth
1	0-1.1	1340	NS	0.9	0-1.1	Black, silty, Fine SAND, with organics, wood fragments leaf debris, shiny, no odor		Fine SAND	1 = 0.9'
2	1.1-1.9	1345	NS	2.5	1.1-1.9	Black, gravelly, SAND, with minor silt, organics	1.8	Gravelly, SAND	2 = 2.6'
3	1.9-3	1350	NS	1.9			3.2		
4	3-3.8	1355	NS	1.9	1.9-3.8	Mottled gray-black, SILT, scattered organics, shell fragments		SILT	3 = 4.2'
5	4-5	1400	NS	1.5					4 = 5.9'
6	5-6	1405	NS	1.0	3.8-6.2	Gray, Fine SAND, with black silt interbeds at 4.5', 5', 5.5' trace organics at 6'	6.5		
7					6.2-6.8	Core catcher			
8								Fine SAND	5 = 7.8'
9									
10									6 = 9.5'
11									
							11.8		

Bottom of core 11.8

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Depths have been adjusted based on recovery efficiency. Variations between what is shown and actual conditions should be anticipated.

Abbreviations: PID - photoionization detector - MiniRAE 3000
 F - fine
 M - medium
 NS - no sheen
 LS - light sheen
 MS - moderate sheen
 HS - heavy sheen

Sediment Core J

DESCRIPTION OF SEDIMENT SAMPLES AND TESTS - CORE NO.

Field Rep: D. Cooper	Location: N200348 E1270100 NAD83	Drive Length (ft.): 12.0
Drilling Co.: Marine Sampling Systems	Date Completed: 11/21/2012	Recovery Length (ft.): 6.4 Recovery efficiency: 53%
Driller: Bill Jaworski	Time: 1100	Depth to Mudline (ft.): 11.4
Drill Type: Vibracore	Weather: Rain 50F	Tide (MLLW): 11.3
Size/Type Casing: 4"	Date Processed: 11/28/2012	Bottom Elevation (MLLW): -0.1

DESCRIPTION OF CORE TUBE (based on recovered core tube length - feet)

Spl. No.	Sample Interval	Time	Sheen	PID (ppm)	Depth Interval	Sample Description
1	0-0.8	1500	NS	1.3	0-0.8	Mottled brown, gravelly, SAND, with some silt scattered organics
2	0.8-2.0	1505	LS	0.8	0.8-2.0	Black-gray, thinly banded, SILT, with trace fine sand
3	2-3.2	1510	MS	3.3	2.0-3.2	Black, SILT, shiny, oily odor gravel, wood at 2.6'
4	3.2-4	1515	NS	1.5		
5	4-5	1520	NS	1.5		
6	5-6	1525	NS	1.4	3.2-6.0	Black-gray, thin bands of color, Fine SAND, with some silt, silt interbeds Shells at 3.5', 5.8' Wood at 3.5', 4.5' Fine organics at 4.4-4.5'
7						
8					6-6.4	Core catcher
9						
10						
11						

INTERPRETED SUMMARY LOG

(adjusted for recovery)

Depth (Ft.)	Description	Mean Sample Depth
1.5	Gravelly, SAND	1 = 0.8'
3.7	Banded SILT	2 = 2.6'
6.0	Black SILT	3 = 4.9'
12	Fine SAND	4 = 6.8'
		5 = 8.5'
		6 = 10.4'

Bottom of core 12.0

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Depths have been adjusted based on recovery efficiency. Variations between what is shown and actual conditions should be anticipated.

Abbreviations: PID - photoionization detector - MiniRAE 3000
 F - fine
 M - medium
 NS - no sheen
 LS - light sheen
 MS - moderate sheen
 HS - heavy sheen

Sediment Core K

DESCRIPTION OF SEDIMENT SAMPLES AND TESTS - CORE NO.

