Lower Duwamish Waterway RM 1.6 to 2.1 West (Terminal 115)

Summary of Existing Information and Identification of Data Gaps

Prepared for

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June 2011

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Acronyms and Abbreviations

2LAET	second lowest apparent effects threshold
AET	apparent effects threshold
AST	aboveground storage tank
BA	benzyl alcohol
BBP	butyl benzyl phthalate
BEHP	bis(2-ethylhexyl)phthalate
bgs	below ground surface
BMP	best management practice
BTEX	benzene, toluene, ethylbenzene, and xylenes
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CKD	cement kiln dust
CNC	computer numeric control
CNE	conditional no exposure
COC	chemical of concern
CSCSL	Confirmed and Suspected Contaminated Sites List
CSL	Cleanup Screening Level
CSO	combined sewer overflow
DW	dry weight
EAA	Early Action Area
ECHO	Enforcement and Compliance History Online
ECR	Environmental Conditions Report
Ecology	Washington State Department of Ecology
EOF	emergency overflow
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
FD	field duplicate
GIS	Geographic Information Systems
HCB	hexachlorobenzene
HPAH	high molecular weight polycyclic aromatic hydrocarbon
HVAC	heating, ventilating, and air-conditioning
IEC	Issue of Environmental Concern
ISIS	Integrated Site Information System
KCHD	King County Health Department
KCIW	King County Industrial Waste
LAET	lowest apparent effects threshold
LDW	Lower Duwamish Waterway
LDWG	Lower Duwamish Waterway Group
LQG	large quantity generator
LUST	leaking underground storage tank
m^3	cubic meters
MEK	methyl ethyl ketone
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
mg/kg	milligrams per kilogram

Acronyms and Abbreviations (Continued)

mgy	million gallons per year
MLLW	mean lower low water
MOU	Memorandum of Understanding
MQG	medium quantity generator
MTCA	Model Toxics Control Act
NA	not analyzed or not available
ng/kg	nanograms per kilogram
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NWRO	Northwest Regional Office
OC	organic carbon
OWS	oil/water separator
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
POS	Port of Seattle
ppm	parts per million
PSCAA	Puget Sound Clean Air Agency
PVC	polyvinyl chloride
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
RM	River Mile
SAIC	Science Applications International Corporation
SCAP	Source Control Action Plan
SD outfall	storm drain outfall
SDOT	City of Seattle Department of Transportation
SIC	Standard Industrial Classification
SKCDPH	Seattle-King County Department of Public Health
SMS	Sediment Management Standards
SPH	separate phase hydrocarbons
SPU	Seattle Public Utilities
sq ft	square foot
SQG	small quantity generator
SQS	Sediment Quality Standard
SVOC	semivolatile organic compound
SWPPP	Stormwater Pollution Prevention Plan
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	toxicity equivalent quotient
TFH	total fuel hydrocarbons
TOC	total organic carbon
TPH	total petroleum hydrocarbons
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank

Acronyms and Abbreviations (Continued)

VCP	Voluntary Cleanup Program
VOC	volatile organic compound
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation
WWTP	wastewater treatment plant
XRF	X-ray fluorescence

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1.0 Introduction

1.1 Background and Purpose

This *Summary of Existing Information and Identification of Data Gaps Report* (Data Gaps Report) pertains to River Mile (RM) 1.6 to 2.1 West[1] (Terminal 115), one of 24 source control areas identified as part of the overall cleanup process for the Lower Duwamish Waterway (LDW) Superfund Site (Figure 1). This report summarizes readily available information regarding properties in the Terminal 115 source control area. The purpose of this Data Gaps Report is to:

- Identify chemicals of potential concern in sediments adjacent to the Terminal 115 source control area;
- Identify and describe potential adjacent or upland sources of contaminants that could be transported to sediments;
- Evaluate potential contaminant migration pathways to LDW sediments;
- Identify critical data gaps that should be addressed in order to assess the potential for recontamination of sediments and the need for source control; and
- Determine what, if any, effective source control is already in place.

The LDW consists of 5.5 miles of the Duwamish Waterway as measured from the southern tip of Harbor Island to just south of the Norfolk Combined Sewer Overflow (CSO). The LDW flows into Elliott Bay in Seattle, Washington. The LDW was added to the U.S. Environmental Protection Agency (USEPA or EPA) National Priorities List in September 2001 due to the presence of chemical contaminants in sediment. The key parties involved in the LDW site are EPA, the Washington State Department of Ecology (Ecology), and the Lower Duwamish Waterway Group (LDWG), which is composed of representatives of the City of Seattle, King County, the Port of Seattle (the Port), and The Boeing Company (Boeing). In December 2000, EPA and Ecology signed an agreement with the LDWG to conduct a Remedial Investigation/ Feasibility Study (RI/FS) for the LDW site.

EPA is leading the effort to determine the most effective cleanup strategies for the LDW through the RI/FS process. Ecology is leading the effort to investigate adjacent and upland sources of contamination and to develop plans to reduce contaminant migration to waterway sediments.[2] The LDWG collected data during the Phase 1 Remedial Investigation (RI) (Windward 2003) that were used to identify candidate locations for early cleanup action. Seven candidate early action areas (EAAs or Tier 1 sites) were identified. Ecology's *Lower Duwamish Waterway Source Control Status Report, 2003 to June 2007* (Ecology 2007a) and *Lower Duwamish Waterway Source Control Status Report, July 2007 to March 2008* (Ecology 2008c) identified another 16 areas where source control actions may be necessary. The Terminal 115 source control area was

[1] River miles as defined in this report are measured from the southern tip of Harbor Island.
[2] EPA and Ecology signed an interagency Memorandum of Understanding (MOU) in April 2002 and updated the MOU in April 2004. The MOU divides responsibilities for the site. EPA is the lead agency for the sediment RI/FS, while Ecology is the lead agency for source control issues (EPA and Ecology 2002, 2004).

identified as one of these areas. One additional source control area was added by Ecology in 2010, for a total of 24 source control areas. The seven candidate EAAs and 17 additional source control areas are shown on Figure 1. Subsequently, Ecology and EPA redefined the boundaries of the source control areas, generally defined by stormwater drainage areas. Figure 2 shows the stormwater drainage basins near the Terminal 115 source control area. CSO basins, which overlap with stormwater drainage basins in many areas along the LDW, were not considered for defining source control area boundaries. However, sources with the CSO basins are evaluated as part of source control. Figure 3 shows the CSO basins associated with the Lower Duwamish Waterway.

Ecology is the lead agency for source control for the LDW site. Source control is the process of finding and eliminating or reducing releases of contaminants to LDW sediments, to the extent practicable. The goal of source control is to prevent sediments from being recontaminated after cleanup has been undertaken.

The LDW Source Control Strategy (Ecology 2004) describes the process for identifying source control issues and implementing effective controls for the LDW. The plan is to identify and manage potential sources of sediment recontamination in coordination with sediment cleanups. Source control will be achieved by using existing administrative and legal authorities to perform inspections and require necessary source control actions.

The strategy is based primarily on the principles of source control for sediment sites described in EPA's *Principles for Managing Contaminated Sediment Risks at Hazardous Waste Sites* (USEPA 2002), and the Washington State Sediment Management Standards (SMS) (Washington Administrative Code [WAC] 173-340-370[7] and WAC 173-204-400). The Source Control Strategy involves developing and implementing a series of detailed, area-specific Source Control Action Plans (SCAPs).

Before developing a SCAP, Ecology prepares a Data Gaps Report for the source control area. Findings from the Data Gaps Report are reviewed by LDW stakeholders and are incorporated into the SCAP. This process helps to ensure that the action items identified in the SCAP will be effective, implementable, and enforceable. As part of the source control efforts for the Terminal 115 source control area, Ecology requested Science Applications International Corporation (SAIC) to prepare this Data Gaps Report.

1.2 Report Organization

Section 2.0 of this report provides background information on the Terminal 115 source control area, including location, physical characteristics, chemicals of concern (COCs), and pathways by which contaminants may reach sediments. Sections 3.0 through 5.0 describe potential sources of contaminants and data gaps that must be addressed in order to develop and implement a SCAP for the source control area. Section 6.0 provides a summary of data gaps, and Section 7.0 lists the documents cited in this report.

Information presented in this report was obtained from the following sources:

- Ecology Northwest Regional Office (NWRO) Central Records;
- Washington State Archives;

- EPA files;
- Seattle Public Utilities (SPU) business inspection reports;
- Ecology Underground Storage Tank (UST) and Leaking Underground Storage Tank (LUST) lists;
- Ecology Facility/Site Database;
- Ecology Integrated Site Information System (ISIS) Database;
- Washington State Confirmed and Suspected Contaminated Sites List (CSCSL);
- EPA Enforcement and Compliance History Online (ECHO);
- EPA Envirofacts Warehouse;
- King County Geographic Information Systems (GIS) Center Parcel Viewer, Property Tax Records, and iMap;
- GIS shape files produced by SPU;
- Current and historical information regarding operations and environmental investigations from the Port; and
- Historical aerial photographs.

Information collected from the Facility/Site Database, ISIS, ECHO, EPA Envirofacts Warehouse and King County property tax records was current as of May 2011. More recent updates to these databases may not be reflected in this report.

1.3 Scope of Report

This report documents readily available information relevant to potential sources of contaminants to sediments associated with the Terminal 115 source control area, including outfalls associated with the Terminal 115, Highland Way SW, and SW Kenny Street storm drain (SD) basins; adjacent properties (the Port's Terminal 115); upland properties within the Highland Way SW and SW Kenny Street SD basins; and sources associated with the Terminal 115 and West Michigan CSO basins (Figure 4).

Air pollution is a potential source of sediment contamination with origins outside of the Terminal 115 source control area. Although a limited discussion of atmospheric deposition is provided in Section 2.0, the scope of this report does not include an assessment of data gaps pertaining to the effects of air pollution on the sediments adjacent to the source control area. Because air pollution is a concern for the wider LDW region, Ecology will review work being conducted by the Washington State Department of Health and planned by the Puget Sound Partnership regarding atmospheric deposition.

Information presented in this report is limited to the Terminal 115 source control area, direct discharges to the sediments adjacent to the source control area, and potential adjacent and upland contaminant sources. Source control with regard to any contaminated sediments removed or left in place during cleanup in this portion of the LDW will need to be addressed as part of the remedial action decision and design for this area.

Chemical data have been compared to relevant regulatory criteria and guidelines, as appropriate. The level of assessment conducted for the data reviewed in this report is determined by the source control objectives. The scope of this Data Gaps Report does not include data validation or analysis that exceeds what is required to reasonably achieve source control.

2.0 Terminal 115 Source Control Area

The Terminal 115 source control area, also referred to as the RM 1.6 to 2.1 West source control area, is located along the west side of the LDW between RM 1.6 and 2.1, as measured from the southern end of Harbor Island (Figure 1). Although identified as the Terminal 115 source control area, this source control area includes the Port-owned Terminal 115 property, parcels owned by the state of Washington and City of Seattle Department of Transportation, and the Highland Way SW SD basin and portions of the SW Kenny Street SD basin, both of which discharge to the LDW between RM 1.6 and 2.1 West.

The Port owns the property adjacent to the LDW within the Terminal 115 source control area (King County tax parcel 5367202505), and leases it to several facilities. A small portion of the Terminal 115 tax parcel is located to the south of SW Michigan Street and is not contiguous with the remainder of the Terminal 115 property (Figure 5). This small portion of the tax parcel, which is currently vacant, is not included in the Terminal 115 source control area, but will be addressed as part of the 1st Avenue S Storm Drain source control area Data Gaps Report (in preparation).

The Terminal 115 source control area includes the following:

- Terminal 115 and its tenants; which include:
    - Commercial Fence Corporation
    - Gene Summy Lumber Company
    - Northland Services, Inc. and its subtenant:
        - Northwest Container Services, Inc.
    - Sea Pac Services, LLC
    - Seafreeze Cold Storage and its subtenants:
        - Icicle Seafoods, Inc.
        - Custom Seafoods
        - Northwest Seafood Processing
    - Shultz Distributing, Inc. and its subtenants:
        - Subway Corporation
        - Portside Coffee Company
- Seattle Engineering Department Penn Yard
- Former Foss Environmental Services
- Facilities located within the Highland Way SW SD basin, which include:
    - A&E Auto Repair
    - Enviro Metal Co.
    - Lloyd Electric Apparatus Co.
    - Pacific Plumbing Supply
    - Pioneer Industries Seattle
    - SPU SW Trenton Tank

- Facilities located within the SW Kenny Street SD basin and Terminal 115 CSO basin, which were not previously addressed as part of the RM 1.3 to 1.6 West (Glacier Bay) Data Gaps Report (SAIC 2007) and SCAP (Ecology 2007). These facilities include:
  - Aluminum & Bronze Fabricators, Inc.
  - Catholic Printery, Inc.
  - Emswiler Construction
  - Pacific Rim Equipment Rental/Krueger Sheet Metal Company

In addition, the West Michigan and Terminal 115 CSO basins were reviewed to identify any additional facilities that could represent potential sediment recontamination sources. No additional facilities were identified within the Terminal 115 CSO basin.

- Two facilities were identified within the West Michigan CSO basin:
  - Molner's One Stop, Inc.
  - SPU Vactor Pit

These facilities are shown on Figure 4. The tax parcels associated with these facilities are identified on Figure 5.[3]

2.1 Site Description

General background information on the LDW is provided in the LDWG RI Report (Windward 2010), which describes the history of dredging/filling and industrialization of the Duwamish River and its environs, as well as the physiography, physical characteristics, hydrogeology, and hydrology of the area.

The upland areas adjacent to the LDW have been industrialized for many decades; historical and current commercial and industrial operations in the vicinity of the Terminal 115 source control area include aircraft manufacturing, sand and gravel operations, cargo handling and shipping, and warehousing/distribution (Foster 1945).

In the late 1800s and early 1900s, extensive topographic modifications were made to the Duwamish River to create a straightened channel; many of the current side slips are remnants of old river meanders. During this time frame, Terminal 115 was submerged land.

Groundwater in the Duwamish Valley alluvium is typically encountered within about 3 meters (10 feet) of the ground surface and under unconfined conditions (Windward 2003). The general direction of groundwater flow is toward the LDW, although the direction may vary locally depending on the nature of the subsurface material, and temporally, based on proximity to the LDW and the influence of tidal action. High tides can cause temporary groundwater flow reversals, generally within 100 to 150 meters (300 to 500 feet) of the LDW (Booth and Herman 1998). Groundwater flow in the vicinity of the Terminal 115 source control area is generally to the east, toward the LDW.

[3] The address listed for Enviro Metal in the Ecology Facility/Site Database does not match any tax parcels listed in the King County tax assessor records. The tax parcel for Enviro Metal could not be positively identified; therefore, Enviro Metal is not shown on Figure 5.

Bottom sediment composition is variable throughout the LDW, ranging from sands to mud. Typically, the sediment consists of slightly sandy silt with varying amounts of organic detritus. Coarser sediments are present in nearshore areas adjacent to SD discharges (Weston 1999); finer-grained sediments are typically located in remnant mudflats and along channel side slopes. Sediments associated with the Terminal 115 source control area generally consist of 60 to 100 percent fines with small areas of 20 to 60 percent fines between approximately RM 1.8 and 1.9 West, and 40 to 60 percent fines from approximately RM 1.95 to 2.1 West. Total organic carbon (TOC) in this area ranges from 0.5 to 4 percent (Appendix A) (Windward 2010).

In an effort to more thoroughly understand and evaluate historical facility operations and development at Terminal 115[4], SAIC reviewed historical aerial photographs from 1936 to 2006. These photographs represent conditions during roughly each decade. The aerial photographs and complete descriptions are provided in Appendix B. For ease of description, the properties are identified by the current facility operators. The descriptions are summarized below.

- ***1936:*** Terminal 115 did not exist in its entirety in 1936. A tidally influenced island (Foss Island) is present in the central and northern portion of the area. Foss Island is surrounded by a wide oxbow meander of the Duwamish River. Boeing Plant 1 is located on the southern portion of the property (the current location of Seafreeze). A building located on the southern portion of the Boeing property, later occupied by Foss Environmental, is already present. A slough (McAllister Slough) is present to the west of Boeing Plant 1. The surrounding area, including the hillside to the west of West Marginal Way SW, is generally undeveloped.
- ***1956:*** Shoreline development along the west side of the LDW has increased and several small buildings are present. There are several additional buildings at Boeing Plant 1. Construction of expanded southbound lanes for the 1st Avenue S Bridge has taken place.
- ***1960:*** Initial backfilling activities began between the shoreline and Foss Island. Dirt roads exist over previously tidally exposed areas. Floating lumber log rafts still exist. A narrow pier extends a short distance out into the LDW from the east side of the island. No major changes have occurred at Boeing Plant 1. Construction of the 1st Avenue S Bridge appears to be complete.
- ***1969:*** A large amount of development has occurred in the local area. A parking lot was added to the east of Boeing Plant 1. The MRI Corporation building (currently occupied by Summy Lumber and Commercial Fence) has been constructed in the northern portion of present day Terminal 115. Several small buildings have been constructed to the east of West Marginal Way SW. Two shoreline areas to the east and west of 1st Avenue S Bridge have been backfilled. South of SW Michigan Street, McAllister Slough has been buried by fill material. A new building (currently occupied by Aluminum & Bronze) has been constructed to the west of West Marginal Way SW.
- ***1974:*** Terminal 115 has been completely backfilled and paved. Glacier Bay is present to the north of the Terminal 115 property. The Pioneer Industries building is also present along Highland Park Way SW.

[4] Aerial photographs of the Highland Way SW storm drain basin south of SW Myrtle Street were not reviewed, as this area consists primarily of recreational and residential properties.

- ***1977:*** Operations at Terminal 115 are unchanged. The buildings associated with Boeing Plant 1 have been demolished, with the exception of the Administration Building (former Foss Environmental). Buildings have been constructed on the former Lloyd Electric, Pacific Plumbing Supply, and Pacific Rim/Krueger Sheet Metal properties.
- ***1985:*** Operations at Terminal 115 included storage of large cargo containers, semi-truck trailers, and industrial equipment. A large warehouse has been constructed on the northern side of the property. The building currently occupied by Seafreeze has been constructed. The building currently occupied by Catholic Printery has been constructed.
- ***1993:*** Container storage operations at Terminal 115 have increased. Industrial activity appears to have increased in the area.
- ***1995:*** Barges are present along Terminal 115. The west portion of the Seafreeze building has been expanded. Two small piers have been constructed to the east of the Seafreeze building. The 1st Avenue S Bridge was undergoing an expansion.
- ***1999:*** Operations and activities at Terminal 115 and the surrounding properties appear to be similar in scope and scale. Expansion of the 1st Avenue S Bridge is complete, and several on- and off-ramps have been constructed.
- ***2001:*** Few changes are observed between the 1999 and 2001 aerial photographs.
- ***2004:*** A large building on the northern portion of Terminal 115 has been removed. The surrounding area remains relatively unchanged.

2.2 Chemicals of Concern in Sediment

COCs in sediment adjacent to the Terminal 115 source control area were identified based on sediment sampling conducted between 1997 and 2010.

2.2.1 Sediment Investigations

Sediment samples have been collected adjacent to the Terminal 115 source control area as part of the investigations listed below. Sampling locations are listed in Table 1 and are shown on Figure 6. Data and information regarding the investigations performed prior to 2005 were compiled by Windward for the LDW RI (Windward 2003, 2010).

- **Duwamish Waterway Sediment Characterization Study (NOAA 1998)**

  Seven surface sediment samples were collected adjacent to the source control area in October 1997. All seven samples were analyzed for polychlorinated biphenyls (PCBs) and polychlorinated terphenyls.

- **Boeing Site Characterization (Exponent 1998)**

  Eight surface samples were collected adjacent to the source control area in October 1997. All samples were analyzed for metals and trace elements, polycyclic aromatic hydrocarbons (PAHs), PCBs, phthalates, and semivolatile organic compounds (SVOCs).

- **EPA Site Inspection (Weston 1999)**

  Eighteen surface samples were collected adjacent to the source control area in August and September 1998. All samples were analyzed for metals and trace elements, PAHs, PCBs, phthalates, and SVOCs. Four samples were analyzed for organometals. Two samples were analyzed for volatile organic compounds (VOCs) and pesticides. One sample was analyzed for dioxins/furans.