Field Rep: D. Cooper	Location: N200357 E1270196	Drive Length (ft.): 8.0
Drilling Co.: Marine Sampling Systems	Date Completed: 11/20/2012	Recovery Length (ft.): 5.5 Recovery efficiency: 69%
Driller: Bill Jaworski	Time: 1327	Depth to Mudline (ft.): 10.6
Drill Type: Vibracore	Weather: Rain 50F	Tide (MLLW): 9.2
Size/Type Casing: 4"	Date Processed: 11/30/2012	Bottom Elevation (MLLW): -1.4

DESCRIPTION OF CORE TUBE (based on recovered core tube length - feet)

Spl. No.	Sample Interval	Time	Sheen	PID (ppm)	Depth Inteval	Sample Description
1	0-1	930	NS	1.8	0-1.1	Black, SILT, very soft, no odor
2	1-2	935 936	NS	1.6	1.1-2.3	Black, Fine sandy, SILT, shiny, no odor
DUP2						
3	2.3-3	940	NS	1.0	2.3-3.0	Black, gravelly, coarse SAND, no odor, <3" gravel
4	3-4.6	945	NS	6.9	3.0-4.6	Mottled gray-black, SILT, with wood, oily odor
5	4.6-5.1	950	NS	1.1	4.6-5.1	Mottled, gray-black, silty, SAND, no odor
					5.1-5.5	Core catcher

INTERPRETED SUMMARY LOG

(adjusted for recovery)

Depth (Ft.)	Description	Mean Sample Depth
	Black SILT or Fine Sandy, SILT	1 = 0.7'
		2 = 2.2'
3.3	Gravelly, coarse SAND	3 = 3.8'
4.3		
	SILT	4 = 5.5'
6.6		
	Silty, SAND	5 = 7.0'
8	Bottom of core 8.0	
9		
10		
11		
12		

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Depths have been adjusted based on recovery efficiency. Variations between what is shown and actual conditions should be anticipated.

Abbreviations: PID - photoionization detector - MiniRAE 3000
 F - fine
 M - medium
 NS - no sheen
 LS - light sheen
 MS - moderate sheen
 HS - heavy sheen

Sediment Core L

DESCRIPTION OF SEDIMENT SAMPLES AND TESTS - CORE NO.

Field Rep: D. Cooper	Location: N200303 E1270196 NAD83	Drive Length (ft.): 8.0
Drilling Co.: Marine Sampling Systems	Date Completed: 11/20/2012	Recovery Length (ft.): 5.8 Recovery efficiency: 72%
Driller: Bill Jaworski	Time: 1300	Depth to Mudline (ft.): 8.3
Drill Type: Vibracore	Weather: Rain 50F	Tide (MLLW): 9.8
Size/Type Casing: 4"	Date Processed: 11/30/2012	Bottom Elevation (MLLW): 1.5

DESCRIPTION OF CORE TUBE (based on recovered core tube length - feet)

Spl. No.	Sample Interval	Time	Sheen	PID (ppm)	Depth Inteval	Sample Description
1	0-1	1100	NS	2.6	e	
2	1-1.8	1105	LS	5.4	0-1.8	Mottled, gray-black, silty, Fine SAND, with scattered wood 1/2" clam @ 0.3', oily odor
3	2-3.1	1110	NS	2.3	1.8-3.1	Mottled gray, grading to black, Fine sandy, SILT, with organics, wood throughout, sulfurous odor, shell fragments
4	3.1-4.2	1115	NS	2.4	3.1-4.2	Gray, silty, Fine SAND, with black silt interbed @ 3.3'
5	4.2-5.4	1120	NS	1.9	4.2-5.4	Gray, Fine to Medium SAND
					5.4-5.8	Core catcher

INTERPRETED SUMMARY LOG

(adjusted for recovery)

Depth (Ft.)	Description	Mean Sample Depth
1 = 0.7'	Silty, Fine SAND	
2 = 1.9'		
3 = 3.5'	Fine Sandy, SILT	
4 = 5.0'	Fine SAND	
5 = 6.7'	Fine to medium SAND	
8	Bottom of core 8.0	
9		
10		
11		
12		

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Depths have been adjusted based on recovery efficiency. Variations between what is shown and actual conditions should be anticipated.

Abbreviations: PID - photoionization detector - MiniRAE 3000
 F - fine
 M - medium
 NS - no sheen
 LS - light sheen
 MS - moderate sheen
 HS - heavy sheen

Sediment Core M

DESCRIPTION OF SEDIMENT SAMPLES AND TESTS - CORE NO.

Field Rep: D. Cooper	Location: N200337 E1270246 NAD83	Drive Length (ft.): 7.2
Drilling Co.: Marine Sampling Systems	Date Completed: 11/20/2012	Recovery Length (ft.): 3.9 Recovery efficiency: 54% **
Driller: Bill Jaworski	Time: 1401	Depth to Mudline (ft.): 12.1
Drill Type: Vibracore	Weather: Rain 50F	Tide (MLLW): 8.1
Size/Type Casing: 4"	Date Processed: 11/30/2012	Bottom Elevation (MLLW): -4.0

DESCRIPTION OF CORE TUBE (based on recovered core tube length - feet)

**INTERPRETED SUMMARY LOG
 (adjusted for recovery)**

Spl. No.	Sample Interval	Time	Sheen	PID (ppm)	Depth Inteval	Sample Description	Depth (Ft.)	Description	Mean Sample Depth
1	0-1.1	1200	NS	1.6	0-1.1	Mottled, gray-black, SILT, with Fine Sand inclusions scattered organics, brown sand rind - heave		SILT	1 = 0.6'
2	1.1-2	1205	NS	1.7	1.1-3.3	Brown, Fine to Medium SAND, with some gravel shell fragments @ 2.8', glass fragment	2.0		2 = 1.6'
3	2-3.3	1210	NS	1.2	3.3-3.9	Core catcher		Fine to Medium SAND	3 = 2.7'
							7.1	Bottom of Core 7.1'	
							8	see note **	
							9		
							10		
							11		
							12		

NOTE: The summary log is an interpretation based on samples, drill action, and interpolation. Depths have been adjusted based on recovery efficiency. Variations between what is shown and actual conditions should be anticipated.

** Poor recovery in lower sand due to loss/liquifaction - not compaction.

Abbreviations: PID - photoionization detector - MiniRAE 3000
 F - fine
 M - medium
 NS - no sheen
 LS - light sheen
 MS - moderate sheen
 HS - heavy sheen

ATTACHMENT D
LIST OF DATA GAP WORK PROGRAM SAMPLE ANALYSES
ICS/NWC RI

TABLE D1 (WP TABLE 9) - Sample Analyses (a)

Soil Analyses

Analyte
NWWTPH-G/BTEX
NWWTPH-Dx
Metals (As, Cd, Cr, Cu, Pb, Hg, Ag, Zn, Sb, Ni, Be)
VOCs
SVOCs
Pesticides
PCBs

"Lagoon" Analyses

Analyte
NWWTPH-Dx
Metals (As, Cd, Cr, Cu, Pb, Hg, Ag, Zn, Sb, Ni, Be)
pH (lagoon sludge spls.)
VOCs (lagoon sludge spls.)
Pesticides (lagoon sludge spls.)
SVOCs
PCBs

Groundwater Analyses

Analyte
NWWTPH-G
NWWTPH-Dx
Total/Dissolved Metals (As, Pb, Cd, Cr[III], Cr[VI], Cu, Hg, Ag, Zn, Sb, Ni, Be)
VOCs
SVOCs
PAHs (GCMS-SIM)
Pesticides
PCBs
Conventional [Cl, SO4, hardness, and DO and sodium (a)]

Stormwater Analyses

Analyte
NWWTPH-G
NWWTPH-Dx
Total/Dissolved Metals (As, Pb, Cd, Cr, Cu, Hg, Ag, Zn, Sb, Ni, Be)
VOCs
SVOCs
PAHs (GCMS-SIM)
Pesticides
PCBs
Conventional [Cl, SO4, hardness, DO and sodium (b)]

Additional Notes:

- (a) See Table 10 in 2012 WP for list of VOC, SVOC, PAH and Pesticide Analytes
- (b) Sodium was added to the conventionals list for the data gap work program.