- **LDW Phase 2 Remedial Investigation, Round 1, 2, and 3 Surface Sediment Sampling (Windward 2005a,b, 2007b)**

  Nine surface sediment samples were collected adjacent to the source control area for the RI Phase 2 Rounds 1, 2, and 3 sampling during January and March 2005 and October 2006. All samples were analyzed for metals and trace elements, PAHs, PCBs, phthalates, and SVOCs. Three samples were analyzed for pesticides and one sample was analyzed for dioxins/furans.

- **LDW Phase 2 RI Subsurface Sediment Sampling (Windward 2007a)**

  Five sediment samples were collected from two coring locations adjacent to the source control area during 2006. All samples were analyzed for metals and trace elements, PAHs, PCBs, phthalates, and SVOCs, except for the 2- to 4-foot below ground surface (bgs) sample from LDW-SC34, which was not analyzed for SVOCs.

- **Terminal 115 Sediment Characterization (Anchor 2008)**

  Nine sediment samples were collected from two coring locations adjacent to the source control area in March 2008. The nine samples plus one composite sample from each coring location were analyzed for metals, organometal compounds, PAHs, chlorinated hydrocarbons, phthalates, phenols, other SVOCs, VOCs, pesticides, PCBs, and dioxins/furans.

- **Terminal 115 Slope Area Surface Sediment Characterization (Anchor 2009)**

  Five surface sediment samples were collected in April 2009 from the sloped bank area of Berth 1. Samples were analyzed for metals, SVOCs, VOCs, pesticides, PCBs, and dioxins/furans.

- **Post-Dredge Subsurface Sediment Characterization (SEE 2010a,b)**

  Thirty-one sediment samples were collected from seven coring locations adjacent to the source control area in January and March 2010, following dredging and construction activities in Berth 1 at Terminal 115. Seventeen samples were analyzed for PCBs, PAHs, and dioxins. The remaining samples were archived. In March 2010, four samples were collected from the clean sand cover placed over the sediment. The sand cover samples were analyzed for SVOCs and dioxins.

Sediment sampling results are listed in Appendix A, Tables A-1 and A-2, for surface and subsurface sediment samples, respectively.

2.2.2 Identification of Chemicals of Concern

A COC is defined in this report as a chemical that is present in sediments near the Terminal 115 source control area at concentrations above regulatory criteria, and is therefore of particular interest with respect to source control. These COCs are the initial focus of the evaluation of potential contaminant sources.

The Washington SMS (Chapter 173-204 WAC) establish marine Sediment Quality Standard (SQS) and Cleanup Screening Level (CSL) values for some chemicals that may be present in sediments. Sediments that meet the SQS criteria (i.e., are present at concentrations below the SQS) have a low likelihood of adverse effects on sediment-dwelling biological resources. However, an exceedance of the SQS numerical criteria does not necessarily indicate adverse effects or toxicity, and the degree of SQS exceedance does not correspond to the level of sediment toxicity. The CSL, which is greater than or equal to the SQS, represents a higher level of risk to benthic organisms than the SQS levels. The SQS and CSL values provide a basis for identifying sediments that may pose a risk to some ecological receptors.

A chemical was identified as a COC for the Terminal 115 source control area if it was detected in surface or subsurface sediment at concentrations above the SQS in at least one sample. A comparison of sample results to the SQS and CSL values is provided in Appendix A, and those chemicals that were detected at concentrations above their respective SQS/CSL values are listed in Tables 2 and 3 for surface and subsurface sediments, respectively. For non-polar organics, the measured dry weight (DW) concentrations were organic carbon (OC) normalized to allow comparison to the SQS/CSL, unless the TOC concentration was less than or equal to 0.5 percent or greater than or equal to 4.0 percent. OC normalization is not considered to be appropriate for TOC concentrations outside of this range (Michelsen and Bragdon-Cook 1993, as cited in Windward 2010). For samples with TOC concentrations outside this range, analytical results for non-polar organics were compared to the lowest apparent effects threshold (LAET) and the second lowest apparent effects threshold (2LAET), as identified in the LDW RI (Windward 2010). The LAET and 2LAET are functionally equivalent to the SQS and CSL, respectively. Chemicals detected in sediment for which no SQS/CSL values are available may be identified as COCs on a case-by-case basis.

Chemicals with concentrations above the SQS in surface or subsurface sediment samples are listed below. In general, chemicals were present in sediment samples at concentrations only slightly above the SQS. The greatest exceedances were observed for fluoranthene and chrysene in composite subsurface sample S1-CS, hexachlorobenzene in surface sample LDW-SS68, bis(2-ethylhexyl)phthalate (BEHP) in composite subsurface sample S2-CS, PCBs in surface sample R7, and butyl benzyl phthalate in surface sample DR131. These samples were collected offshore of the southern half of Terminal 115 (Figure 6).

Chemicals Detected at Concentrations Above the SQS/CSL	Surface Sediment		Subsurface Sediment	
	> SQS	> CSL	> SQS	> CSL
PAHs				
Acenaphthene			●	
Benzo(a)anthracene			●	

Chemicals Detected at Concentrations Above the SQS/CSL	Surface Sediment		Subsurface Sediment	
	> SQS	> CSL	> SQS	> CSL
Benzo(a)pyrene			●	
Chrysene			●	●
Fluoranthene			●	●
Pyrene			●	●
Total Benzofluoranthenes			●	●
Total HPAH			●	
Phthalates				
Bis(2-ethylhexyl)phthalate	●	●	●	●
Butyl benzyl phthalate	●		●	
SVOCs				
Hexachlorobenzene	●	●		
Benzyl alcohol			●	●
PCBs				
PCBs (total)	●	●	●	

HPAH – High molecular weight PAHs
Exceedance factors, which are a measure of the degree to which maximum detected concentrations exceed the SQS/CSL values, are listed in Tables 2 and 3.

Results for these chemicals are discussed in more detail below.

PAHs

PAH concentrations exceeding the SQS were detected in subsurface sediment samples collected from Berth 1 during 2008 and 2010. Concentrations of chrysene, fluoranthene, pyrene, and total benzofluoranthenes also exceeded the CSL (Figure 6).

PCBs

PCB concentrations exceeded the SQS/LAET in three surface sediment samples and exceeded the CSL/2LAET in samples R7 and WST349 (Table 2). PCB concentrations exceeded screening levels in 17 subsurface samples collected from 7 coring locations (Table 3). Samples with PCB exceedances were collected within Berth 1, offshore of the Seafreeze/Icicle Foods facility, and upstream from the former Port-SF outfall. The greatest SQS/LAET exceedances were observed in surface sample R7 on the south end of the Port property, and the 2- to 3-foot bgs sample collected from location SC-01, which was collected in Berth 1 (Figure 6).

Phthalates

Concentrations of bis(2-ethylhexyl)phthalate (BEHP) exceeded the SQS in four surface sediment samples and exceeded the CSL in three of these samples. Butyl benzyl phthalate concentrations in four surface sediment samples exceeded the SQS (Table 2). In subsurface sediments, BEHP concentrations exceeding the SQS and CSL were observed in a composite sample collected from locations S2-01 and S2-02 and in the 1- to 2-foot bgs sample from location LDW-SC34. BEHP concentrations equal to or exceeding the SQS were detected in two additional subsurface samples. Butyl benzyl phthalate concentrations exceeded the SQS in the 0- to 1-foot bgs and the

1- to 2-foot bgs samples from LDW-SC34, and in the 1- to 2-foot bgs samples from SC-01 and SC-02 (Table 3). The greatest exceedances for BEHP and butyl benzyl phthalate were observed in surface sample DR131, the composite sample composed of sediments collected from two coring locations, S2-01 and S2-02, and the 0-to 1-foot and 1- to 2-foot samples from coring location LDW-SC34, All of these samples were collected near Outfalls 2123, 2124, and 2125. Butyl benzyl phthalate was also detected at a concentration that exceeded the SQS in sample DR126, which is located near the northeastern corner of Terminal 115 (Figure 6).

SVOCs

Hexachlorobenzene exceeded the SQS and CSL in surface sediment sample LDW-SS68 (Table 2), which was collected near Outfall 2220. Benzyl alcohol exceeded the SQS and CSL in the 1- to 2-foot bgs sample from LDW-SC34 (Table 3); this sample was collected near Outfalls 2123, 2124, and 2125 (Figure 6).

Other COCs

Although no sediment quality standards have been promulgated, dioxins and furans are considered to be potential COCs at the Terminal 115 source control area. These compounds were detected at 23 sampling locations. Mammalian dioxin/furan toxic equivalency quotients (TEQs) ranged from 0.81 to 46.6 nanograms per kilogram (ng/kg) DW (see Appendix A). The highest concentrations of dioxins/furans were detected at location LDW-SS59, which is located near the Terminal 115 CSO/SW Kenny Street SD outfall.

Organo-tin compounds are considered to be potential COCs at the Terminal 115 source control area due to their presence in sediment samples collected adjacent to this area. Organo-tin compounds were detected at four sampling locations, with concentrations up to 0.07 milligram per kilogram (mg/kg) DW tributyltin at locations DR152 and DR154 (see Appendix A).

2.2.3 Summary of Chemicals of Concern in Sediments

As described above, COCs were identified based on the results of sediment sampling conducted between 1997 and 2010. Chemicals that exceeded the SQS in at least one surface or subsurface sediment sample offshore of the Terminal 115 source control area are considered COCs. In addition, dioxins/furans and organo-tin compounds were identified as potential COCs, as described above.

In summary, the following chemicals are considered to be COCs in sediment associated with the Terminal 115 source control area:

- PAHs
- PCBs
- Phthalates
- SVOCs
- Dioxins/furans
- Organo-tin compounds

2.3 Potential Pathways to Sediment

Potential sources of sediment recontamination associated with the Terminal 115 source control area include SDs, CSO outfalls, and discharges from adjacent and upland properties. Transport pathways that could contribute to the recontamination of sediments associated with the Terminal 115 source control area following remedial activities include direct discharges via outfalls, surface runoff (sheet flow) from adjacent properties, bank erosion, groundwater discharges, air deposition, and spills directly to the LDW. These pathways are described below and are discussed in more specific detail in Sections 3.0 through 5.0.

2.3.1 Direct Discharges via Outfalls

Direct discharges may occur from public or private SD systems, CSOs, and emergency overflows (EOFs). In the Terminal 115 source control area, there are eight public SD outfalls and two CSOs (Section 3.0). Direct discharges to these outfalls within the Terminal 115 source control area include stormwater, municipal and industrial wastewater, and groundwater, which infiltrates the Terminal 115 SD system (Anchor 2010).

Upland areas within the LDW are served by a combination of separated storm/sanitary systems and combined sewer systems. Storm drain systems convey stormwater runoff collected from pervious surfaces (yards, parks) and impervious surfaces (streets, parking lots, driveways, and rooftops) in the stormwater drainage basin. In the LDW, there are both public and private SD systems. Most of the waterfront properties are served by privately owned systems that discharge directly to the waterway. The other upland areas are served by a combination of private and publicly owned systems. Typically, private onsite SD systems discharge to the public SD system in the street, which conveys runoff from private properties and public rights-of-way to the LDW.

The sanitary sewer system collects municipal and industrial wastewater from throughout the LDW area and conveys it to King County's West Point wastewater treatment plant (WWTP), where it is treated before being discharged to Puget Sound. The smaller trunk sewer lines, which collect wastewater from individual properties, are owned and operated by the individual municipalities (e.g., cities of Seattle and Tukwila) and local sewer districts. The large interceptor system that collects wastewater from the trunk lines is owned and operated by King County. A King County interceptor extends along the west side of West Marginal Way SW.

Some areas of the LDW are served by combined sewer systems, which carry both stormwater and municipal/industrial wastewater in a single pipe. These systems were generally constructed before about 1970 because it was less expensive to install a single pipe rather than separate storm and sanitary systems. Under normal rainfall conditions, wastewater and stormwater are conveyed through this combined sewer pipe to a wastewater treatment facility. During large storm events; however, the total volume of wastewater and stormwater can sometimes exceed the conveyance and treatment capacity of the combined sewer system. When this occurs, the combined sewer system is designed to overflow through relief points, called CSOs. The CSOs prevent the combined sewer system from backing up and creating flooding problems.

A mixture of untreated municipal/industrial wastewater and stormwater can potentially be discharged through CSOs to the LDW during these storm events. The city's CSO network has its own National Pollutant Discharge Elimination System (NPDES) permit; the county's CSOs are administered under the NPDES permit established for the West Point WWTP.

An EOF is a discharge that can occur from either the combined or sanitary sewer systems that is not necessarily related to storm conditions and/or system capacity limitations. EOF discharges typically occur as a result of mechanical issues (e.g., pump station failures) or when transport lines are blocked; pump stations are operated by both the city and county. Pressure relief points are provided in the drainage network to discharge flow to an existing SD or CSO pipe under emergency conditions to prevent sewer backups. EOF events are not covered under the city's or county's existing CSO wastewater permits.

There are 14 CSOs/EOFs in the LDW (Table 4). The county CSOs at S Brandon Street, Michigan Street, and Hanford No. 1 (discharging via the city's Diagonal Avenue S CSO/SD outfall) had the highest average discharge volumes between 2000 and 2007. Two CSOs are within the Terminal 115 source control area; the Terminal 115 CSO is located at RM 1.9 West and the West Michigan CSO is at RM 2.0 West. Additionally, the northern portion of the 8th Avenue CSO basin overlaps with most of the Terminal 115 CSO basin (Figure 3).[5]

Annual stormwater discharge volumes are usually substantially higher than annual CSO discharges because SDs discharge whenever it rains, while CSOs only occur when storm events exceed the system capacity. Annual stormwater discharges to the LDW have been estimated at approximately 4,000 million gallons per year (mgy) compared to less than 65 mgy from the county CSOs and less than 10 mgy from the city CSOs (Windward 2010).

To minimize the frequency and volume of CSO events, the county utilizes different CSO control strategies to maximize system capacity. An automated control system manages flows through the King County interceptor system so that the maximum amount of flow is contained in pipelines and storage facilities until it can be conveyed to a regional WWTP for secondary treatment. In some areas of the system, where flows cannot be conveyed to the plant, the overflows are sent to CSO treatment facilities for primary treatment and disinfection prior to discharge. County CSOs discharge untreated wastewater only when flows exceed the capacity of these systems (King County 2009a).[6]

As a result, some areas may overflow to different outfalls at different times, depending on the route that the combined stormwater/wastewater has taken through the county conveyance system. Furthermore, some industrial facilities in the LDW basin may discharge stormwater to a separated system and industrial wastewater to a combined system, or a conveyance that begins as a separated system may discharge to a combined system further downstream along the flow path.

When preparing a Data Gaps Report for a source control area, all properties that potentially discharge to that source control area (whether through a CSO/EOF or a separated SD) are identified to the extent that the boundaries of the SD system drainage basin or CSO basin are known. However, for areas where stormwater drainage basins or CSO basins overlap, a property review is performed only if the property has not already been included in a previously published

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[5] The 8th Avenue CSO basin discharges to the LDW within the RM 2.2 to 3.4 West (Riverside Drive) source control area.

[6] City CSOs are generally smaller and flows are not treated prior to discharge.

Data Gaps Report. Exceptions include situations where contaminants may be transported to the current source control area via a transport pathway that was not applicable for the earlier evaluation. The SW Kenny Street SD basin includes properties that have been discussed in other Data Gaps Reports and SCAPs. These facilities/properties are identified in Appendix C.

Although COCs from individual industrial and commercial facilities within the CSO basin are significantly diluted, the cumulative effects of CSO events could contribute to recontamination of the sediments adjacent to the Terminal 115 source control area. Industrial and commercial facilities discharging industrial wastes and/or stormwater to the combined sewer system are therefore considered to represent potential, but relatively minor, sources of sediment recontamination.

Large spills of hazardous substances and waste materials containing COCs may be transported to an SD or CSO system and therefore have the potential to impact sediment in the LDW. There is a potential for spills of COCs from many of the industrial and commercial businesses in the Terminal 115 and West Michigan CSO basins as well as from trucks and trains transporting hazardous substances and waste materials. Spills that occur in the Terminal 115 and West Michigan CSO basins could enter the onsite or public SD system and be discharged to the LDW through the CSOs. Spill prevention is a major element of the business inspections conducted by SPU, King County, and Ecology. Many businesses are required to have spill prevention plans. In the event of a spill, Ecology and SPU respond to and investigate spill incidents.

Within the Terminal 115 and West Michigan CSO systems, there are facilities within sanitary sewer service areas that also have stormwater drainage connections to combined sewers. Although there can be specific distinctions whether a given sub-basin or sub-service area is a fully separated, partially separated, or a fully combined sewer system, this document uses “CSO basin” as a generic term to communicate the concept of a CSO system that is tributary to a specified CSO outfall and that includes some portion of identifiable storm drainage conveyance connected to combined sewers.

2.3.2 Surface Runoff (Sheet Flow)

In areas lacking collection systems, spills or leaks on properties adjacent to the LDW could flow directly over impervious surfaces or through creeks and ditches to the waterway. Current operational practices at adjacent properties may contribute to the movement of contaminants to the LDW via runoff. Based on aerial photographs and the documents reviewed, it appears that Terminal 115 is paved and most stormwater is conveyed through oil/water separators (OWS) prior to discharging to the LDW. Deck drains are present north of Berth 1; sheet flow that may be conveyed to these drains does not pass through an OWS prior to discharge. The Penn Yard does not appear to be paved. Surface runoff from the Penn Yard to the LDW may be a source of contaminants to sediments adjacent to the Terminal 115 source control area.

2.3.3 Spills to the LDW

Near-water and overwater activities have the potential to impact adjacent sediment from spills directly to the LDW of material containing COCs. Northland Services, Seafreeze, Icicle Seafoods, and Commercial Fence conduct loading and unloading activities within the Terminal

115 source control area. Accidental spills during loading/unloading operations may result in transport of contaminants to sediment.

2.3.4 Bank Erosion

The banks of the LDW shoreline are susceptible to erosion by wind and surface water, particularly in areas where banks are steep. Shoreline armoring and the presence of vegetation reduce the potential for bank erosion. Contaminants in soils along the banks of the LDW could be released directly to sediments via erosion. The shoreline under the pier north of Berth 1 is engineered with riprap. Within Berth 1, the bank is engineered riprap with exposed riparian areas. The area south of Berth 1 contains some riprap and exposed banks.

2.3.5 Groundwater Discharges

Concentrations of chemicals in soil and groundwater were compared to draft soil-to-sediment or groundwater-to-sediment screening levels (SAIC 2006). These screening levels were initially developed to assist in the identification of upland properties that may pose a potential risk of recontamination of sediments at Slip 4. The screening levels incorporate a number of conservative assumptions, including the absence of contaminant dilution and ample time for contaminant concentrations in soil, sediment, and groundwater to achieve equilibrium. The screening levels do not address issues of contaminant mass flux from upland media to sediments, nor do they address the area or volume of sediment that might be affected by upland contaminants. Because of these assumptions and uncertainties, these screening levels are most appropriately used for one-sided comparisons. If contaminant concentrations in upland soil or groundwater are below these screening levels, then it is unlikely that they will lead to exceedances of the SMS. However, upland concentrations that exceed these screening levels *may or may not* pose a threat to marine sediments; additional site-specific information must be considered in order to make such an assessment. While not currently considered COCs in sediment, these chemicals may warrant further investigation, depending on site-specific conditions, to evaluate the likelihood that they will lead to exceedances of the SMS.

Contaminants in soil resulting from spills and releases to adjacent properties may be transported to groundwater and subsequently be released to the LDW and the Terminal 115 source control area. Groundwater contaminated by metals, petroleum hydrocarbons, and VOCs has been documented at Terminal 115.

The area between RM 1.9 and 2.0 West has been identified as an area with a generally higher seepage level. Two seeps were identified between RM 2.0 and 2.1 West but were not sampled for chemical analyses. The area between RM 1.6 and approximately 1.8 West was not evaluated for seeps because of limited access to the shoreline due to the presence of the Terminal 115 pier and barges (Windward 2004).

2.3.6 Atmospheric Deposition

Atmospheric deposition occurs when air pollutants enter the LDW directly or through stormwater. Air pollutants may be generated from point or non-point sources. Point sources include industrial facilities, and air pollutants may be generated from painting, sandblasting, loading/unloading of raw materials, and other activities, or through industrial smokestacks. Non-point sources include dispersed sources such as vehicle emissions, aircraft exhaust, and off-gassing from common materials such as plastics. Air pollutants may be transported over long distances by wind, and can be deposited to land and water surfaces by precipitation or particle deposition. None of the properties within the Terminal 115 source control area, Terminal 115 CSO, or West Michigan CSO are currently regulated as point sources of air emissions.

Contaminants originating from nearby properties and streets may be transported through the air and deposited in the LDW or in areas that drain to the LDW. Secondary impacts of air sources on the stormwater pathway to receiving waters and sediment are not well understood; additional information is needed. Recent and ongoing atmospheric deposition studies in the LDW area is summarized in the LDW Source Control Status Reports (Ecology 2007a and subsequent updates); Ecology will continue to monitor these efforts.

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3.0 Potential for Sediment Recontamination from Outfalls

Storm drain systems convey stormwater runoff collected from streets, parking lots, roof drains, and residential, commercial, and industrial properties to the LDW. SD outfalls entering the LDW carry runoff generated by rain and snow. A wide range of chemicals may become dissolved or suspended in runoff as rainwater flows over the land. Urban areas generally accumulate particulates, dust, oil, asphalt, rust, rubber, metals, pesticides, detergents, or other materials as a result of human activities throughout the SD basin.

Human activities include landscaping, spills, illegal dumping, vehicle maintenance (fueling, washing), and vehicle use (wear on roads, tires, brakes, fluid leaks, and emissions). These materials can be flushed into SDs during wet weather, and are then conveyed to the waterway. In addition, contaminants in soil or groundwater could enter the SD system through cracks or gaps in the system piping.

3.1 Public Outfalls

Within the Terminal 115 source control area there are nine outfalls that discharge to the LDW, including seven public SD outfalls, one CSO outfall, and one CSO/SD outfall (Figure 7a). Outfall 2128, which is on Glacier Northwest property to the north of Terminal 115, is included in this Data Gaps Report because stormwater from a portion of the Terminal 115 source control area may drain to this outfall.[7]

The outfalls are listed below, from north to south:

Outfall No.[1]	Outfall Name	Diameter/Material	Outfall Type
2128	POS 6133	18-inch concrete	Unknown
2127	Terminal 115 CSO (038)/ SW Kenny Street SD/ POS 6132	48-inch concrete	KC CSO/SPU SD
N/A	POS 6146	24-inch concrete	Port outfall
2220	POS 6153	20-inch concrete	Port outfall
2123	POS 6161	12-inch composite	Port outfall
2125	Highland Way SW SD POS 6162	32-inch concrete	SPU SD
2124	POS 6163	18-inch concrete lined ductile iron pipe	Port outfall
2122	POS 6165	24-inch concrete	Port outfall
2506	West Michigan CSO	36-inch concrete	KC CSO

[1] Outfall number as listed in Windward 2010, Appendix H.
POS – Port of Seattle

[7] Outfall 2128 was discussed briefly in the Data Gaps Report for the Glacier Bay source control area (SAIC 2007); however, little information about the drainage area for Outfall 2128 was available at that time.

In 2006, The Phoinix Corporation (Phoinix) conducted field inspections of the Port LDW properties, including Terminal 115, to verify the location, size, construction, and condition of outfalls present on these properties (Phoinix 2006, 2007). The approximate drainage area associated with each of the Port outfalls is shown on Figure 7a, and the SD and sanitary sewer lines and structures are shown on Figure 7b. SD and sanitary sewer lines at Terminal 115 and within the Highland Way SW SD basin and the Terminal 115 and West Michigan CSO basins are shown on Figures 8a and 8b.

During the 2006 and 2007 field inspections, Phoinix could not verify the presence of Outfall 2128 and determined that an additional outfall, identified as Port-SF, had been abandoned (Phoinix 2006, 2007).

SD solids samples have been collected from the SD structures associated with Outfalls 2127 and 2125. SPU compares analytical results from these samples to the SQS, apparent effects threshold (AET), and MTCA Method A cleanup standards. Although these regulatory standards are not applicable to SD solids, SPU uses these values as a benchmark to describe SD solids quality (SPU 2010ac). In this document, values described above (SQS/CSL, LAET/2LAET, and MTCA Method A) that are used for comparison to SD solids data are referred to as “SD screening values.” It should be emphasized that none of these values are applied as cleanup levels to SD or combined sewer solids. It is important to note that any comparison of this kind is most likely conservative given that sediments discharged from SDs are highly dispersed in the receiving environment and mixed with the natural sedimentation taking place in the system.

3.1.1 Public Storm Drain Outfalls

Outfall 2128

Outfall 2128 is located on Glacier Northwest property, just to the north of Terminal 115. This outfall was discussed in the Data Gaps Report for the Glacier Bay source control area; however, little information about drainage to this outfall was available at the time the Glacier Bay Data Gaps Report was prepared. Based on a recent inspection of SD lines, the drainage area of Outfall 2128 does not include any inputs from Terminal 115 (Phoinix 2006, 2007). Additional information is needed to determine if this outfall is currently operational or abandoned in place. If the outfall is operational, additional information is needed to assess the drainage area for this outfall.

SW Kenny Street SD/POS SD 6132 (Outfall 2127)

Outfall 2127 is located on the northeastern corner of the Terminal 115 property. The SW Kenny Street SD and the Terminal 115 CSO both discharge through this outfall.

Storm Drain Solids Sampling (2006 to 2009)

SPU collected one sediment trap sample (KN-ST1), three in-line solids samples, and four right-of-way catch basin samples in the SW Kenny Street SD basin between 2006 and 2009 (Figure 9). A sediment trap, KN-ST1, was installed on September 10, 2008, and a sample was collected in March 2009. In-line solids samples were collected from this same location in September 2008, March 2009, and May 2010 (SPU 2010ac). The following table shows chemicals with detected concentrations that exceeded SD screening values in one or more samples.

Chemical	KN-ST1G In-Line 9/10/08	KN-ST1G In-Line 3/17/09	KN-ST1 Sediment Trap 3/17/09	KN-ST1 In-Line 5/6/10
Metals				
Arsenic	30	34	10	70
Lead	223	184	69	470
Mercury	0.40	0.19	0.11	0.42
Zinc	707	771	463	879
PAHs				
Anthracene	<0.075	0.16	0.25	1.4
Phenanthrene	0.085	0.31	1.2	3.3
Total LPAH	0.085	0.47	1.45	5.2 J
Benzo(b)fluoranthene	0.31	0.76	1.1	1.7
Benzo(g,h,i)perylene	0.093	0.64 J	0.76	0.56
Benzo(k)fluoranthene	0.30	0.96 J	1.2	1.7 J
Chrysene	0.21	0.71	1.4	2.4 J
Dibenz(a,h)anthracene	<0.075	0.16	0.25	0.19
Fluoranthene	0.42	1.1	2.1	6.9
Pyrene	0.29	0.94	1.8	2.9 J
Total HPAH	1.95	6.85 J	10.7	19.0 J
Phthalates				
Bis(2-ethylhexyl)phthalate	0.83	2.1	4.9	2.9 J
Butyl benzyl phthalate	<0.075	0.14	0.16	0.15 J
PCBs				
Total PCBs	0.298	0.167	0.1	0.5
Petroleum Hydrocarbons				
TPH-Oil	660	4,600	4,700	2,300

All concentrations are in mg/kg dry weight (DW).
TPH – total petroleum hydrocarbons
J – Estimated concentration between the method detection limit and the laboratory reporting limit.
< - Analyte not detected at or below the laboratory reporting limit, number represents the laboratory reporting limit.
Concentration exceeds the SQS, AET, or MTCA Method A cleanup standard.

The right-of-way catch basin samples were collected along West Marginal Way SW. Two of these are in the general vicinity of the Terminal 115 source control area (RCB54 and RCB55). Butyl benzyl phthalate was the only chemical detected in these catch basins at a concentration above the SQS/LAET (1.1 mg/kg DW). Information regarding CSO discharges through this outfall is discussed in Section 3.1.2.

Highland Way SW SD/POS 6162 (Outfall 2125)

Outfall 2125 discharges to the LDW in the middle portion of Terminal 115, near Berth 1. The Highland Way SW SD basin discharges to Outfall 2125.

In approximately June 1987, City of Seattle Department of Transportation (SDOT) trucks were observed dumping street sweeping liquids/solids and catch basin solids in an area off Highland Park Way (Figure 8a). SDOT vactor trucks followed a dirt road that generally ran north to south and angled up a slope. At the end of the road, the trucks decanted the liquids, which flowed into a shallow ravine to a stream. The water flowed parallel to the dirt road, and discharged into a pond near the entrance to the dirt road at Highland Park Way. Water from the pond drained to a vertical corrugated metal pipe and was then conveyed to the Highland Way SW SD system. This dumping area was reportedly used only for a few months. A follow-up visit was conducted in about 2006 and again on October 16, 2009. Although the road was still accessible, the dumping area had been graded and vegetation had grown in the dumping area. No evidence of waste piles or street sweepings was observed. The stream, pond, and corrugated metal pipe are all still present (Cargill 2010).

Storm Drain Solids Sampling (2008 to 2010)

SPU collected samples from two sediment traps, HP-ST4 and HP-ST6 (Figure 9), in the Highland Way SW SD basin in 2008. In-line grab SD solids samples and sediment trap samples were collected in September 2008 and March/April 2009 (SPU 2010ac). The following table shows chemicals with detected concentrations that exceeded SD screening values in one or more samples.

Chemical	HP-ST4 In-Line 9/10/08	HP-ST6 In-Line 9/25/08	HP-ST4 Sediment Trap 3/12/09	HP-ST6 Sediment Trap 4/15/09	HP-ST6 In-Line 4/15/09
Metals					
Zinc	184	876	228	779	882
Phthalates					
Bis(2-ethylhexyl)phthalate	0.29	4.5	7.3	4.0	5.1
Butyl benzyl phthalate	<0.039	0.57	0.42	0.40	0.60
Dimethylphthalate	<0.039	0.072	<0.093	<0.16	<0.14
SVOCs					
4-Methylphenol	<0.039	<0.059	3.4	<0.16	<0.14
Benzyl alcohol	<0.039	0.43	<0.093	<0.16	<0.14
Petroleum Hydrocarbons					
TPH-oil	540	<470	1,600	4,800	3,800

All concentrations are in mg/kg DW.
J – Estimated concentration between the method detection limit and the laboratory reporting limit.
< Analyte not detected at or below the detection limit.
Concentration exceeds the SQS, AET, or MTCA Method A cleanup standard.

The Port collected sediment trap samples from SD lines connected to Outfall 2125 in April and October 2010 and March 2011 (Figure 10). The samples were analyzed for metals, phthalates, PAHs, and pentachlorophenol (Kuroiwa 2010b). The complete analyte list and validated analytical data were not available for review during the preparation of this Data Gaps Report.

Port of Seattle Storm Drain Outfalls

Based on the Port SD map (Figures 7b and 8a) and the 2006 survey performed by Phoinix (Phoinix 2006); POS 6146 drains the northern portions of the Northland Services and Northwest Container Services facilities; Outfall 2220 (POS 6153) drains the middle portion of the Northland Services, Northwest Container Services, and Sea Pac Services facilities; Outfall 2123 (POS 6161) drains the area directly in front of Berth 1; Outfall 2124 (POS 6163) drains the area northeast of the Seafreeze building; and Outfall 2122 (POS 6165) drains the eastern and southern portions of the Seafreeze/Icicle Seafoods facility.

Groundwater infiltrates into the SD system on the Northland Services, Northwest Container Services, Sea Pac Services, and Summy Lumber facilities (Figures 7a and 8a) and is discharged to the LDW through Outfall 2220. Discharges of uncontaminated spring and groundwater are permitted under Northland Services NPDES permit (Anchor 2010).

Storm Drain Solids Sampling (2006 and 2009)

In May 2006, SPU collected a grab SD solids sample from CB91 (SPU 2010ac), which appears to be equivalent to catch basin number 575 or 580 on Figure 7b. The catch basin is located on the Northland Services facility in an area described by SPU as “adjacent to sweepings disposal area” (SPU 2010ac). Stormwater entering this catch basin is conveyed to the LDW via Outfall 2220. The following table shows chemicals detected at concentrations above the SD screening values in this sample:

Chemical	CB91 Catch Basin 5/31/06
Metals	
Copper	697
Zinc	1,720
PAHs	
2-Methylnaphthalene	14
Acenaphthene	74
Anthracene	95
Benzo(a)anthracene	130
Benzo(a)pyrene	45
Benzo(b)fluoranthene	90
Benzo(g,h,i)perylene	25
Benzo(k)fluoranthene	52
Chrysene	160
Fluoranthene	890
Fluorene	99
Indeno(1,2,3-cd)pyrene	20
Naphthalene	15
Phenanthrene	970

Chemical	CB91 Catch Basin 5/31/06
Pyrene	650
Total LPAH	1,253
Total HPAH	2,062
Other SVOCs	
Hexachlorobenzene	53
Petroleum Hydrocarbons	
TPH-diesel	8,100 J
TPH-oil	6,900 J

All concentrations are in mg/kg DW.
J – Estimated concentration between the method detection limit and the laboratory reporting limit.

The Port collected sediment trap samples from SD lines connected to Outfalls 2123, 2124, and 2220 in April and October 2010 and March 2011 (Figure 10). The samples were analyzed for metals, phthalates, PAHs, and pentachlorophenol (Kuroiwa 2010b). The complete analyte list and validated analytical data were not available for review.

3.1.2 King County Combined Sewer Overflows

The Terminal 115 and West Michigan CSOs discharge to the LDW within the Terminal 115 source control area. King County Industrial Waste (KCIW) estimates that, on a county-wide basis, industrial discharges comprise less than 0.5 percent of the total volume of a CSO event (Tiffany 2008a). Typically, domestic users of the combined sewer system contribute a larger percentage of the chemical loading than industrial users. For example, KCIW testing has indicated that industrial users of the combined sewer system contribute less than 10 percent of the phthalate load, with the remainder coming from uncontrollable sources such as domestic users.

Although COCs from individual industrial and commercial facilities within the CSO basin are significantly diluted, the cumulative effects of CSO events could contribute to recontamination of sediments adjacent to the Terminal 115 source control area. Industrial and commercial facilities discharging industrial wastes and/or stormwater to the combined sewer system are therefore considered to represent potential, but relatively minor, sources of sediment recontamination.

Terminal 115 CSO (038)/SW Kenny Street SD/POS SD 6132 (Outfall 2127)

The Terminal 115 CSO basin covers approximately 110 acres, spanning east-to-west from the LDW to properties west of West Marginal Way SW and north-to-south from the northern boundary line of Terminal 115 to just south of SW Michigan Street (Figure 8a). Land uses within the CSO basin include residential, parks, industrial, and commercial properties.

The CSO has been under King County authority since 1962. The Terminal 115 CSO overflows into a 48-inch diameter SD outfall (Outfall 2127), which is located at the northeast corner of the Terminal 115 source control area (King County 2009b). From 2000 to 2007, combined wastewater and stormwater overflows were discharged through the Terminal 115 CSO on average three times per year, with an annual average volume of approximately 3.52 mgy (Table 4) (Tiffany 2008b). The northern portion of the 8th Avenue CSO basin overlaps with most of the Terminal 115 CSO basin. Therefore, during CSO events, discharges through the Terminal 115 CSO may include contributions of stormwater and wastewater from facilities within the 8th Avenue CSO basin. Facilities that are co-located in the Terminal 115 and 8th Avenue CSO basins are described in this Data Gaps Report.[8]

Historical and current industrial and commercial facilities within the Terminal 115 CSO basin have been identified. Twenty-six facilities in the Terminal 115 CSO basin have been assigned Ecology Facility/Site ID numbers (Table 5). Of these facilities:

- Two are listed on Ecology's CSCSL.
- Four have active EPA ID numbers.
- Four hold NPDES permits.
- Two have KCIW discharge authorizations or permits.
- One is listed on Ecology's LUST list.
- Four are listed on Ecology's UST list.

All of these facilities either discharge stormwater directly to the LDW or are located within the Highland Way SW or SW Kenny Street SD basins. Information regarding these facilities is discussed in Sections 4.0 and 5.0.

Additionally, undocumented industrial operations may take place within the Terminal 115 CSO basin. Undocumented industrial activities may be an ongoing source of contaminants to sediments adjacent to the Terminal 115 source control area.

West Michigan CSO (Outfall 2506)

The West Michigan CSO basin covers approximately 200 acres, spanning east-to-west from 8th Avenue SW to 13th Avenue SW and north-to-south from West Marginal Way SW to SW Roxbury Street (Figures 8a and 8b). Land uses within the CSO basin include mostly residential areas, the Riverview Playfield and Highland Park Playground, and some industrial and commercial properties.

The CSO overflows through a 36-inch diameter outfall at the southeast corner of the Terminal 115 source control area. From 2000 to 2007, combined wastewater and stormwater overflows were discharged through the West Michigan CSO on average four times per year, with an annual average volume of approximately 1.23 mgy (Table 4) (Tiffany 2008b).

King County collected one effluent stormwater sample from the West Michigan CSO in April 2009. Several sediment COCs were detected in the water sample. The highest concentration of each detected sediment COC is listed below:

[8] The 8th Avenue CSO discharges to the LDW within the RM 2.2 to 3.4 West (Riverside Drive) source control area. Facilities located within the 8th Avenue CSO only will be described in the Data Gaps Report for the Riverside Drive source control area (SAIC, in preparation).

Sediment COC	Concentration (µg/L)	Sample Date
Phthalates		
Bis(2-ethylhexyl)phthalate	4.76	April 12, 2009
Butyl benzyl phthalate	0.354	April 12, 2009
SVOCs		
Benzyl Alcohol	1.19	April 12, 2009
PCBs		
PCBs, total	0.0132	April 12, 2009

Source: King County 2009b,c
µg/L – micrograms per liter

Industrial and commercial facilities within the West Michigan CSO basin have been identified. Six facilities in the West Michigan CSO basin have been assigned Ecology Facility/Site ID numbers (Table 6). Of these:

- One facility has an active EPA ID number (Pioneer Industries).
- One facility has an NPDES permit and a KCIW discharge permit (Pioneer Industries).
- One facility is listed on Ecology's UST list (Molner's One Stop Inc.).
- None of these facilities are listed on Ecology's CSCSL or LUST lists.

Four facilities are also located within the Highland Way SW SD basin and are discussed in Section 5.0 of this report.

Additionally, undocumented industrial operations may take place within the West Michigan CSO basin. Undocumented industrial activities may be an ongoing source of contaminants to sediments near the Terminal 115 source control area.

3.2 Private Outfalls

No private outfalls are located within the Terminal 115 source control area.

3.3 Potential for Sediment Recontamination

Sediment trap and in-line SD solids sampling has indicated that concentrations of sediment COCs exceeding SD screening values are present in the SD basins discharging to the Terminal 115 source control area. A summary of sediment COCs identified in each SD basin is provided below.

	Storm Drain Basin		
Sediment COC	Terminal 115	Highland Way SW	SW Kenny Street
Metals	●	●	●
PCBs			●
PAHs	●		●
Phthalates		●	●
Other SVOCs	●	●	
Petroleum Hydrocarbons	●	●	●

Groundwater infiltrates into the SD system and is discharged to the LDW through Outfall 2220. Groundwater infiltration structures are present at the Northland Services, Northwest Container Services, Sea Pac Services, and Summy Lumber facilities. Discharges of uncontaminated groundwater are permitted under Northland Services' NPDES permit (Anchor 2010).

Groundwater is known to be contaminated in some areas of the Terminal 115 property (Section 4.1.4), including the area leased by Summy Lumber. A dry season survey in 2008 indicated that groundwater was not being discharged through the SD system (Anchor 2010); however, groundwater may be discharged through the SD system during the wet season. Contaminants in groundwater (if any) have the potential to recontaminate LDW sediments.

3.4 Data Gaps

Information needed to assess the potential for sediment recontamination associated with the public SD outfalls and CSOs is listed below.