TABLE D2 - Summary of Sample Collection, Analysis and Archiving

Location/Item	Soil Samples (does not include duplicates)					Groundwater Samples (does not include duplicates)		
	Number Locations	Target Drilling Depths (feet-bgs)	No. Collect	No. Analyze	No. Archive	Sample Events	Number Monitoring Events	Sample Number
New Douglas Well Soil Spl.	3	35-40	3	3	0	Quarterly	4	12
Push-Probe Samples								
Lagoon Area	10	22 to 52	75	35	40	One Time	1	11
Shoreline	5	22 to 52	42	19	23	One Time	1	8
Site Interior	6	22	42	20	22	One Time	1	8
Off-Site (Wrecking Yd.)	3	22	18	9	9	One Time	1	6
New Well Samples								
A	1	17	5	3	2	Quarterly	4	4
Ba	1	30	Use data from P28			Quarterly	4	4
C	1	22	6	3	3	Quarterly	4	4
D	1	22	6	3	3	Quarterly	4	4
E	1	11	3	2	1	Quarterly	4	4
F	1	30	Use data from P30			Quarterly	4	4
G	1	30	Use data from P31			Quarterly	4	4
Ha (off-site)	1	15	Use data from Hb			Quarterly	4	4
Hb (off-site)	1	32	7	4	3	Quarterly	4	4
I (off-site)	1	22	6	3	3	Quarterly	4	4
J	1	30	Use data from P29			Quarterly	4	4
K	1	11	3	2	1	Quarterly	4	4
L	1	11	3	2	1	Quarterly	4	4
HC-B2 (replacement)	1	10	Use data from P18			Quarterly	4	4
LNAPL Well Samples								
LNAPL-1	1	10	Use data from P28			Quarterly	4	4
LNAPL-2	1	11	3	2	1	Quarterly	4	Measure NAPL Only
LNAPL-3	1	11	3	2	1	Quarterly	4	Measure NAPL Only
Existing Well Samples		Screen Intervals						
DOF-MW-1	1	12 to 17	Existing Wells - No additional soil samples will be analyzed at these locations			Quarterly	4	4
DOF-MW-2	1	15 to 20				Quarterly	4	4
DOF-MW-3	1	17 to 22				Quarterly	4	4
DOF-MW-4	1	17 to 22				Quarterly	4	4
DOF-MW-5	1	17 to 22				Quarterly	4	4
DOF-MW-6	1	12 to 18				Quarterly	4	4
DOF-MW-7	1	13 to 18				Quarterly	4	4

TABLE D2 - Summary of Sample Collection, Analysis and Archiving

Location/Item	Soil Samples (does not include duplicates)					Groundwater Samples (does not include duplicates)		
	Number Locations	Target Drilling Depths (feet-bgs)	No. Collect	No. Analyze	No. Archive	Sample Events	Number Monitoring Events	Sample Number
DOF-MW-8	1	13 to 18	Existing Wells - No additional soil samples will be analyzed at these locations			Quarterly	4	4
SA-MW-1	1	2 to 24				Quarterly	4	4
SA-MW-2	1	2 to 24				Quarterly	4	4
SA-MW-3	1	2 to 24				Quarterly	4	4
HC-B1	1	16 to 21				Quarterly	4	4
Total	56	-----	225	112	113	-----	124	153

TABLE D3 - Summary of Data Gap Solids Sample Analyses

Analyte	Method	Douglas Well Samples	Est. No. Push-Probe Spls.	Est. No. Mon. Well Spls.	Est. No. NAPL Well Spls.	Total No. Samples To Analyze	Est. No. Spls to Archive
Gasoline Range Hydrocarbons	NWTPH-G	-----	87 (a)	24 (c)	5(b)	116	113
Diesel/Lube Oil Hydrocarbons	NWTPH-Dx	-----	87 (a)	24 (c)	5(b)	116	
Total Metals (Ag, As, Be, Pb, Cd, Cr[total], Cu, Ni, Sb, Zn)	SW 6020	-----	87 (a)	24 (c)	5(b)	116	
Total Mercury	CVAA	-----	87 (a)	24 (c)	5(b)	116	
VOCs	SW 8260C	-----	87 (a)	24 (c)	5(b)	116	
SVOCs	SW 8270D	-----	87 (a)	24 (c)	5(b)	116	
Pesticides	SW 8081B	-----	87 (a)	24 (c)	5(b)	116	
PCBs (Aroclors)	SW 8082	4(b)	87 (a)	24 (c)	5(b)	120	
Dioxin/Furans	EPA 1613	-----	5 (b)	0	0	5	
TCLP (RCRA Metals)	TCLP	0	7(b)	0	4	11	

Notes: (a) - Includes four duplicates
 (b) - Includes one duplicate
 (c) - Includes two duplicates