Stormwater Discharges

- Additional information is needed to assess the drainage area for the SD lines that are connected to Outfall 2128.
- Additional data on contaminant concentrations in SD solids within the Terminal 115, Highland Way SW, and SW Kenny Street SD systems are needed to evaluate whether contaminants are being transported to LDW sediments.
- Base flow samples from the portions of the Terminal 115 SD system that discharge to Outfall 2220 are needed to determine if contaminants in base flow (i.e., groundwater infiltrating into the SD system) are present at concentrations exceeding Washington State Water Quality Standards (WAC 173-201A) and/or the groundwater-to-sediment screening levels (SAIC 2006).
- Groundwater is known to be contaminated in the area currently occupied by Summy Lumber. Environmental evaluations are needed in the other areas of the Terminal 115 property where groundwater infiltrates into the SD system (areas currently occupied by Northland Services, Northwest Container Services, and Sea Pac Services) to determine if sediment COCs are present in groundwater at concentrations that exceed groundwater-to-sediment screening levels (SAIC 2006).

The Port recently conducted sampling of SD solids upgradient of Outfalls 2123, 2124, 2125, and 2220, which drain into Berth 1 (Figure 10). Two rounds of sediment trap samples were scheduled to be collected in October 2010 and March 2011. If an adequate amount of SD solids is present at the sediment trap locations, grab SD solids samples will be collected when the sediment trap bottles are deployed and retrieved. The samples will be analyzed for PAHs, dioxins/furans, SVOCs, metals, total solids, total organic carbon, and grain size. This information will be used to evaluate the potential for recontamination of the clean sand cover placed on the maintenance dredged area in Berth 1 (TEC 2010). Sand cover sampling is also being conducted to evaluate the potential for recontamination of the surface sediments.

Facilities Within Storm Drain and CSO Basins

Information needed to identify potential sources of sediment COCs, ongoing releases, and the potential for sediment recontamination associated with current operations at facilities in the Terminal 115, Highland Way SW, and SW Kenny Street SD basins is listed below. This information can be obtained during the facility inspections currently performed by SPU, KCIW, and Ecology.

- Additional information is needed to determine if undocumented and unregulated industrial operations are occurring within the Highland Way SW and SW Kenny Street SD basins and that may be an ongoing source of sediment recontamination.
- Information regarding any ongoing industrial activities is needed to verify that these facilities are in compliance with all applicable regulations and best management practices (BMPs).
- Information on how and where any hazardous materials, chemicals, or hazardous wastes are stored or used at these facilities is needed to evaluate the potential for spills to commingle with wastewater and stormwater.
- Facility plans showing the locations of floor drains, catch basins, sewer connections, and SDs (if any) are needed to evaluate the potential for contaminants suspended in wastewater and stormwater (if any) to be transported to the LDW via stormwater and combined sewer discharges.
- Information regarding any containment systems at these properties is needed to evaluate the adequacy of the systems and determine the potential for spills to commingle with wastewater and stormwater.

CSO Discharges

Information needed to assess the potential for ongoing releases and sediment recontamination associated with current operations at facilities in the Terminal 115 and West Michigan CSO basins is similar to the information needed to evaluate stormwater discharges. This information can be obtained during the facility inspections currently performed by SPU, KCIW, and Ecology.

Additionally:

- Data on contaminant concentrations in CSO discharges are needed to evaluate whether the Terminal 115 and West Michigan CSOs are a significant source of contaminants to LDW sediments.
- Information on the materials used to construct SD and sanitary sewer lines in the CSO areas and the age of the SD and sanitary sewer lines would be useful to assess the potential for contaminated groundwater to infiltrate into the combined sewer system.

4.0 Potential for Sediment Recontamination from Adjacent Properties

Properties and facilities that are adjacent to the LDW within the Terminal 115 source control area include the following:

- Port of Seattle Terminal 115 and its tenants
- Former Foss Environmental
- Seattle Engineering Department Penn Yard

The former Foss Environmental property was historically part of Terminal 115. Based on stormwater drainage maps provided by the Port and SPU, the SDs on the property appear to be connected to the Terminal 115 SD system. For these reasons, the former Foss Environmental property is considered an adjacent property within the source control area.

Tax parcels in the Terminal 115 source control area are shown on Figure 5, and are identified by the last four digits of the tax parcel identification number.

Aerial photographs of the source control area for the years 1936, 1956, 1960, 1969, 1974, 1985, 1995, 1999, and 2004 are provided in Appendix B. Oblique aerial photographs of the source control area shoreline, taken in 1977, 1993, 2001, and 2006, are also included in Appendix B.

4.1 Terminal 115

Property Summary: Terminal 115	
Tax Parcel No.	5367202503, 5367202505
Address	6000 to 6720 West Marginal Way SW 98106
Property Owner	Port of Seattle
Parcel Size	2503: 0.75 acre (32,494 sq ft) 2505: 98.7 acres (4,299,853 sq ft)
Facility/Site ID	2177 (Port of Seattle North Terminal 115) 15700 (Port of Seattle Terminal 115 Berth 1) 4040072 (Seattle Port Terminal 115) 98422914 (Terminal 115/Crowley Marine Services) 71289955 (Samson Tug & Barge Co Inc)
Tenants and Subtenants Adjacent to the LDW	Icicle Seafoods (subtenant to Seafreeze) Northland Services
Tenants and Subtenants Upland from the LDW	Commercial Fence Corporation Custom Seafoods (subtenant to Seafreeze) Gene Summy Lumber Northwest Container Services (subtenant to Northland Services) Northwest Seafood Processing (subtenant to Seafreeze) Portside Coffee Company (subtenant to Shultz Distributing) Seafreeze Cold Storage Sea Pac Services Shultz Distributing, Subway (subtenant to Shultz Distributing)
SIC Code(s)	4449 Water Transportation of Freight, not elsewhere classified 9199: General Government, not elsewhere classified

Property Summary: Terminal 115	
EPA ID No.	WAH000031146 (Port of Seattle North Terminal 115) WAD980726327 (Terminal 115/Crowley Marine Services, inactive)
NPDES Permit No.	WAR044701 (Also see sections specific to tenant facilities).
UST/LUST ID No.	6275 (UST) 5011 (LUST)

Terminal 115 is adjacent to the LDW and consists of a 98.7-acre parcel (2505) and a 0.75-acre parcel (2503), both owned by the Port. The two parcels are leased to several different companies as listed above. Figure 11 shows the locations of the Terminal 115 tenants and subtenants.

Parcel 2505 is bordered by the LDW to the east, Glacier Northwest to the north, West Marginal Way SW to the west, and SW Michigan Street to the south. King County tax records list the following buildings on parcel 2505:

- A 260,000-square foot (sq ft) masonry structure, built in 1970 and used as a distribution warehouse by Shultz Distributing;
- A 358,700 sq ft masonry structure, built in 1978 and used as a cold storage facility by Seafreeze and its subtenants including Icicle Seafoods; and
- A 4,600 sq ft masonry warehouse, built in 1995 and used for storage.

According to King County tax records and the Port, parcel 2503 is vacant.

The Port completed an *Environmental Conditions Report* (ECR) for Terminal 115 in April 2011 (SES 2011). The ECR contains a detailed description of the history of Terminal 115 and the environmental investigations performed at the property. This information is summarized in the Data Gaps Report.

The following sections summarize the potential for sediment recontamination for Port-owned property at Terminal 115. Overall status of the property is discussed first, followed by a detailed discussion of current tenant activities and regulatory status.

4.1.1 Current Operations

Terminal 115, owned by the Port, provides marine services such as receipt and shipment of bulk cargo, bulk cargo operations, repair and maintenance of cargo shipping containers, cargo warehouse activities, storage of metal and wood construction materials, and vessel outfitting, maintenance, and repair (TEC 2010). Terminal 115 was paved in 1986 (E&E 1988).

Northland Services and Icicle Seafoods (sublease from Seafreeze) are the only two facilities on Terminal 115 that are adjacent to the LDW. The following facilities at Terminal 115, listed from north to south, are upland of the LDW:

- Gene Summy Lumber
- Commercial Fence
- Northwest Container Services (sublease from Northland Services)

- Sea Pac Services
- Shultz Distributing/Subway/Portside Coffee Company
- Seafreeze/Custom Seafoods/Northwest Seafood Processing

Between December 2009 and February 2010, in-water construction activities and dredging were performed at Berth 1 of Terminal 115 (SEE 2010b). The construction activities included:

- Removal of a wooden pier (Pier B),
- Installation of a sheet pile wall,
- Dredging to -16.5 feet mean lower low water (MLLW) to accommodate barge berthing,
- Installation of 48-inch piles, and
- Installation of a sand cover over the sediment exposed by dredging.

Stormwater

Stormwater from Terminal 115 is discharged to the LDW through eight outfalls on Port property (Section 3.0). Additionally, numerous deck drains are present north of Berth 1 (Figure 7b). All stormwater conveyed through the SD system to the outfalls passes through an OWS prior to discharge. Discharge from the deck drains is conveyed to the LDW without treatment. Groundwater drainage structures are present along West Marginal Way SW (leased by Sea Pac Services) and in the areas leased by Northland Services and Northwest Container Services (Figures 7b and 8a).

Tenants at Terminal 115 have primary responsibility for maintaining the SD system at the property in accordance with their NPDES permits.[9] This includes cleaning and maintaining catch basins and OWSs (Port of Seattle 2011a).

In March 2008, the Port adopted Resolution No. 3596. This resolution prohibits the construction, use, maintenance, or continued existence of illicit connections to the stormwater system at Terminal 115 and other Port properties, prohibits illicit discharges to surface water or the SD system (with some exceptions), and prohibits illegal dumping on Port property. Illicit connections to the SD system include sanitary sewer and floor drain connections. Examples of fully prohibited discharges to surface water and the SD system include the following:

- Solid, human, and animal wastes;
- Automotive and petroleum products;
- Flammable and explosive materials;
- Metals in excess of naturally occurring amounts and chemicals not normally found in uncontaminated water;
- Solvents, degreasers, paint products, ink, commercial and industrial cleaning products; and
- Steam-cleaning waste, laundry waste, soap, detergent, ammonia, and chlorine.

[9] Northland Services, Icicle Seafoods, and Northwest Container Services are covered under NPDES permits.

Some discharges to surface water or the SD system, which are normally prohibited, may be allowed provided one of the following conditions is met:

- The discharge is from a potable water source, has been de-chlorinated and pH-adjusted, and is controlled to prevent resuspension of sediments.
- The discharge is from lawn water or irrigation runoff, and is minimized to the maximum extent practicable.
- The discharge is from streets, sidewalks, and external building wash downs, provided the water does not contain detergents and the volume is minimized to the maximum extent practicable.

The Port may approve other non-stormwater discharges provided that a Port-approved Stormwater Pollution Prevention Plan (SWPPP) has been prepared and it addresses control of non-stormwater discharges (Port of Seattle 2008). As part of their Phase I Municipal NPDES permit, the Port inspects outfalls for illicit discharge. The Terminal 115 outfalls were inspected in 2010 and no illicit discharges were observed (Port of Seattle 2011a).

Additional information on stormwater associated with tenant properties is provided in Sections 4.2 through 4.8.

Underground and Aboveground Storage Tanks

At least 33 USTs and 20 ASTs have been installed at the Terminal 115 property. A list of the current and historical USTs and aboveground storage tanks (ASTs) is provided in Table 7, and the locations of these tanks are shown on Figure 12 (note that Tank 40 consists of 13 ASTs). Four USTs and three ASTs are currently active and are used to store primarily gasoline and diesel fuel. One UST is present but currently not in service (Tank 35) (SES 2011).

The 28 historical USTs were primarily used to store petroleum products. The contents of six of the USTs (Tanks 4, 8, 14, 15, 18, and 19) are unknown although petroleum products were likely stored in Tanks 4 and 8, based on the tank descriptions. Fourteen of the 28 historical USTs have been removed from the property, three USTs have been closed-in-place, and the status of 11 historical USTs is unknown (SES 2011).

Thirteen of the historical ASTs were used to store hydrogen sulfide, sodium hydroxide, and chemical wastes. These ASTs were located in the Terminal 115 North area. Two former ASTs were used to store petroleum products and the contents of two former ASTs are unknown (SES 2011).

It is not known if storage tanks 14 and 15, which are associated with former Boeing Plant 1, were USTs or ASTs. If these storage tanks are USTs, then these tanks may still be present on the property. Additional USTs may remain in areas of the property where Standard Oil, Richfield, and SAV-MOR service stations historically operated (SES 2011); these areas are identified on Figure 12. Additional information regarding these facilities is presented in Section 4.1.2.

4.1.2 Historical Operations

Many historical industrial activities have been performed at the current Terminal 115 property. Historical operations and the history of land reclamation and fill activities are summarized in this section. Additional information regarding these activities is available in the Port ECR (SES 2011). If a historical operation was identified as an issue of environmental concern (IEC) by the Port, the IEC number is included for reference. The IECs are listed in Table 8 and shown on Figure 13.

Fill History, Activities, and Materials (IEC No. 11)

Much of Terminal 115 is built on the historical Foss Island and reclaimed land. Filling activities occurred from the 1930s through 1971. A program to reclaim and expand Terminal 115 was started in November 1969, which involved extensive filling, dredging, and excavation of the portion of the LDW south and west of Foss Island and Turning Basin No. 1 (currently the area west of Berth 1 at the Terminal 115 property). Thickness of the fill above the pre-1969 riverbed varies across the property (SES 2011):

- Less than 10 feet of fill is present in the southern area of the terminal.
- 10 to 20 feet of fill is present in the areas including and immediately adjacent to the former Foss Island.
- 0 to 25 feet of fill is present in the Terminal 115 North area; fill thickness is greatest adjacent to the LDW.

Gravel, sand, silt, concrete, bricks, coal, wood, garbage, and other miscellaneous materials were used as fill during the reclamation and expansion of Terminal 115 (Troost and Booth 2008, as cited in SES 2011). Cement kiln dust (CKD) and unwanted dredge material were reportedly used as fill material north of Boeing Plant 1 and west of Foss Island (Port of Seattle 1987; Shannon & Wilson 1991), which is approximately the central area of present-day Terminal 115.[10] Figures prepared for the Terminal 115 ECR illustrating the fill history are included as Appendix D.

Edward Heath Boatyard

The Edward Heath Boatyard was built on the southern portion of the Terminal 115 property in 1909. The boatyard building (now known as the Boeing Red Barn and present at the Museum of Flight) was built on 200 wooden pilings above the banks of Turning Basin No. 1. Wood processing, treating, and assembly took place at the yard. Boeing purchased the property and boatyard in 1910; however, wooden boats were built at the facility until Boeing occupied the property in 1917 (SES 2011).

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[10] The *Terminal 115 Environmental Conditions Report* (SES 2011) indicates that CKD fill was placed in the northern portion of historical Turning Basin No. 1 and states that CKD fill has not been identified on the northern portion of the Terminal 115 property, leading to the conclusion that the location of the CKD fill is not known. However, the Port's 1987 letter (Port of Seattle 1987) detailing fill operations and Shannon & Wilson's report (1991) both indicate that the CKD fill was placed north of Boeing Plant 1 and west of Foss Island.

Boeing Plant 1 (IEC No. 4)

Boeing historically owned 24.6 acres on current parcel 2505 (Port of Seattle Reporter 1971). From 1917 to 1969, Boeing Plant 1 occupied the southern portion of the parcel along the southern bank of Turning Basin No. 1 (E&E 1988; Landau 1994). The Plant 1 facility was adjacent to the LDW along its northern and eastern boundaries. The historical McAllister Slough was adjacent to the western boundary of the facility. Boeing sold the property to the Port in January 1970. The buildings associated with Boeing's operations were removed from the property between 1970 and 1977 (SES 2011). An in-depth review of the historical operations at Boeing Plant 1 is available in the *Terminal 115 Environmental Conditions Report* (SES 2011). Figure 14 shows the layout of the former Boeing Plant 1 facility and the locations of IECs associated with historical operations at the plant.

Boeing manufactured bi-plane seaplanes at the facility from 1917 to the 1930s. In the 1930s, the Plant was transitioned to an assembly shop, which assembled parts for the manufacturing operations at Boeing Plant 2 and the Boeing Factory in Renton (also known as Plant 3). In the late 1930s and early 1940s, Boeing expanded operations at Plant 1 to include static and engine testing facilities. The plant was expanded again in the 1950s to include fuel testing and hazardous materials storage facilities (SES 2011).

The following industrial activities and facilities/equipment were performed and operated at Boeing Plant 1 (SES 2011):

Activities

- Brazing
- Crating
- Engine, fuel, materials, static and wing testing
- Metal cutting, burning, and grinding
- Plating
- Painting
- Sandblasting
- Shipping
- Welding
- Woodworking, drying, and treating

Facilities/Equipment

- Acid storage facility
- Aluminum foundry
- ASTs
- Boilers
- Drop hammer shop

- Dry kiln
- Flammable materials storage facility
- Fuel dispensers
- Fuel test laboratory
- Heat treating facility
- Incinerator
- Machine shop
- Plaster shop
- Sandblasting and spray painting facility
- Sheet metal shop
- Steam plant
- Storage areas and buildings for airplane parts and equipment, fuel and oil, hazardous materials, paint, and waste acid
- USTs
- Wastewater lift station

Nine sumps were identified on engineering drawings provided to Landau by the Port. According to Landau, a 1959 drawing of the acid storage building specifically illustrates a 'spill sump' in the building. Several other sumps were identified on engineering drawings in the main factory building (Building 1-02, IEC 4.07), the administration building (Building 1-01, IEC 15.01), near the assembly building (Building 1-03, IEC 4.01), and in a boiler house (Building 1-06, IEC 4.02) (Landau 1994).

A transformer house (Building 1-07, IEC 4.03), containing one 26,000-volt transformer was present on the property from 1928 to 1978. Transformers were also located in the vicinity of Building 1-02, which was present on the property until 1974 (SES 2011). It is not known if PCB-bearing fluid was used in the transformers.

Highly toxic, chromic acid waste contained in two 2,200-gallon tanks were emptied into Turning Basin No. 1 every eight months. Approximately 20 to 50 pounds of chromic acid were lost on a daily basis from spillage and drippings. Acids were also used in the pickling room, but the tanks were reportedly never dumped. A very small amount of cutting oil may have been discharged to the LDW (Foster 1945). The duration of these discharges was not identified.

Information obtained from Boeing representatives indicates that all wastes were transported from Boeing Plant 1 to Western Processing, Queen City Farms, and South Park Landfill, with the exception of rinse waters, which were stored in onsite holding tanks. Hazardous waste quantities generated at Boeing Plant were not available (E&E 1988).

Standard Oil (IEC No. 1) and Richfield (IEC No. 3) Gasoline Service Stations

Standard Oil and Richfield service stations were present on the southeastern portion of the Terminal 115 property, in the currently vacant area south of the Seafreeze facility (Figure 13).

The Standard Oil service station operated from approximately 1923 to 1965. Three fuel dispensers were located at the service station. It is not known if the facility operated ASTs or USTs to store the fuel. If USTs were used, they were likely located below these dispensers, based on the type of dispensers and age of the facility. Additionally, if USTs were used, it is not known if the storage tanks have been removed or if these USTs remain on the property. A service garage also operated at the facility (SES 2011).

The Richfield service station operated from approximately 1938 to 1964. Two 500-gallon USTs and one 1,000-gallon UST were operated at the facility. It is not known if these USTs have been removed or if they remain on the property. A service garage with a hydraulic lift was operated at the service station (SES 2011).

Refinery Building (IEC No. 2)

Archived tax documents indicate that a refinery building was constructed on the southeastern portion of the Terminal 115 property in 1952. The type of refining operation is unknown. The building was apparently demolished between 1964 and 1965, based on aerial photographs of the property (SES 2011).

SAV-MOR Service Station (IEC No. 6)

A gasoline service station was constructed at the southwest corner of the Terminal 115 property in 1930. The service station was operated by Texaco from at least 1949 to approximately 1956 and was operated by SAV-MOR from approximately 1956 to 1963, when the building was converted to a tavern. The service station operated two fuel dispensers and a service garage/grease shed, which was equipped with a hydraulic lift. It is not known if the facility operated ASTs or USTs to store the fuel. If USTs were used, they were likely located below these dispensers, based on the type of dispensers and age of the facility. Additionally, if USTs were used, it is not known if the storage tanks have been removed or if these USTs remain on the property. The service station building was demolished in 1970. The service garage was used for automobile salvage from 1930 through at least 1967 (SES 2011).

Materials Reclamation and Maralco Aluminum/Foley Cardlock Facility (IEC Nos. 7 and 8)

From 1952 to 1985, Materials Reclamation and Maralco Aluminum operated an aluminum smelter on the Terminal 115 property in the area currently occupied by Shultz Distributing. A 9,500-gallon UST (Tank No. 26) was used at the facility. The building currently identified as Building W-4 was used as an aluminum warehouse with an attached maintenance building and office.

In 1995, the 9,500-gallon UST was removed. During construction of the Foley Cardlock facility, a 600-gallon heating oil UST (Tank No. 25) was discovered and removed from the property. Three 10-000-gallon USTs (Tanks 22 through 24) associated with current operations were installed in 1996 (SES 2011; Wells 2003).

Klinker Sand and Gravel Company (IEC No. 9)

The Klinker Sand and Gravel Company (Klinker) was located along West Marginal Way SW across from the historical shoreline of Foss Island. The facility operated as a gravel mining and mixing plant from approximately 1922 until the 1960s. From the 1960s to approximately 1971, Ready-Mix Concrete's Graystone Division operated a cement and concrete plant in this area of the Terminal 115 property (SES 2011).

Klinker constructed a cement mixer and storage bunkers at the facility between 1926 and 1928. A U.S. Army Corps of Engineers (USACE) investigation from 1930 indicated that Klinker operated a gravel washer at the facility, which discharged the wash water and fine sands and silt into Turning Basin 1 (SES 2011). In 1945, it was reported that the gravel washer discharged at the rate of 600 gallons per minute, 6 hours a day, 5 days a week. Additionally, excess concrete and washings from trucks were dumped over the river bank to help create fill (Foster 1945).

Crowley Marine Services/Jones Stevedoring Company

Crowley Marine Services (Crowley) leased 130,000 square feet of landlocked yard area and rail track at Terminal 115 from 1981 through 1991. Crowley loaded rail cars from trucks and trailers for transport to Alaska. Crowley also performed tug, barge, and vessel maintenance and repair activities at Terminal 115, as a subtenant of Jones Stevedoring Company from 2001 until 2004. It is not known where on Terminal 115 that Crowley's or Jones Stevedoring Company's operations were performed during these time periods (SES 2011).

Former MRI Corporation/Terminal 115 North (IEC No. 14)

The former MRI Corporation, a tin reclamation facility, historically operated in the area of Terminal 115 that is currently occupied by Gene Summy Lumber and Commercial Fence. The tin reclamation operations took place between 1963 and 1997/1998. Historical operations and activities at the former MRI facility were summarized in the Glacier Bay Data Gaps Report (SAIC 2007) and the Terminal 115 ECR (SES 2011). Stormwater discharge from this area of Terminal 115 is discharged to the LDW through Outfall 2127.

Soil in this area is known to be contaminated with chromium and lead (SAIC 2007). Soil and groundwater contamination associated with historical operations and activities may be a source of contaminants to LDW sediments via the groundwater discharge pathway.

Other Historical Operations

An asphalt batch plant (Landau 1994), a lumber products plant (SES 2011), and Samson Tug & Barge historically operated at Terminal 115. The lumber products plant operated from approximately 1940 to 1951 and was demolished between 1965 and 1970 (SES 2011). Additional information regarding the activities and operations performed by these companies at Terminal 115 was not available for review.

Additionally, EPA sent a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 104(e) Request for Information letter to a company named 2-3 LLC in January 2009. The parcel number and the address listed on the request indicate that this company has some association with parcel 2505, although its connection to the Terminal 115 property is unknown. The response to the 104(e) letter was not available for review at the time this report was written.

4.1.3 Regulatory History

Ecology prepared a Potential Hazardous Waste Site Preliminary Assessment for Terminal 115 in November 1984 (Ecology 1984). Ecology determined that MRI Corporation was the only known generator of hazardous waste operating at Terminal 115 at the time the assessment was completed. Ecology recommended contacting Boeing to determine historical activities and waste disposal practices at Boeing Plant 1, in order to evaluate the potential for soil and groundwater contamination and need for environmental investigation at Terminal 115 (Ecology 1984).

In April 2003, Ecology determined that, due to amendments to the Model Toxics Control Act (MTCA), concentrations of gasoline- and diesel-range hydrocarbons, lead, benzene, and xylenes present in soil and groundwater exceeded MTCA cleanup levels at the Seafreeze and former Foley Cardlock facilities (Ecology 2003c).

On January 20, 2009, Ecology sent the Port a notice of potential liability under MTCA for the release of hazardous substances for the area known as Terminal 115 North (former MRI Corporation). Ecology also added the Terminal 115 North property to the CSCSL (Ecology 2009a).

On February 19, 2009, the Port responded to Ecology’s notice of potential liability under MTCA. The Port disagreed with Ecology’s assessment that a historical release of hazardous substances in the North Terminal 115 area currently poses a threat to human health and the environment and suggested an independent site investigation, as there was a lack of soil and groundwater data for the site. The Port also requested that the following companies be added as potentially liable parties: M&T Chemical, MRI Corporation, American Can Company, Proler International, and Schnitzer Steel Industries (Port of Seattle 2009a).

The Port submitted a Voluntary Cleanup Program (VCP) Agreement in May 2009 to Ecology (Port of Seattle 2009b). The VCP identification number for Terminal 115 North is NW2146. Ecology removed Terminal 115 North from the VCP on January 19, 2010, because Ecology decided to supervise further cleanup actions at the property under an Agreed Order (Ecology 2010a).

EPA sent a CERCLA Section 104(e) Request for Information letter to a company named 2-3 LLC in January 2009. The parcel number and the address listed on the request indicate that this company has some association with parcel 2505 and the area of the property that is currently leased by Seafreeze. The Port and Seafreeze are not aware of what operations 2-3 LLC may have performed at the property (Port of Seattle 2011a). The 2-3 LLC response to the request was not available for review at the time this report was written.

On May 19, 2010, SPU performed an inspection at 150 SW Michigan Street, which is the address for the buildings located at the southeast corner of parcel 2505, adjacent to the LDW (this area was occupied at the time by Commercial Fence and is now vacant) (SPU 2010x). SPU observed cans of paint and various liquids stored on a shelf in a fabrication shop at the facility. The shelf was adjacent to the LDW shoreline. SPU advised Commercial Fence to relocate the paint and other liquids to prevent a spill from reaching the LDW. Additionally, SPU required the following corrective actions:

- Implement BMPs for specific pollution generating activities and housekeeping, including the following:
  - Inspect storage areas for leaks and spills.
  - Place drip pans in areas where spills or leaks may occur.
  - Frequently sweep surfaces to remove accumulated debris.
  - Cease hosing down areas that drain to the stormwater drainage system on Terminal 115.
  - Promptly remove excess waste and old equipment.

SPU observed soap, brushes, rags, and a hose on a dock on the LDW. A boat maintained by Commercial Fence was moored at this dock. SPU directed Commercial Fence to abstain from washing the boat with soap or any other chemical in any area where wash water would be discharged into the LDW or the SD system. SPU determined that operations at Commercial Fence may require coverage under an NPDES permit and referred the facility to Ecology (SPU 2010x). Commercial Fence has relocated to the area of the terminal referred to as Terminal 115 North.

The SPU inspector discovered that discharge from toilets and sinks were discharged to a previously undocumented septic tank. Discharge from two catch basins at the facility was conveyed to an unknown location (SPU 2010x). The Port determined that the septic system at the facility overflowed to the river, and disconnected the sanitary lines in July 2010. A camera inspection was also performed to determine discharge points from two catch basins draining this portion of the property. Each catch basin discharged to the LDW via a small (less than 2-inch-diameter) pipe (Port of Seattle 2011a). SPU performed a follow-up inspection at Commercial Fence on July 21, 2010, and verified that these illicit discharges had ceased (Wisdom 2010).

4.1.4 Environmental Investigations and Cleanups

Several environmental investigations and cleanups have been performed at Terminal 115. Information from investigations and cleanups is summarized below. Sampling locations for various environmental media are shown on Figures 15a through 15f, and concentrations of chemicals detected in environmental media are summarized in Appendix E. Chemicals present at concentrations above screening levels are listed in Tables 9 through 20.

Terminal 115 Dredging History

According to the Duwamish Groundwater Waste Disposal Dredge and Fill Report (Harper-Owes 1985), the following dredge and fill activities were performed in the LDW adjacent to Terminal 115.

Dredge Location	Year	Dredge Quantity (m^3)	Disposal Site
Terminal 115	1969	754,800	Terminal 115
Terminal 115	1978	41,900	Terminal 42 fill site
Terminal 115	1979	16,600	Four Mile Rock
Terminal 115 (RM 1.78 to 1.95)	1995	2,294	Unknown

m^3 – cubic meter

Property-Wide Terminal 115 Environmental Conditions Report (2011)

The Port performed an evaluation of Terminal 115 and adjacent properties to identify historical and current environmental conditions and evaluate environmental concerns including spills and releases, operations, and land development that could adversely affect environmental media on and adjacent to Terminal 115, including LDW sediments (SES 2011).

As a result of this process, the Port identified 38 IECs for the Terminal 115 property (including 24 IECs related to former Boeing Plant 1 operations) and 5 off-property IECs (Table 8, Figure 13). Information regarding the IECs stemming from historical operations and activities at the facility was summarized in Section 4.1.2. Environmental investigations have been performed at many of the areas where IECs were identified (Figure 15a). These investigations are summarized in the following sections.

Tin Reclamation/Terminal 115 North (IEC No. 14)

Waste Characterization Program (ENSR 1991)

In February 1991, ENSR collected 36 samples of black mud from two stockpiles. The estimated volume of the stockpiles was 200 cubic yards. The stockpiles were divided into six sample lines and six samples were collected from each of the lines using a hand auger. The samples from each line were submitted as a composite sample for laboratory analysis. The samples were analyzed for corrosivity (pH) and Resource Conservation and Recovery Act (RCRA) Toxicity Characteristic Leaching Procedure (TCLP) metals. One composite sample was analyzed for ignitability and reactivity characteristics. No analytes were detected above the maximum concentration limits listed in WAC 173-303-090 (Appendix E) (ENSR 1991). The former locations of the mud lagoons are shown on Figure 15b.

Site Hazard Assessment (SKCDPH 1998)

In November 1997, Seattle-King County Department of Public Health (SKCDPH) collected three soil samples from the unpaved railroad spur area. The samples were collected between 5 and 6 inches below ground surface. Chromium (8.4 to 33 mg/kg) and lead (36 to 470 mg/kg) were detected at concentrations above the MTCA Method A cleanup levels. Zinc (76 to 330 mg/kg) and tin (170 to 880 mg/kg) were elevated, but were not at or near the Method B cleanup levels (Table 9). The site hazard assessment evaluated risks to human health and the environment for an exposure to groundwater pathway. The assigned hazard level was 5, or lowest risk (SKCDPH 1998). A map showing the locations of these samples was not available.

Environmental Investigation (2009)

An environmental investigation was performed by the Port to determine the presence of historical contaminant sources at Terminal 115 North, if contaminants are currently migrating from the source area to the LDW, and if conditions at the property adversely affect human health and the environment in the LDW. The investigation was used to determine if a MTCA RI/FS was needed. Soil, groundwater, and SD solids were identified as the media of potential concern at the site (Landau 2009a).

One soil boring, DP-1, was advanced and 10 groundwater monitoring wells, MW-1 through MW-10, were installed on Terminal 115 North in October 2009 (Figure 15b). Soil samples collected from DP-1, MW-1, MW-3, and MW-5 were submitted for laboratory analysis of the Glacier Bay source control area COCs[11], which include: SVOCs, PCBs, and the following metals: antimony, arsenic, beryllium, cadmium, copper, lead, mercury, nickel, selenium, silver, thallium, tin, zinc, and total chromium. Samples collected from MW-1 were also analyzed for petroleum hydrocarbons because a sheen was observed on the soil samples. Soil samples from the remaining borings were not analyzed because field screening did not indicate the presence of contaminants (Landau 2009b).

A grab groundwater sample was collected from boring DP-1, and groundwater samples were collected from wells MW-1 through MW-10 and three previously installed wells, MW-25 through MW-27[12] (Figure 15b). The groundwater samples were analyzed for SVOCs, total and dissolved metals (antimony, arsenic, beryllium, cadmium, copper, lead, mercury, nickel, selenium, silver, thallium, tin, and zinc), total and hexavalent chromium, and VOCs.[13] The groundwater sample from well MW-1 was also analyzed for petroleum hydrocarbons (Landau 2009b).

Sediment traps were installed in the catch basins CB-1 and CB-2 (Figure 15b) from October 30 to November 11, 2009, to collect SD solids. At CB-1, surface runoff was collected in sample containers. Suspended solids were allowed to settle to the bottom of the containers and a composite was submitted for laboratory analysis. At CB-2, no solids were collected during the sampling period; therefore, no sample was submitted for analysis. The SD solids samples were analyzed for SVOCs, PCBs, antimony, arsenic, chromium, copper, lead, mercury, tin, and zinc (Landau 2009b).

Concentrations of SVOCs and metals were detected in soil and groundwater at concentrations (Tables 9 and 10, respectively) that exceeded the MTCA Method A or B cleanup level and/or draft groundwater-to-sediment screening levels (SAIC 2006). In the SD solids sample (Table 11), zinc and BEHP were detected at concentrations that exceeded the CSL/2LAET. These exceedances are summarized below.

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[11] Dioxins and furans have also been identified as COCs for the Glacier Bay source control area; however, during the 2009 investigation, analyses were not performed for these COCs based on the assertion by Landau that dioxins and furans are not associated with any past or present uses of Terminal 115 North (Landau 2009a).

[12] Wells MW-25 through MW-27 were installed as part of a 2003 environmental investigation performed for the Glacier Northwest/Reichhold Chemical property (Landau 2009b).

[13] During the 2009 investigation, groundwater samples were not analyzed for PCBs due to the low solubility of PCBs (Landau 2009a).

COC	Soil	Groundwater	SD Solids
SVOCs			
2-Methylnaphthalene	●		
Acenaphthene	●	●	
Benzo(a)anthracene		●	
Benzo(a)pyrene	♦	♦	
Benzo(b)fluoranthene		●	
Benzo(g,h,i)perylene		●	
BEHP		●	●
Dibenz(a,h)anthracene		●	
Dibenzofuran	●		
Fluorene	●		
Indeno(1,2,3-cd)pyrene		●	
m,p-Cresol		♦	
Naphthalene	●		
Phenanthrene	●		
Metals			
Antimony		♦	
Arsenic	♦	●♦	
Cadmium		●♦	
Chromium		●♦	
Copper		●	
Lead	●♦	●♦	
Mercury	●	●	
Zinc	●	●	●
VOCs			
Acetone		♦	
Benzene		♦	
Petroleum Hydrocarbons			
Heavy-Oil Range		♦	

● Chemical detected in soil or groundwater at a concentration that exceeds the soil-to-sediment or groundwater-to-sediment screening level (SAIC 2006); chemical detected in SD solids at a concentration that exceeds the SQS/LAET.

♦ Chemical detected in soil or groundwater at a concentration that exceeds the MTCA Method A or B cleanup level.

On March 2, 2011, Ecology and the Port entered into Agreed Order No. DE 8099. Under the Agreed Order, the Port will complete an RI/FS and draft Cleanup Action Plan for Terminal 115 North (Port of Seattle 2011b).

Building M-2 Area[14] (IEC No. 12)

Underground Storage Tank Removal and Remedial Excavation (1993)

In April 1993, UST T-115C (Tank No. 33) was removed from the area currently occupied by Northland Services, near Berth 1 (Figure 15c). Seven soil samples collected from the bottom and sidewalls of the UST excavation were analyzed for diesel-range hydrocarbons (Table 13). Concentrations in soil exceeded the MTCA Method A cleanup levels in two samples (Coastal Tank Services 1993).

In May 1993, the former UST area was over-excavated to remove petroleum-contaminated soils. Confirmation samples collected from the bottom and sidewalls of the remedial excavation indicated that all soil containing diesel-range hydrocarbon concentrations that exceeded the MTCA Method A cleanup level had been removed (Table 12). Approximately 220 tons of contaminated soil were removed from the property. Groundwater was encountered in the excavation at approximately 13 feet bgs. A groundwater sample was collected and analyzed for diesel-range hydrocarbons; the concentration exceeded the MTCA Method A cleanup level for groundwater (Table 13) (Coastal Tank Services 1993).

Groundwater Assessment (1994)

In April 1994, three groundwater monitoring wells (MW-5 through MW-7) were installed at Terminal 115 in the vicinity of former UST T-115C (Figure 15c). One soil and groundwater sample was collected from each well boring/monitoring well and analyzed for diesel- and heavy oil-range hydrocarbons. The groundwater sample from well MW-5 was also analyzed to identify the presence or absence of gasoline- and heavy oil-range hydrocarbons (ESE 1994).

The soil sample collected from well MW-6 contained heavy oil-range hydrocarbons exceeding the MTCA Method A cleanup level (Table 12). Diesel-range hydrocarbons were detected in the groundwater samples collected from all three wells; however, all concentrations were below the MTCA Method A cleanup level. Heavy oil-range hydrocarbons were detected in well MW-5, at a concentration below the MTCA Method A cleanup level (Table 13) (ESE 1994).

Building C-1 Former Car Wash Area (IEC No. 10)

UST Removal and Subsurface Investigation

A 5,000-gallon kerosene UST (Tank No. 28) was removed from the property near Building C-1 in 1989 (Figure 15d). Two soil samples, S-1 and S-2, were collected from the tank excavation and analyzed for total fuel hydrocarbons (TFH) and TPH. TFH and TPH were reported in the soil samples. Based on the chromatograms, the results were interpreted as diesel fuel #1, which is equivalent to kerosene. The MTCA Method A cleanup level for diesel fuel was exceeded in sample S-2 (Table 14) (Harding Lawson 1990; SES 2011).

[14] This building is identified as Building W-2 in the *Terminal 115 Environmental Conditions Report* (SES 2011).

Following the tank removal, four soil borings (B-115-5 through B-115-8) and four groundwater monitoring wells (MW-115-1 through MW-115-4) were installed (Figure 15d). Groundwater was encountered between 10 and 13 feet bgs during the investigation. Eleven soil samples were collected and analyzed for TFH; two of these samples were also analyzed for TPH. TFH was reported in five samples and exceeded the MTCA Method A cleanup level for diesel fuel in three samples (B-115-6 at 8 feet bgs and B-115-7 at 3.5 and 13 feet bgs). TPH concentrations exceeded the MTCA Method A cleanup level in two samples, B-115-6 at 8 feet bgs and B-115-7 at 12 feet bgs (Table 14). Groundwater samples collected from the wells were analyzed for TFH; TFH was not detected in any of the samples. The sample from well MW-4 was also analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX); BTEX was not detected (Harding Lawson 1990; SES 2011). Laboratory data for the groundwater samples were not available for review.

Southwest Tank Yard/Cardlock Facility/Shultz Distributing Facility (IEC No. 8)

Geotechnical Evaluation (1994)

A geotechnical evaluation was performed in November 1994 in the area currently occupied by Shultz Distributing. One groundwater monitoring well (MW-1) was installed. The well was later renamed MW-12 to conform with the Terminal 115 well numbering program (Figure 15e). Soil samples collected from the well boring were analyzed for petroleum hydrocarbons. Gasoline-, diesel- and heavy oil-range hydrocarbons were detected; the gasoline-range hydrocarbon concentration exceeded the current MTCA Method A cleanup level (Table 15). Approximately 2 feet of petroleum product was observed on the groundwater surface in the well (GeoScience Management 1995a).

Soil samples were collected from three additional soil borings, B-2, HB-1, and HB-2 (Figure 15e). The samples were analyzed for petroleum hydrocarbons. Petroleum hydrocarbons were not detected in the soil samples (GeoScience Management 1995a).

Subsurface Investigation (1995)

In March and April 1995, 12 hand-auger borings (HB-1 through HB-12) were advanced near well MW-12 (Figure 15e). One groundwater sample was collected from boring HB-6. Seven soil borings were advanced using a hollow-stem auger, and six of these borings were completed as groundwater monitoring wells MW-13 through MW-18. Eleven soil and six groundwater samples were collected and analyzed for diesel-range hydrocarbons. Diesel-range hydrocarbon concentrations in soil (HB-5 at 4 feet bgs and HB-8 at 4.5 feet bgs) and groundwater (wells MW-14 through MW-17) exceeded the MTCA Method A cleanup levels (Tables 15 and 16). Floating product was observed in wells MW-12 and MW-18 (GeoScience Management 1995a). Approximately 7.3 gallons of product was removed from these two wells as of December 1, 1995 (GeoScience Management 1995b). Soil samples were not collected from borings HB-1 and HB-10 due to refusal at 3.5 and 4 feet bgs, respectively (GeoScience Management 1995a) and the locations of these borings were not available.