TABLE D4 - Summary of Data Gap Water Analyses

Analyte	Method	Est. No. of Douglas Well Spls. (c)	Est. No. Push-Probe Spls.	Est. No. Mon. Well Spls. (c)	Est. No. Storm Water Spls.	Total No. Samples
Gasoline Range Hydrocarbons	NWTPH-G	16(e)	35(a)	116 (b)	4	171
Diesel/Lube Oil Hydrocarbons	NWTPH-Dx	16(e)	35(a)	116 (b)	4	171
Total Metals (Ag, As, Be, Pb, Cd, Cr[total], Cr[VI], Cu, Ni, Sb, Zn)	EPA 200.8	16(e)	35(a)	116 (b)	4	171
Dissolved Metals (Ag, As, Be, Pb, Cd, Cr[total], Cr[VI], Cu, Ni, Sb, Zn)	EPA 200.8	16(e)	35(a)	116 (b)	4	171
Total Mercury	7470A (Low Level)	16(e)	35(a)	116 (b)	4	171
Dissolved Mercury	7470A (Low Level)	16(e)	35(a)	116 (b)	4	171
Hexavalent Chromium	7196	16(e)	35(a)	116 (b)	4	171
VOCs	SW8260C	16(e)	35(a)	116 (b)	4	171
SVOCs	SW8270D	16(e)	35(a)	116 (b)	4	171
Pentachlorophenol	8041	16(e)	35(a)	116 (b)	4	171
PAHs	SW8270-SIM	16(e)	35(a)	116 (b)	4	171
Pesticides	8081B (Low Level)	16(e)	35(a)	116 (b)	4	171
PCBs (Aroclors)	SW8082 (Low Level)	16(e)	35(a)	116 (b)	4	171
Conventionals (Cl, SO4, hardness, sodium)	EPA 300.0/SW6010	16(e)	35(a)	116 (b)	6 (d)	173
Dioxin/Furans	EPA 1613	0	0	1(f)	0	1

- Notes:**
- (a) - Includes two duplicate samples
 - (b) - Total number of samples for four quarters of monitoring. Two duplicate samples per monitoring event.
 - (c) - The number of analytes may be reduced after two quarters of monitoring depending on the results and approval from Ecology. For cost estimating purposes, it was assumed the full suite of analytes would be analyzed each monitoring event.
 - (d) - Includes two embayment samples.
 - (e) - Total number of samples for four quarters of monitoring. Includes one duplicate sample per monitoring event.
 - (f) - NAPL sample from SA-MW1

TABLE D5 - Updated Mercury and Pesticide PQLs in Groundwater

ICS/NWC Site
Seattle, WA

Constituent	Units	PQL	MDL	Method
Mercury	ug/l	0.02	0.0026	7470A (Low Level)
alpha-BHC	ug/l	0.000625	0.000094	8081B (Low Level)
beta-BHC	ug/l	0.000625	0.000144	8081B (Low Level)
gamma-BHC (lindane)	ug/l	0.000625	0.000134	8081B (Low Level)
delta-BHC	ug/l	0.000625	0.000105	8081B (Low Level)
Heptachlor	ug/l	0.000625	0.000171	8081B (Low Level)
Aldrin	ug/l	0.000625	0.000153	8081B (Low Level)
Heptachlor epoxide	ug/l	0.000625	0.000175	8081B (Low Level)
Endosulfan I	ug/l	0.000625	0.000131	8081B (Low Level)
Dieldrin	ug/l	0.00125	0.000356	8081B (Low Level)
4,4-DDE	ug/l	0.00125	0.000276	8081B (Low Level)
Endrin	ug/l	0.00125	0.000131	8081B (Low Level)
Endosulfan II	ug/l	0.00125	0.000211	8081B (Low Level)
4,4-DDD	ug/l	0.00125	0.000181	8081B (Low Level)
Endosulfan sulfate	ug/l	0.00125	0.000261	8081B (Low Level)
4,4-DDT	ug/l	0.00125	0.000385	8081B (Low Level)
Methoxychlor	ug/l	0.00625	0.00207	8081B (Low Level)
Endrin ketone	ug/l	0.00125	0.000261	8081B (Low Level)
Endrin aldehyde	ug/l	0.00125	0.000364	8081B (Low Level)
trans-Chlordane	ug/l	0.000625	0.000233	8081B (Low Level)
cis-Chlordane	ug/l	0.000625	0.00013	8081B (Low Level)
Toxaphene	ug/l	63	16	8081B (Low Level)
Hexachlorobenzene	ug/l	0.00125	0.000248	8081B (Low Level)
Hexachlorobutadiene	ug/l	0.00125	0.000322	8081B (Low Level)