Underground Storage Tank Removal and Remedial Excavation (1995)

On August 21, 1995, a 9,500-gallon heating oil UST (Tank No. 26) was removed (Figure 15e). The UST was in poor condition, was corroded, and had numerous holes on the tank walls (Columbia Environmental 1995).

Five soil samples were collected from the bottom and sidewalls of the UST excavation (Figure 15e). The soil samples were analyzed for diesel-range hydrocarbons. The analytical results indicated that diesel-range hydrocarbon concentrations above the current MTCA Method A cleanup levels remained in soil on the west wall of the excavation (S11, Table 15) (Columbia Environmental 1995).

Soil Investigations (1996)

In March 1996, three hand auger borings, HA-1 through HA-3 (Figure 15e), were advanced prior to the construction of the Foley Cardlock facility. Soil samples were collected at 5 and 7 feet bgs from each boring. The 5-foot bgs samples were analyzed for diesel-range hydrocarbons. The 7-foot bgs samples and a grab groundwater sample from HA-1 were analyzed for gasoline- and diesel-range hydrocarbons and BTEX. No analytes were detected (Columbia Environmental 1996a).

Additional soil sampling was performed in September 1996 prior to the construction of the fueling facility. Twelve soil samples (EX1 to EX4, CB1, D1 to D4, and OWS1 to OWS2, Figure 15e) were analyzed for gasoline- and diesel-range hydrocarbons and BTEX and were reportedly below MTCA Method A cleanup levels (Columbia Environmental 1996b; SES 2011). The analytical results from this investigation were not available for review.

Underground Storage Tank Removal (1996)

During site construction work in July 1996, a previously unknown 600-gallon diesel fuel UST (Tank No. 25) was encountered at the property by a contractor while installing subsurface drainage lines for the Foley Cardlock facility (Figure 15e). Based on the size and configuration of the UST, it was assumed that the tank was used to store fuel oil for use by equipment or machinery at the facility. On September 4, 1996, Lee Morse Construction, Inc. excavated and removed the UST and approximately 25 cubic yards of petroleum hydrocarbon-impacted soil from the central portion of the property. Three soil samples were collected from the western and eastern sidewalls and floor of the excavation, and submitted for analysis for petroleum hydrocarbons. The diesel-range hydrocarbon concentration in the west wall sample exceeded the current MTCA Method A cleanup level (Sample W wall, Table 15). Petroleum hydrocarbon concentrations in the remaining samples were below the current MTCA Method A cleanup levels (GeoScience Management 1996b).

Groundwater Monitoring (1995 to 1996)

Seven groundwater monitoring events were performed between 1995 and 1996 at wells MW-12 through MW-18. Groundwater samples were analyzed for diesel- and heavy oil-range hydrocarbons during all events. Due to the presence of floating product, wells MW-12, MW-14, MW-17, and MW-18 were not sampled during all seven events. Additionally, well MW-12 was abandoned in July 1995 and well MW-13 was destroyed during building construction in August 1996. Floating product was present in wells MW-14 and MW-18. Diesel-range hydrocarbons exceeded the MTCA Method A cleanup level in two wells, MW-15 and MW-16, during the monitoring event in December 1996 (Table 16) (GeoScience Management 1996a).

Monitoring Well Installation and Groundwater Sampling (1997)

Four groundwater monitoring wells, MW-19 through MW-22 (Figure 15e), were installed at the Shultz Distributing facility in January 1997. Composite soil samples from wells MW-19, MW-20, and MW-22 and a discrete sample from MW-21 were collected and analyzed for diesel- and heavy oil-range hydrocarbons; these were apparently reported as a single concentration for each sample.[15] The concentration reported for the 6-foot bgs soil sample at MW-21 exceeded the MTCA Method A cleanup level (Table 15) (Columbia Environmental 1997; SES 2011).

Groundwater samples were collected from wells MW-20 through MW-22 and analyzed for petroleum hydrocarbons and BTEX. The combined diesel- and heavy oil-range hydrocarbon concentration in the sample from well MW-21 exceeded the MTCA Method A cleanup level (Table 16). All other analytes were nondetectable in all three groundwater samples (Columbia Environmental 1997; SES 2011).

Monitoring and Extraction Well Installation (1998)

In April 1998, one groundwater monitoring well, MW-23, and five extraction wells, RW-1 through RW-5 (Figure 15e), were installed at the Shultz Distributing facility. Two treatment options for removing free product from the property were evaluated, which were high-vacuum extraction and hydrogen peroxide treatment. Both treatment options were determined to be inadequate (GeoScience Management 1998; SES 2011). Soil and groundwater data from this investigation were not available for review.

Groundwater Monitoring (2009)

Two rounds of groundwater monitoring were performed in October and December 2009. Wells MW-15 through MW-17, MW-19, and MW-21 were sampled. Groundwater samples were analyzed for diesel- and lube oil-range hydrocarbons and metals. The diesel-range hydrocarbon concentration in well MW-19 exceeded the MTCA Method A cleanup level in October. In December, the diesel-range hydrocarbon concentration in well MW-19 was slightly below the MTCA Method A cleanup level (Table 16). Petroleum hydrocarbons were not detected in the remaining wells (OnSite Environmental 2009a).

Arsenic, barium, cadmium, chromium, lead, and selenium were detected in groundwater (Table 16). Arsenic concentrations exceeded the MTCA Method B cleanup level in wells MW-15 and MW-19 in the October and December samples and MW-21 in the October sample. In well MW-15, lead exceeded the MTCA Method A cleanup level in October and December. Cadmium and chromium were detected in well MW-15 at concentrations below the MTCA Method A cleanup

[15] Original laboratory data were not available for review.

level (OnSite Environmental 2009b). MTCA Method A cleanup levels have not been promulgated for barium and selenium. Cadmium and lead concentrations exceeded the groundwater-to-sediment screening levels at well MW-15.

Groundwater Monitoring (2011)

The Port is currently performing groundwater and product monitoring at the Shultz Distributing facility. The Port plans to publish an assessment report during summer 2011 (Kuroiwa 2011).

Seafreeze Facility Area (IEC No. 5)

Underground Storage Tank Removal (1994)

Three 6,000-gallon USTs (Tank Nos. 10, 11, and 12) were found during excavation activities for new building construction at the Seafreeze facility in April 1994 (Figure 15f). The USTs were located north of SW Michigan Street and south of the Seafreeze building, which was under construction. The USTs may have been installed to support operations at Boeing Plant 1.

The USTs were removed in May 1994 and transported off site for disposal. Free product accumulation was observed floating on groundwater, which was present in the excavation at approximately 9 feet bgs. Soil samples were collected from the excavated soil stockpile and all four excavation sidewalls (Figure 15f) and analyzed for petroleum hydrocarbons and BTEX. Gasoline-, diesel- and heavy oil-range hydrocarbons and total xylenes were detected at concentrations exceeding MTCA Method A cleanup levels (Table 17). Approximately 750 cubic yards of contaminated soil were removed from the excavation (EMCON 1995a).

Soil and Groundwater Investigation (1994) and Compliance Monitoring (1995 to 1997)

In October 1994, four monitoring wells (MW-8 through MW-11) and four hand-auger borings (HB-1 through HB-3 and HB-7) were advanced in the area of the Seafreeze facility where three 6,000-gallon USTs had been removed in May 1994 (Figure 15f). Soil samples were collected from each boring and analyzed for petroleum hydrocarbons and BTEX. Three soil samples collected near the water table from wells MW-1 and MW-10 contained concentrations of heavy oil-range hydrocarbons exceeding the MTCA Method A cleanup level (Table 17) (EMCON 1995b).

Groundwater samples were collected in November 1994. The groundwater samples were analyzed for petroleum hydrocarbons, BTEX, and total lead. The sample from well MW-8 was also analyzed for SVOCs and VOCs as well. Diesel-range hydrocarbons, benzene, vinyl chloride, and total lead were detected at concentrations exceeding the MTCA Method A cleanup level (Table 18) (EMCON 1995b).

Five compliance groundwater monitoring events were performed between April 1995 and February 1997. Groundwater samples were analyzed for petroleum hydrocarbons, BTEX, total lead, dissolved lead (1997 only), and VOCs (1995–1996 only). Total lead concentrations exceeded the MTCA Method A cleanup level in all wells for each monitoring event. Diesel-range hydrocarbon concentrations exceeded the MTCA Method A cleanup level in wells MW-8 and MW-9, although concentrations in well MW-9 had decreased to undetectable levels by October 1995 (Table 18) (Port of Seattle 1996, 1997).

Total lead concentrations in the groundwater samples exceeded the groundwater-to-sediment screening level in all wells during four or more of the groundwater monitoring events (Table 19).

4.1.5 Potential for Sediment Recontamination

Concentrations of PAHs, PCBs, phthalates, and SVOCs in LDW sediments adjacent to Terminal 115 have exceeded the SQS and/or the CSL. The potential for sediment contamination associated with this property is summarized below by transport pathway.

Stormwater

Stormwater from Terminal 115 is discharged directly to the LDW through several outfalls and numerous deck drains. Sediment trap and in-line SD sediment samples collected by SPU indicate that metals, PCBs, PAHs, phthalates, and other SVOCs are present in the SD system at concentrations above the SQS/LAET.

Stormwater from the area of the property at 150 SW Michigan Street (former location of Commercial Fence) is apparently discharged to the LDW through two small outfalls, which are less than 2-inches in diameter (Port of Seattle 2011a). The potential for sediment recontamination via the stormwater pathway is unknown.

Based on the SD system maps provided by the Port and in the Northland Services SWPPP (Anchor 2010), groundwater infiltrates into the SD system in the areas currently occupied by Northland Services, Northwest Container Services, Sea Pac Services, and Gene Summy Lumber (Terminal 115 North). Groundwater in the Terminal 115 North area is known to be contaminated with metals, PAHs, phthalates, and other SVOCs at concentrations exceeding MTCA cleanup levels and/or groundwater-to-sediment screening levels; groundwater has not been evaluated in the other areas where groundwater infiltration to the SD occurs. The potential for sediment recontamination via this pathway is high.

Surface Runoff/Spills

Operations performed by tenants at Terminal 115 include offloading many types of cargo. The potential for spills related to this activity is evaluated in the facility-specific section for each tenant.

Due to the property’s proximity to the LDW, contaminants (if any) suspended in surface runoff have the potential to reach the LDW and the sediments adjacent to the Terminal 115 source control area. Numerous deck drains are present north of Berth 1. Discharges through these drains are not treated. The potential for sediment recontamination via this pathway is high.

Soil and Groundwater

Soil and groundwater contamination has been identified at the property. The nature and extent of soil contamination at the property is unknown. Groundwater at Terminal 115 is contaminated with PAHs, phthalates, metals, petroleum hydrocarbons, and VOCs. Where these contaminants are present in the subsurface, naturally occurring arsenic in soil can be mobilized and migrate into groundwater (Harter and Rollins 2008). Arsenic is a COC for LDW sediments, although arsenic was not identified as a sediment COC for the sediments adjacent to the Terminal 115 source control area. The potential for sediment recontamination via this pathway is high.

Bank Erosion/Leaching

Construction of the banks beneath the piers and within Berth 1 is reinforced with riprap. Exposed bank areas at Terminal 115 are present primarily south of Berth 1. The potential for sediment recontamination via the bank erosion/leaching pathway is low to high depending on the potential for erosion of the exposed soil and the leaching potential of contaminants in soil (if any) near the shoreline.

4.1.6 Data Gaps

To date, the Port has shared readily available documents and data reports with Ecology and will continue to do so as the data become available. The Port continues to supplement Ecology's Terminal 115 data gathering efforts. This effort includes reviewing additional historical files, evaluating environmental data with respect to source control, and supplementing existing data with new investigation data where there are data gaps, as appropriate. The Port's supplemental work is intended to ensure that the environmental characterization of the property is accurate and current, and that Ecology's data interpretation is consistent with the Port follow-up actions (Kuroiwa 2010a).

Data gaps relevant to the potential for recontamination of LDW sediments adjacent to Terminal 115 are identified below.

Stormwater and Surface Runoff/Spills

- Storm drain solids analytical data for the SD lines discharging to Outfalls 2122 and POS 6146 are needed to identify potential contaminant sources and to evaluate the potential for sediment recontamination via the stormwater pathway.
- Information regarding discharges to the deck drains north of Berth 1 is needed to evaluate the potential for sediment recontamination via the stormwater and spill pathways.
- Additional information is needed to determine how stormwater from the area of the Terminal 115 property at 150 SW Michigan Street is discharged to the LDW.
- A review of the response from 2-3 LLC to the CERCLA Section 104(e) Request for Information letter is needed to identify potential sources of sediment recontamination that may be associated with historical operations at the property.

As described in Section 3.3, the Port plans to collect sediment trap samples from the SD lines upgradient from Outfalls 2123, 2124, 2125, and 2220 in late 2010 and spring 2011. Data from these samples will be used to evaluate the potential for contaminant sources and sediment recontamination via the stormwater pathway.

Data gaps relevant to the stormwater and surface runoff/spills pathways at tenant facilities at Terminal 115 are discussed in the facility-specific sections.

Groundwater Discharge

- Additional groundwater data are needed from the areas occupied by Shultz Distributing and historically occupied by Boeing Plant 1 to evaluate the potential for sediment recontamination via this pathway.

Bank Erosion/Leaching

- Soil data are needed from the areas of exposed bank soil south of Berth 1 to determine if sediment COCs are present and evaluate the potential for sediment recontamination via this pathway.

4.2 Northland Services

Facility Summary: Northland Services	
Address	6700 West Marginal Way SW
Facility Size	~ 70 acres (leasehold)
Facility/Site ID	15163955 (Northland Services/JORE Services) 56256949 (Alaska Cargo) 60993417 (Aloha Cargo) 1752283 (America Cargo) 57823643 (D&S Transport) 88521782 (Victory Marine)
SIC Code(s)	4412: Deep Sea Foreign Transportation of Freight 4424: Deep Sea Domestic Transportation of Freight 4491: Marine Cargo Handling
EPA ID No.	WAH000011486 (Northland Services/JORE Services)
NPDES Permit No.	WAR000471
UST/LUST ID No.	None

Northland Services, Inc. has leased the northern portion of Parcel 2505 from the Port of Seattle since 2002. The facility is bordered by Glacier Bay to the north, the LDW to the east, Seafreeze and Icicle Seafoods to the south, and Northwest Container Services, Gene Summy Lumber, and West Marginal Way SW to the west.

4.2.1 Current Operations

Northland Services supports marine activities including: receipt and shipment of bulk cargo; barge cargo operations; repair and maintenance of cargo shipping containers; cargo warehouse activities; storage of metal and wood construction materials; and vessel outfitting, equipment washing, fueling, painting, and maintenance and repair (Anchor 2010; TEC 2010). Northland Services provides freight and transportation services from Seattle to Alaska and Hawaii. Aloha Cargo Transport (Aloha Cargo), a division of Northland Services, provides freight and transportation services to Hawaii. Northland Services currently operates under the same Ecology

Facility/Site ID number, EPA ID number and NPDES permit number that were used by the previous tenant at the facility, JORE Services (JORE).

The Northland Services facility consists of paved yard space, a main pier, a finger pier, and Berth 1. Berth 1 consists of two timber piers (A and C[16]), with a portable ramp between them for loading and unloading. Almost the entire Northland Services facility is paved and in good condition. An employee parking lot at the northern end of the facility is unpaved; this unpaved area is approximately 1 percent of the entire facility area (Anchor 2010). Figure 16 shows the layout of the Northland Services facility.

According to the Northland Services SWPPP, the following equipment and facilities are present at the facility (Anchor 2010):

- Top-lift trucks, truck scales, and house;
- Forklifts, forklift maintenance shop with wash pit;
- Turn buckle greasing/chassis repair workshop;
- Refrigerated container and container repair workshop (Building W-2); and
- Crawler cranes.

Diesel and gasoline are stored at the facility in 1,000-gallon ASTs[17] (Tank Nos. 31 and 32, respectively). Diesel is also stored in a 6,000-gallon UST (Tank No. 34). The tanks are under cover and spill response materials are kept at the fueling station, which is located east of Building M-2.[18] The spill response materials are inspected monthly (Anchor 2010).

Vehicle maintenance is performed in Building W-2, which contains two service bays. All used fluids are disposed of by a licensed contractor. Maintenance of containers and refrigerated containers is performed in this building. Northland Services recycles Freon and other materials used in the maintenance of containers. Touch-up painting using brushes and rollers is also performed (Anchor 2010).

Equipment washing is performed in Building M-2 (Anchor 2010). Prior to December 2010, cement tanks were cleaned in Building M-2 (also referred to as the Stevedore Gearing Shop). An area designated for equipment washing is located on the east side of the building and drains to the sanitary sewer. Wastewater is conveyed through an OWS prior to discharge (Anchor 2010). This area is clearly delineated by paint markings on the ground and signs (Port of Seattle 2011a).

Turn buckle greasing and chassis repair are performed in the West Warehouse (Building C-2) and the Chassis Maintenance Shop, respectively. Both areas are covered and the materials and equipment are not exposed to stormwater. Greasing and repair activities occur indoors (Anchor 2010).

[16] Pier B was removed in 2010.
[17] The Northland SWPPP indicates that the diesel UST has a capacity of 550 gallons (Anchor 2010). The *Terminal 115 Environmental Conditions Report* indicates that the tank capacity is 1,000 gallons (SES 2011).
[18] This building is identified as Building W-2 in the *Terminal 115 Environmental Conditions Report* (SES 2011). The Data Gaps Report uses the building naming convention presented in the Northland Services SWPPP.

Sand-blasting is performed in a tent, which has a permanent, lined aboveground foundation. The SD catch basins near the tent have been covered with rubber mats to prevent spent sand blast grit from entering the SD system. The tent is cleaned regularly and spent materials are transported off-property (Anchor 2010).

During dry weather, Northland Services uses rollers to apply touch-up paint to barges in the dock area (Anchor 2010).

Materials Used in Operations

Northland Services uses a variety of materials at the facility. The types and approximate quantities of the materials generally stored at the facility are listed in the following table.

Material	Location	Quantity Used/Stored	Potential to Come in Contact with Stormwater?
Diesel Engine Oil	W-2 Maintenance Building	600 gallons	No
Hydraulic Oil	W-2 Maintenance Building	280 gallons	No
Waste Oil	W-2 Maintenance Building	100 gallons	No
Paints: Epoxy, Enamel, Primer, Alkyd Enamel	Paint Lockers in W-2 Maintenance Building	250 gallons	No
Wash Thinner	Paint Lockers in W-2 Maintenance Building	15 gallons	No
Toluol	Paint Lockers in W-2 Maintenance Building	10 gallons	No
Cleaning Solvent	Paint Lockers in W-2 Maintenance Building	55 gallons	No
Used Oil	AST south of Maintenance Building (with containment)	1,000 gallons	No
Diesel Fuel	UST at Fueling Area (near Building M-2)	6,000 gallons	Yes
Antifreeze	W-2 Maintenance Building/Refrigerated and Container Repair Shops (with containment)	500 gallons	No
Freon 409-A	W-2 Maintenance Building	1,200 pounds	No
Unleaded Gasoline	Fueling Area	400 gallons	Yes
Lubricants/Grease	W-2 Maintenance Building	300 gallons	No
Diesel	Combustible Transfer Area	30,000 gallons	Yes
Fertilizer	Fertilizer Transfer Area	20,000 gallons	Yes
Liquefied Petroleum Gas	Hazardous Area A, B, C, and D	91,000 gallons	Yes
Sodium Hydroxide	Hazardous Area C	16,000 gallons	Yes

Source: Anchor 2010

Most materials stored without cover are contained in double-walled containment units. Northland Services collects rainwater from the containment units as necessary and is developing a schedule for rainwater collection (Anchor 2010). The disposal method for the collected rain water is not known.

Stormwater Drainage

Northland Services has been covered under the Industrial Stormwater General Permit (WAR000471) since 1992. The company recently updated its SWPPP, following improvements made to the property in 2008. These improvements included new slip trenching, stormwater piping, and paving. The updated SWPPP includes new BMPs to reduce the potential for contaminants to be exposed to stormwater, as well as a formal monitoring plan for stormwater sampling and updated facility plan (Anchor 2010).

Northland Services is currently performing the following source control BMPs:

- Weekly vacuum sweeping of the yard to remove solids,
- Monthly catch basin inspection and replacement of filter fabric as needed, and
- Bi-annual catch basin cleaning (or as needed) and SD line jetting by a vacuuming contractor.

The SWPPP states that potential sources of pollutants to stormwater at the facility include:

- Loading and unloading of dry bulk materials or liquids;
- Outdoor storage of materials or products;
- Vehicle and equipment fueling, maintenance and cleaning;
- Roofs or other surfaces composed of materials that may be mobilized by stormwater (e.g., galvanized or copper roofs); and
- Sand-blasting.

Additionally, zinc and copper may be deposited on the facility grounds from tire treads, hydraulic oil, motor oil, brake liners, and atmospheric deposition. These contaminants may be entrained with stormwater and enter the SD system or be discharged to the LDW via surface runoff (Anchor 2010).

Stormwater from the facility is conveyed to OWSs prior to discharge to the LDW; however, stormwater at the eastern margin of the facility occasionally discharges to the LDW as surface runoff (Anchor 2010). In approximately January 2009, each OWS at the facility was cleaned and additional separation plates were installed in each OWS (Ecology 2009d).

Groundwater enters the SD system through a perforated pipe installed 2 to 4 feet below the finished pavement surface in the Break Bulk Cargo Area and the Container Repair Area near Building W-2 (Figure 16). Groundwater entering the pipe commingles with stormwater and is discharged to the LDW. Discharge of uncontaminated groundwater or spring water is conditionally approved in Northland's NPDES permit. Groundwater was not observed in the SD system during a 2008 dry season inspection (Anchor 2010).

Stormwater and wash water from the area west of Building M-2 and south of Building W-2 is discharged to the sanitary sewer. Three SD catch basins located within Building W-2 have been permanently covered to prevent materials from entering the SD system. Floor drains within the buildings have been sealed to prevent materials from entering the SD system. In 2009, Northland Services verified that there are no wastewater discharges to the SD system (Anchor 2010).

Waste Handling

Northland Services has reported as a small, medium, and large quantity generator (SQG, MQG, and LQG, respectively), as well as a 10-day transfer facility. Wastes generated at the facility include used oil, crushed oil filters, solvent rags, spent antifreeze, and a rinsate solution that is greater than 20 percent hydroxide. The rinsate solution is removed from the Northland Services facility and used by Philip Services Corporation at its Kent facility. Surface sweepings and spent sand blast grit from the Northland Services facility are transferred to Lafarge Cement for use in making concrete (Ecology 2006d, 2009d). Used fluids are stored in a covered AST next to Building W-2 and disposed of offsite by a licensed contractor. The AST has secondary containment (Anchor 2010).

4.2.2 Historical Operations

JORE Services, Inc., the previous tenant, operated at this location for approximately 17 years, from 1986 to 2002 (Ecology 2006d). JORE handled containerized cargo, break-bulk, oversize or overweight items, and bulk commodities shipped by barge to and from Alaska, Seattle, and Hawaii. The company occupied 21 acres of parcel 2505, and its facility consisted of a barge loading area, three office buildings, a truck scale and house, a warehouse, a maintenance shop, a workshop, and a parking area outside the security gate. Moorage was available for barges and tugboats, which remained moored from one to seven days for loading and unloading. JORE transferred approximately 200 tons of non-hazardous waste and hazardous waste through its facility on a monthly basis (Ecology 2002). Vessel fueling was occasionally performed on the North Dock (JORE 2000).

An outdoor hazardous materials temporary storage area was present south of the scale house, for large quantities of various hazardous materials. JORE reported as an SQG and as a 10-day transfer facility from approximately 1999 to 2002 (Ecology 2002).

Five small hazardous materials storage areas were present in the warehouse. Cargo defined as hazardous was transferred to these areas during consolidation and repackaging activities, which were performed in the warehouse. Cargo was stored in the warehouse for up to one month (JORE 2000).

All major repairs and vessel engine overhauls were performed in the maintenance shop. Other activities performed in the maintenance shop included small painting jobs; small engine parts cleaning with solvents, steam-cleaning, and power-washing; and storage of spare parts and small quantities of oils, paints, and chemical solvents. Large equipment such as forklifts and containers were cleaned in an outdoor area adjacent to the maintenance shop. Steam-cleaning and power-washing techniques were used to clean large equipment (JORE 2000).

An equipment fueling station was located 100 feet east of the maintenance shop building. The fueling station included a 6,000-gallon diesel fuel UST, which was installed by the Port in 1993. The double-wall UST was installed on a concrete pad and equipped with computerized leak and overfill protection. Two 300- to 400-gallon gasoline and diesel tanks were also present at the fueling station (JORE 2000).

Sandblasting, welding, and spray painting were performed at the portable shop and container repair areas of the JORE facility (JORE 2000).

Significant materials associated with the JORE operations included: diesel fuel, gasoline, lubricating oil, solvents, sandblasting residue, steam cleaning residues, paint, batteries, antifreeze, sewage, garbage from vessels, flammables, flammable solids, flammable gases, non-flammable gases, and corrosives.

All equipment and parts were steam cleaned in the maintenance shop. Water and residue were filtered and drained to three floor drains and then to an OWS installed in a sump on the west side of the building. The OWS discharged to the METRO sewer system. The sump was inspected, measured, and tested monthly by a contractor. A power washing area was located outside the maintenance shop. Catch basins located near the maintenance shop were cleaned monthly. According to the JORE SWPPP, catch basins located throughout the facility were cleaned annually, and when there was sediment accumulation. According to the SWPPP, no significant spills occurred from 1996 to 2000 (JORE 2000).

On November 12, 2002, Northland Services acquired JORE and began operation of the Terminal 115 facility under the SWPPP previously prepared and maintained by JORE. In November 2002, Northland Services also began leasing from the Port an additional parcel of land at Terminal 115 adjacent to and north of their previous operations. Northwest Container leases a parcel of land from Northland Services as discussed in Section 4.5 (Port of Seattle 2011a).

4.2.3 Regulatory History

JORE received coverage under the Industrial Stormwater General Permit (SO3000471) on November 18, 1992. The permit was shared with the Port (Ecology 2002). Northland Services currently operates under general permit number WAR000471. The SWPPP is updated consistently and the most recent copy is dated December 2010 (Anchor 2010). The current permit will expire on January 1, 2015 (Ecology 2006d).

Northwest Container Services leases a parcel of land from Northland Services and operates under a separate Industrial Stormwater General Permit (Port of Seattle 2011a) as discussed in Section 4.5.

Stormwater Compliance Inspections

On March 11, 1987, the United States Coast Guard inspected JORE. Housekeeping in the oil storage area was inadequate and diesel fuel was noticed on the ground and in the catch basin. The inspection results were reported to Ecology. Ecology performed an unannounced inspection on March 12, 1987. Several issues were found in relation to controlling the discharge of contaminants to surface waters. Ecology required JORE to comply with the following corrective actions:

- Store all oils, lubricants, waste oils, detergents and solvents on a bermed, impervious pad under cover.
- Repair all leaking lubricating oil and hydraulic systems promptly.
- Install an adequately-sized OWS in the stormwater collection system.
- Upgrade the surface of the steam cleaning area to prevent leaching of oils and solvents to the ground and subsequent discharge to groundwater.
- Reconstruct the steam cleaning area to limit the amount of stormwater that is collected and discharged to the sanitary sewer.
- Install trench drains leading to a dead sump in the fueling area to prevent spills and leaks from reaching the storm sewer.

During the inspection, moderate quantities of oil-soaked dirt were noticed by Ecology. Ecology inspectors suggested plugging the SD catch basins and sweeping or pressure washing to clean the lot. Additionally, Ecology notified METRO to inspect the steam cleaning area sump to ensure compliance with applicable regulations (Ecology 1987).

Ecology conducted a stormwater compliance inspection on May 22, 2006. During 2005 and 2006, turbidity levels and zinc, oil, and grease concentrations in stormwater discharges exceeded the NPDES permit benchmark levels. Ecology inspectors noticed accumulated sediment at the barge loading ramp. A representative of Northland Services stated that construction activities for the Port may have caused turbidity levels to exceed permit action levels (Ecology 2006c).

As detailed in the Northland Services Terminal 115 SWPPP, in 2005 and 2006, a resurfacing and stormwater project was conducted by Northland Services and the Port. This project included resurfacing 40 acres of the terminal with concrete treated base and asphalt; installation of stormwater piping, new slip trenching, catch basins, and three new OWSs for the treatment of stormwater; and installation of filter fabric in existing older catch basins (Port of Seattle 2011a).

On January 21, 2009, Ecology conducted another stormwater compliance inspection. Several areas of noncompliance were observed including: discharge of wash water to the SD system, improper wastewater handling by a subcontractor at the facility, a small petroleum spill, cement dust and debris outside of the M-2 Building, stormwater accumulated in secondary containment structures, and uncontained sand blast grit and painted materials in the container repair area (Ecology 2009b,c). Ecology required Northland Services to comply with the following corrective actions:

- Submit to Ecology a revised facility map, monitoring plan, spill plan, and SWPPP that meet NPDES permit conditions and includes and/or addresses the following:
    - Internal and external notifications, cleanup protocols and written procedures for handling and disposal of spills;
    - An Operation & Maintenance Manual for all steam cleaning and pressure washing systems used at the facility;
    - Standard operating procedures for the sandblasting activities at the facility, including sandblast grit and debris control, clean-up and disposal;
    - Provisions for proper oversight of work performed by subcontractors at the facility;

- A thorough justification for not sampling all SD outfalls associated with the Northland Services facility; and
- A written procedure for handling and disposal of stormwater accumulating in secondary containment structures in the fueling area;
- Identification of floor drains in any buildings at the facility; and
- Copies of KCIW discharge authorizations included in a section of the SWPPP.

- Sample representative stormwater runoff from the container storage and handling area, maintenance area, and refrigerator repair and generator shops.
- Remove stormwater accumulated in the secondary containment area around used oil and spent antifreeze accumulation tanks in the Diesel Shop area.
- Define the wash pit area by painting a boundary around it on the pavement.
- Cease and desist the discharge of wastewater to the SD system.
- Obtain proper permits for all wastewater discharges to sanitary sewer.
- Properly designate waste streams, dispose of dangerous wastes within 90 days, and properly store products and wastes.
- Control cement dust and debris outside the Cement Shed to prevent commingling with stormwater and ultimate discharge to the LDW.

Ecology performed a follow-up inspection on April 2, 2009, in conjunction with a Dangerous Waste Compliance inspection. Housekeeping in the diesel fuel containment area was inadequate. Spent sand blast grit was observed on the ground outside the maintenance building (Ecology 2009d). The follow-up inspection report does not address the status of the corrective actions assigned to Northland Services following the January 21, 2009, inspection.

Following the April 2009 inspection, Northland Services sent a letter to Ecology (Port of Seattle 2011a) documenting the following corrective actions:

- Northland Services ceased the practice of pressure washing equipment near the container repair/sand blasting area as of the January 21, 2009, inspection.
- Northland Services painted lines showing areas draining to SD versus sanitary sewer. Signs were added at the facility stating that any wastewater discharging outside of the sanitary sewer discharge area must be immediately addressed. Copies of existing permits allowing this discharge were provided to Ecology.
- Procedures at the container wash pit area were modified so that the east-facing doors are now closed whenever dust may be generated (i.e., when washing Portland cement containers).
- Northland Services obtained a custom sandblasting tent with vacuum system to contain all sandblasting activities and collect particulate generated for disposal offsite.
- Northland Services updated the SWPPP to provide required information, including new representative sampling locations.
- In 2010, Northland Services updated the Spill Prevention Control Plan.

Additionally, Northland Services met with Ecology at the facility on January 6, 2011, in order to walk through additional site improvements made and discuss permit requirements (Port of Seattle 2011a).

Dangerous Waste and 10-day Transfer Operations Compliance Inspections

Ecology conducted a Dangerous Waste Compliance Inspection at JORE on February 21, 2002, and found three areas of non-compliance. Documentation of job-specific training and a written training plan were not available in the SWPPP. In addition, general facility inspections were not being performed or documented (Ecology 2002). JORE complied with the required corrective actions by developing a dangerous waste training program and developing and implementing an inspection plan for all monitoring, safety, and emergency response equipment (JORE 2002).

Ecology conducted a Dangerous Waste Compliance Inspection at Northland Services on July 14, 2006, and found one item of noncompliance. An aboveground bulk used oil tank was not labeled “Used Oil” (Ecology 2006d). Northland Services corrected the item of non-compliance (Lueskow 2006).

Ecology conducted a Dangerous Waste Compliance Inspection on April 2, 2009, at Northland Services, and found several areas of non-compliance. In 2006, 2007, and 2008, Northland Services had incorrectly reported as an MQG, when it was an LQG. Sludge in a parts washing unit in the maintenance building had not been properly designated. Labeling practices had improved since the January 21, 2009, stormwater compliance inspection, but improvements were still necessary. Additionally, drums containing used oil and/or blasting grit and bags of blasting grit were not properly designated and labeled. Ecology required Northland Services to provide documentation showing that all containers of dangerous waste were properly managed, designated, and labeled, including proper listing of accumulation start and end dates. Ecology directed Northland Services to manage used oil mixed with dangerous waste as dangerous waste (Ecology 2009d). Northland Services complied with the corrective actions (Ecology 2009f).

Ecology conducted a Dangerous Waste Compliance Inspection for Northland Services 10-day Transfer Operations on April 20, 2009, and found one item of noncompliance. Northland Services did not notify Ecology of 10-day transfer operations during 2007 and 2008 (Ecology 2009e). Northland Services followed the actions requested by Ecology and registered online with TurboWaste as a 10-day transfer facility for 2007 and 2008 (Ecology 2009f).

4.2.4 Potential for Sediment Recontamination

PCBs, PAHs, phthalates, benzyl alcohol, and hexachlorobenzene concentrations have exceeded the SQS in LDW sediment samples collected near the Northland Services facility. The potential for sediment recontamination associated with this property is summarized below by transport pathway.

Stormwater

The January 21, 2009, stormwater compliance inspection identified several items of non-compliance including discharge of wastewater to the SD system and inadequate housekeeping to prevent sand blast grit and cement dust from commingling with stormwater ([Ecology 2009b,c).

As documented in the SWPPP and April 2, 2009, Northland Services letter to Ecology, Northland Services has implemented all required corrective actions. Additionally, the Northland Services SWPPP documents the implementation of operational and source control BMPs, including placing SD filters in every catch basin and twice monthly sweeping to prevent solids from entering the SD. Northland Services met with Ecology onsite on January 6, 2011, to discuss proactive improvements made since the January 21, 2009, inspection and compliance with the NPDES permit (Port of Seattle 2011a). Potential for sediment recontamination due to current facility operations is low provided that the improvements and source control BMPs are maintained.

Groundwater beneath the Northland Services facility infiltrates into the SD system and may discharge to the LDW through Outfall 2220. Base flow samples have not been collected to confirm that groundwater infiltrating the SD system is uncontaminated, which is a condition of the facility's NPDES permit. The potential for sediment recontamination via this pathway is unknown.

Surface Runoff/Spills

Based on the documents available for review, there have been no significant spills on the Northland Services facility. However, the facility is adjacent to the LDW; therefore, spills have the potential to reach the LDW. Hazardous wastes are stored and wastewater from equipment washing is generated at the facility. Wastewater is discharged to the sanitary sewer. Loading and unloading of enclosed containers secured for transport is performed over the LDW. Northland Services has a Spill Prevention Control Plan that is in compliance with Ecology, U.S. Coast Guard, and Seattle Fire Department standards. Each of these agencies inspects the facility regularly for compliance with applicable regulations (Port of Seattle 2011a). Therefore, although there is potential for transport of contaminants to the LDW through surface runoff and spills pathways, the potential for sediment contamination is believed to be low to moderate.

4.2.5 Data Gaps

Northland Services appears to maintain appropriate source control BMPs and has worked with Ecology to address the corrective actions identified by Ecology inspectors. No data gaps have been identified for the Northland Services facility; however, as identified in Section 3.4, an environmental evaluation is needed in this area of Terminal 115 to determine if sediment COCs are present in groundwater at concentrations that exceed groundwater-to-sediment screening levels.

4.3 Icicle Seafoods

Facility Summary: Icicle Seafoods	
Address	206 SW Michigan Street
Facility Size	~0.60 acre (leasehold, sublease from Seafreeze)
Facility/Site ID	12398
SIC Code(s)	2092: Fresh or Frozen Prepared Fish 9999: Nonclassifiable Establishment
EPA ID No.	None

Facility Summary: Icicle Seafoods	
NPDES Permit No.	WAR010720
UST/LUST ID No.	None

Icicle Seafoods, Inc. sublets approximately 26,000 sq ft of the Seafreeze facility (Icicle Seafoods 2008). The facility is bordered on the east by the LDW, on the north by Northland Services, on the west by the remainder of the Seafreeze facility and the former Foss Environmental property, and on the south by SW Michigan Street. Icicle Seafoods uses the eastern portion of the 308,521 sq ft cold storage facility that is present on this portion of the Terminal 115 property.[19]

4.3.1 Current Operations

Icicle Seafoods has operated at this location since June 26, 2008. Fresh fish is delivered to Icicle Seafoods by truck or vessel. Icicle Seafoods then processes and packages the fish for wholesale or retail sale. Seafreeze provides offloading, storage, and loading services for Icicle Seafoods.

At the shoreline, fish are pumped from vessels and transferred to a stainless steel table and then into a tote. Water falling through the table and tote is generally recovered through a gravity assisted system and conveyed back to the vessel holding tanks. Historically, depending on the tide level, the system did not provide adequate recovery and some water seeped into the LDW. Icicle Seafoods has made improvement to the pumping system to prevent seepage into the LDW (Icicle Seafoods 2008).

The following companies provide services to or are affiliated with Icicle Seafoods (Icicle Seafoods 2009):

- Custom Seafoods Service, Inc. (provides crab processing services such as cooking, chilling, freezing, grading and packing)
- Cypress Island Seafood, LLC (Icicle Seafoods acquired its lease in Blaine, Washington, as part of Icicle Seafood’s acquisition of certain Smoki Foods, Inc. [Smoki Foods] assets)
- Murphy Overseas, LLC (provides documentation and duty services)
- Northwest Seafood Processors (occasionally provides seafood processing equipment)

Materials Used in Operations

Icicle Seafoods uses the following products in its operations (Icicle Seafoods 2009):

- Hydraulic oil and corn oil in the hydraulic systems;
- Argon, oxygen, and acetylene for welding and metal cutting;
- Lubricants including Food Grease FML2 and Retina WR2;
- Cleaners and sanitizers: Lift-off DS, Iodine (Halo San), Zanite 75, Oxine, Chlor Kleen, and bleach.

[19] A facility plan for Icicle Seafoods was not available for review.

Waste Handling

Ice used to cool seafood during packaging and processing is set on the east apron of the Seafreeze facility. Metal and plastic totes are washed on the east apron. Up to 40 garbage containers are stored on the east apron. The apron is bermed to direct surface runoff to the sanitary sewer (Icicle Seafoods 2008).

Icicle Seafoods consolidates all recyclable cardboard, paper, and garbage for the Seafreeze property (Icicle Seafoods 2009). Process wastewater is discharged to the sanitary sewer (ERM 2008). Both areas are surrounded by containment drains that direct all runoff into the sanitary sewer (Port of Seattle 2011a).

Stormwater

Storm drain catch basins are located throughout the facility and discharge to the LDW through Outfalls 2122 and 2124. The catch basins are cleaned when the sediment is within one foot from the bottom of the outlet baffle, when half-full, or at least annually (Icicle Seafoods 2008). Icicle Seafoods is responsible for the cleaning of its catch basins (Port of Seattle 2011a).

4.3.2 Historical Operations

Smoki Foods, Inc.

Smoki Foods was a tenant at the Seafreeze property from February 28, 2003, to June 26, 2008. On June 26, 2008, Smoki Foods sold most of its assets and the leasehold at the Seafreeze facility to Icicle Seafoods (Icicle Seafoods 2009). Smoki Foods' operations were identical to the operations currently performed by Icicle Seafoods.

4.3.3 Regulatory History

In November 2007, Ecology responded to a complaint regarding foamy discharge water to the LDW from the dock at the Seafreeze property. Ecology determined that Smoki Foods failed to control fish water during the transfer of salmon from a vessel to containers on the dock. In January 2008, Ecology determined that operations at Smoki Foods required coverage under an NPDES permit (Ecology 2008b).

Icicle Seafoods currently operates under an Industrial Stormwater General Permit (WAR010720).

EPA sent CERCLA Section 104(e) Request for Information letters to Smoki Foods in January 2009 and to Icicle Seafoods in April 2009. Smoki Foods' response to the 104(e) letter was not available for review at the time this Data Gaps Report was prepared. The response prepared by Icicle Seafoods was available for review, and information relevant to source control has been incorporated into this Data Gaps Report.

In January 2009, EPA sent CERCLA Section 104(e) Request for Information letters to each of the companies that provide services to or are affiliated with Icicle Seafoods. The responses from these companies were not available for review at the time this Data Gaps Report was prepared.

SPU conducted a screening source control facility visit on July 16, 2009. Ecology conducted a stormwater inspection at Icicle Seafoods on October 7, 2010. Inspection files were not available for review at the time this Data Gaps Report was prepared.

4.3.4 Environmental Investigations and Cleanups

Phase I Environmental Site Assessment (2007)

A Phase I Environmental Site Assessment (ESA) was performed at the Smoki Foods facility in 2007 (ERM 2008). No recognized environmental conditions were identified during the Phase I ESA. However, potential areas of noncompliance were identified. These potential noncompliance issues included the following:

- Wastewater discharged to the sanitary sewer was not pretreated for pH, suspended solids, fats, oils, or grease, and Seafreeze (landlord) did not carry a KCIW discharge permit or authorization.
- Smoki Foods' operations were not covered under an NPDES permit, and the facility had not obtained a certificate of no exposure.
- Smoki Foods personnel and management appeared to not understand safety and health requirements and how these applied to operations.

4.3.5 Potential for Sediment Recontamination

Concentrations of PCBs and BEHP exceeded the SQS and/or CSL in several sediment samples collected near the former Port-SF outfall. The potential for sediment recontamination associated with this property is summarized below by transport pathway.

Stormwater Discharge

Icicle Seafoods discharges stormwater to the LDW through Outfalls 2122 and 2124. Materials used at the facility do not appear to contain sediment COCs. The facility, in conjunction with the Port, appears to maintain good BMPs to prevent potential contaminants from its operations from commingling with stormwater. The potential for sediment recontamination via this pathway appears to be low, but it depends on the frequency of discharges to the LDW and the potential concentrations of sediment COCs, if any, in discharges originating from this facility.

Surface Runoff/Spills

Icicle Seafoods is adjacent to the LDW and over-water activities are performed. Although spills to the LDW may occur, fish water is not a potential source of contaminants to LDW sediments. However, spills of fish water may potentially harm the river environment. Corrective measures have been taken to prevent spills of fish water to the LDW. The potential for sediment recontamination via this pathway appears to be low.

4.3.6 Data Gaps

Data gaps relevant to the potential for recontamination of LDW sediments near the Icicle Seafoods facility are discussed below.

Stormwater and Surface Runoff/Spills

- Review of the reports from SPU's 2009 and Ecology's 2010 inspections are needed to verify that operations and materials used at the facility do not represent a potential source of sediment COCs, which could commingle with stormwater or be spilled directly to the LDW.
- A review of the responses to the CERCLA Section 104(e) Request for Information letters from the companies that provide services to or are affiliated with Icicle Seafoods is needed to assess relevance to the Terminal 115 source control area and to identify potential sources of sediment recontamination that may be associated with operations. These companies include:
    - Custom Seafoods Service, Inc.
    - Cypress Island Seafood, LLC
    - Murphy Overseas, LLC
    - Northwest Seafood Processors

4.4 Gene Summy Lumber and Commercial Fence (Terminal 115 North)

Facility Summary: Gene Summy Lumber and Commercial Fence (Terminal 115 North)	
Address	6000 W Marginal Way SW 98106
Parcel Size	~2 acres (leasehold)
Facility/Site ID	23498: Summy Lumber 23743: Commercial Fence
SIC Code(s)	Gene Summy Lumber: 5031 Commercial Fence: 1799 Specialty Contractor 5031 Wood Fence Contractor 5039 Fencing and Accessories Installation Contractor
EPA ID No.	None
NPDES Permit No.	None
UST/LUST ID No.	None

Gene Summy Lumber and Commercial Fence operate at the northwest corner of parcel 2505 (Terminal 115 North). Limited information was available for these facilities. The facilities are bordered by a public access road serving Terminal 115 to the north, West Marginal Way SW to the west, and by Northland Services to the east and south. Glacier Bay is north of the public access road.[20]

[20] Facility plans for Gene Summy Lumber and Commercial Fence were not available for review.

4.4.1 Current Operations

Gene Summy Lumber uses the western half of the facility to distribute lumber (Landau 2009a), and Commercial Fence uses the eastern half of the facility to store fencing materials awaiting installation at various sites (Duke 2011). This portion of the property is unpaved and no catch basins are present (Port of Seattle 2011a). In 2010, SPU noted that sheet flow from the facility flows towards the public access road (SPU 2010r).

Untreated lumber is stored outdoors at the Gene Summy Lumber facility. A fueling station with ASTs is present; the fueling station serves forklifts used at the facility. The ASTs are covered and have secondary containment (SPU 2006l). Industrial Lumber Sales is the parent company of Gene Summy Lumber (Industrial Lumber Sales 2009).

Commercial Fence occasionally constructs gates and performs touch-up painting on gate welds using spray paint (Duke 2011).

4.4.2 Historical Operations

MRI Corporation

The former MRI Corporation, a tin reclamation facility, historically operated in this area of Terminal 115. The tin reclamation operations took place between 1963 and 1997/1998. The former MRI facility was included in the Glacier Bay Data Gaps Report (SAIC 2007). Source control actions related to the historical operations at this area of Terminal 115 are addressed in the Glacier Bay SCAP (Ecology 2007b) and updated in the Source Control Status Reports (Ecology 2008c and subsequent updates).

Schnitzer Steel

General Metals of Tacoma, Inc./Proler International Corp. (Proler) operated at this property from 1997 to 1999 under the business name of Schnitzer Steel Industries (Schnitzer Steel). The property was used to sort recycled metal. The recycled metal was shipped offsite for processing via truck and rail. Some materials were bailed prior to shipment (General Metals of Tacoma 2009; Proler 1998).

Schnitzer Steel used two ASTs at the facility to store stormwater and a concrete vault inside the main building to store tin cans. Appliances and lightweight scrap metal were stored on the east yard of the facility. The east yard was paved with concrete. The west yard was used to offload and store scraped automobiles. The west yard was partially paved with asphalt and partially covered by concrete (Proler 1998; Schnitzer Steel 1999).

The following materials and activities were identified as potential stormwater pollutant sources: ferrous and nonferrous metal scrap, diesel and lubricant storage, new oil and chemical products for vehicle and equipment maintenance, waste oil and other liquids from vehicle and equipment maintenance, and solid waste in dumpsters. Vehicle and equipment maintenance were typically performed indoors. The facility had secondary containment for waste oil and liquids. The facility employed source control BMPs to prevent stormwater contamination (Proler 1998).

When Schnitzer Steel's lease with the Port ended in June 1999, the company removed the stormwater ASTs, demolished the concrete vault for tin can storage, removed metal and polyvinyl chloride (PVC) piping inside the building, scraped and removed dust along the railroad track along the western boundary of the facility, cleared tin can and metal debris along the eastern facility boundary, and swept the facility yards and buildings. Schnitzer Steel requested cancellation of its NPDES permit (SO3-000262, issued to Proler International Corporation) on June 25 and August 4, 1999 (Schnitzer Steel 1999).

Polar Supply and Subtenants

Marine Services International (MSI), Polar Supply, Strategic Global Mobility (SGM), and Taras Trucking operated at Terminal 115 North during the 2000s. Polar Supply leased the property from the Port. MSI, SGM, and Taras Trucking were apparently subtenants to Polar Supply (SPU 2006n). Polar Supply sold used highway supplies (Industrial Lumber Sales 2009). MSI stored marine equipment (SPU 2006m). SGM loaded vehicles into shipping containers and fixed toy cars for re-sale (SPU 2006o). Taras Trucking stored trucks at the property and performed maintenance activities such as replacing tires, lights, and bolts. No oil changes or truck washing was performed (SPU 2006u). Taras Trucking closed in summer 2006 (SPU 2006aa). Summy Lumber was formerly a subtenant to Polar Supply (Stewart 2006).

4.4.3 Regulatory History

SPU inspected the Polar Supply facility and each of its subtenants, including Gene Summy Lumber (see below), in June and July 2006. Polar Supply was responsible for cleaning the SD catch basins and performing maintenance (SPU 2006n). SPU directed Polar Supply to clean all catch basins at the facility and directed MSI, SGM, and Taras Trucking to prepare spill plans, obtain spill kits, and educate employees with regard to the spill plan and response materials (SPU 2006p, r, s, x). Additionally, SPU directed MSI to properly dispose of paint chips, excess waste, and old equipment, cover metal scrap piles, sweep lot regularly and loading area after transferring materials, and properly contain and label wastes (SPU 2006r). All facilities achieved compliance by September 2006, with the exception of Taras Trucking, which closed (SPU 2006t, z, aa, ab).

SPU inspected Gene Summy Lumber on June 23, 2006. Housekeeping at the facility was described as good. SPU instructed the facility to complete a spill plan, purchase spill kits, and move forklift maintenance operations to a covered area (SPU 2006l,q). SPU re-inspected the facility in August 2006 and determined that the corrective actions had been implemented and the facility was in compliance with Seattle's Stormwater, Grading, and Drainage Code (SPU 2006y).

SPU conducted an environmental compliance inspection at Gene Summy Lumber on May 11, 2010. SPU required the following corrective actions (SPU 2010r,t):

- Sweep road surfaces more frequently to remove accumulated debris; debris must be disposed of properly.
- Develop a spill prevention plan to prevent spills and other accidental releases of materials that may contaminate drinking water.

Additionally, SPU recommended stabilizing the entrance road to the facility in order to reduce or eliminate track-out at the source (SPU 2010t). SPU performed a follow-up inspection in July 2010. The SPU inspector noted that Summy Lumber had placed additional gravel at the facility driveway to reduce track-out and that the Port had increased the frequency of sweeping of the public access road to once per week instead of once per month. Additionally, Gene Summy Lumber posted the spill plan near the fueling tank (SPU 2010y).

In January and April 2009, EPA sent CERCLA Section 104(e) Request for Information letters to Gene Summy Lumber and other companies associated with this area of Terminal 115. These companies include Industrial Lumber Sales, Schnitzer Steel, and SGM Global. The combined response from Gene Summy Lumber, Industrial Lumber Sales, and Schnitzer Steel was reviewed, and pertinent information was included in the Data Gaps Report. The response from SGM Global was not available for review.

4.4.4 Environmental Investigations and Cleanups

Historical environmental investigations and cleanups performed at this portion of the Terminal 115 property are summarized in the Glacier Bay Data Gaps Report (SAIC 2007). The Port plans to perform an environmental investigation at this portion of the property, as described in Section 4.1.5. Soil, groundwater, and catch basin solids samples will be collected during this investigation.

4.4.5 Potential for Sediment Recontamination

Butyl benzyl phthalate was detected at a concentration exceeding the SQS in surface sediment sample DR126. Sample DR126 was collected near Outfall 2127. The potential for sediment recontamination associated with this facility is summarized below by transport pathway.

Stormwater

The majority of stormwater on the Gene Summy Lumber and Commercial Fence facilities infiltrates the ground surface (Port of Seattle 2011a). In July 2010, SPU determined that Gene Summy Lumber is in compliance with source control BMPs (SPU 2010y). Ecology has identified the Commercial Fence facility as a potential source of zinc to the LDW (Ecology 2011, LDW Source Control Status Report, in preparation). BEHP and zinc concentrations in catch basins solids samples exceeded the SQS (Table 13). The potential for sediment recontamination via this pathway is high.

Groundwater infiltration structures that are connected to the Terminal 115 SD system are present at the southwest corner of the facility. Additional information regarding this pathway is provided in Section 4.1.

Surface Runoff/Spills

Gene Summy Lumber and Commercial Fence are located adjacent to Glacier Bay. SPU determined that surface runoff from the facilities flows north towards the public access road and Glacier Bay and to the west towards West Marginal Way SW instead of the LDW. Catch basins are present in the public access road; stormwater runoff is collected by catch basins and then discharged through Outfall 2127 (Landau 2009a; Port of Seattle 2011a). Spills that may occur on the facilities may have the potential to reach the LDW through the Terminal 115 SD system.

Soil and Groundwater

Arsenic, lead, mercury, zinc, PAHs, and other SVOCs are present in soil at concentrations that exceed the soil-to-sediment screening levels (Table 9), and metals, PAHs, phthalates, and other SVOCs are present in groundwater at concentrations that exceed MTCA cleanup levels and/or groundwater-to-sediment screening levels (Table 10). Due the proximity of the facility to Glacier Bay and the LDW, groundwater discharge may represent a potential source of sediment recontamination. The potential for sediment recontamination via this pathway is high.

4.4.6 Data Gaps

Information needed to assess the potential for sediment recontamination associated with current or historical operations at this location is listed below.

Stormwater and Surface Runoff/Spills

- A review of the response to the CERCLA Section 104(e) Request for Information letter from SGM Global LLC is needed to identify potential sources of sediment recontamination that may be associated with current or historical operations.

4.5 Northwest Container Services

Facility Summary: Northwest Container Services	
Address	6110 W Marginal Way SW 98106
Parcel Size	11.7 acres (leasehold, sublease from Northland Services)
Facility/Site ID	84427474
SIC Code(s)	1442: Construction Sand and Gravel 4225: General Warehousing and Storage 9999: Nonclassifiable Establishments
EPA ID No.	WAD981772254 (inactive)
NPDES Permit No.	WAR003779
UST/LUST ID No.	None

Northwest Container subleases 11.7 acres of parcel 2505 from Northland Services (Waste Connections 2009) and operates under a separate NPDES permit (Port of Seattle 2011a). The facility is bordered by Northland Services to the north, south, and east; by West Marginal Way SW, Sea Pac Services, and railroad tracks to the west; and by Shultz Distributing to the south.

4.5.1 Current Operations

Northwest Container Services occupies an unpaved area of the Terminal 115 property (Ecology 2009b). The facility includes one single story concrete block building[21] (Waste Connections 2009).

Northwest Container Services has operated at Terminal 115 since 1998. The company performs intermodal rail container loading, storage, maintenance, and repair of cargo containers for international shipping companies. Intermodal containers are loaded from trucks to trains. The containers are lifted off a truck, stacked onsite, and loaded onto a train. Some of the containers may contain hazardous materials. Empty containers may undergo maintenance activities such as welding and painting. Metal repair work is performed on containers and the scrap metal is recycled. The interior of containers are steam cleaned (Ecology 2003b; Waste Connections 2009).

Diesel fuel is used to operate container lifts and propane is used to operate small forklifts. Motor oil, hydraulic fluid, antifreeze, and parts cleaners are also used at the facility (Waste Connections 2009).

From 1998 to 2004, Northwest Container Services was a wholly-owned direct subsidiary of DRP Investments, Inc. The company was sold in 2004 and is currently a wholly-owned direct subsidiary to Waste Connections, Inc. (Waste Connections 2009).

Waste Handling

Wastewater from the container steam cleaning system drains to an SD. An OWS is present on the facility. According to Northwest Container Services, the OWS is cleaned semi-annually (Ecology 2003b).

Northwest Container Services holds KCIW Discharge Authorization No. 651.

Stormwater

Northwest Container Services is covered under the Industrial Stormwater General Permit (WAR003779). Stormwater from the facility is conveyed to the LDW through the Terminal 115 SD system. Stormwater from the facility is discharged to the LDW through three outfalls. Stormwater discharge originating on the northern portion is conveyed through POS 6146; stormwater originating on the middle portion is conveyed through Outfall 2220; and stormwater originating on the southern portion is conveyed through Outfall 2125. Effluent samples are collected from these three outfalls to comply with NPDES permit requirements.

In December 2006, stormwater discharge monitoring results indicated turbidity and pH levels and zinc, copper, and oil and grease concentrations in excess of the NPDES permit discharge limits. Northwest Container Services had the SD lines at its facility jet-cleaned in early 2007 to address the discharge limit exceedances. Discharge monitoring results from March 2007 again indicated turbidity and pH levels, and zinc, copper, and oil and grease concentrations in excess of the NPDES permit discharge limits. Lead concentrations also exceeded the permit discharge

[21] A facility plan for Northwest Container Services was not available for review.

limits. Northwest Container Services learned from Northland Services and the Port that adjacent facilities and runoff from West Marginal Way SW contributed to Northwest Container Services' stormwater discharge (Northwest Container Services 2007a,b).

In May 2007, Northwest Container Services hired a contractor to investigate the SD system to assess the collection and discharge of stormwater at the Northwest Container Services facility. The goal of this investigation was to define the areas outside of the Northwest Container Services facility that drain to catch basins or contribute to conveyance lines that lead to catch basins on the facility. Harbor Consulting determined that 11 catch basins located near the railroad tracks to the west of the Northwest Container Services facility were connected to the SD system at the facility (Harbor Consulting 2007).

Groundwater enters the SD system through a perforated pipe installed 2 to 4 feet below the finished pavement surface. Groundwater entering the pipe commingles with stormwater and is discharged to the LDW through Outfall 2220.

4.5.2 Historical Operations

Information regarding historical operations at this facility is discussed in Section 4.1.2.

4.5.3 Regulatory History

Ecology conducted a Dangerous Waste Compliance Inspection on February 10, 2003, at Northwest Container Services and found one area of non-compliance. Containers were steam cleaned and the resulting water drained to a nearby SD. The contents of the containers being cleaned were unknown, and the OWS sludge was not designated prior to disposal. Additionally, the secondary containment for the used oil tank was 75 percent full of used oil and water. Ecology recommended that this area be kept clean in order to identify any leaks or spills of oil in the secondary containment (Ecology 2003b).

In June 2003, Northwest Container Services had the 500-gallon aboveground OWS and a catch basin inspected and cleaned. Sludge from the OWS was analyzed for TCLP metals for purposes of waste characterization (Rivers Edge Services Inc. 2003). In November 2003, Ecology determined that Northwest Container Services had successfully completed the corrective actions (Ecology 2003d).

Ecology performed an NPDES compliance inspection at the facility in February 2007 (Ecology 2011a). The inspection report was not available for review.

EPA sent a CERCLA Section 104(e) Request for Information letter to Northwest Container Services in July 2008. Waste Connections submitted a response to the request in 2009. Information relevant to source control has been included in this Data Gaps Report.

Ecology performed an NPDES compliance inspection at Northwest Container Services on January 26, 2011 (Wright 2011). Discharges from the facility in 2010 triggered Level 3 corrective actions for turbidity and copper. Northwest Container Services was performing monthly inspections as required by the NPDES permit. Ecology recommended that Northwest Container Services sweep the facility more frequently than once per quarter (the frequency required by the NPDES permit), keep liquid chemical and petroleum products and wastes/dumpsters under cover when stored outdoors, and ensure that floor drains within the facility buildings are not connected to the sanitary sewer. Ecology issued the following corrective actions to meet the requirements of the NPDES permit (Ecology 2011a):

- Review and update the SWPPP.
- Update the monitoring plan and facility map.
- Comply with Permit Condition S8.D, Level 3 Corrective Actions, which include:
  - Completion of a comprehensive study to identify stormwater contamination sources;
  - Selection of applicable and appropriate capital, operational source control, and treatment BMPs to reduce stormwater contaminant levels to or below benchmark values;
  - Preparation of a Level 3 report to Ecology with implementation schedule for selected BMPs; and
  - Inclusion of the Level 3 report in the SWPPP.

4.5.4 Potential for Sediment Recontamination

The potential for sediment recontamination associated with this facility is summarized below by transport pathway.

Stormwater Discharge

Stormwater from the Northwest Container Services facility is conveyed to the LDW through the Terminal 115 SD system. The SD lines also collect stormwater near the railroad tracks and the Northland Services facility before discharging to the LDW. Northwest Container Services carries an NPDES permit, which allows the facility to discharge wastewater from a steam cleaning system to the SD. Based on historical DMRs, lead and zinc concentrations have exceeded the NPDES permit limits; however, it is not clear if the source of these contaminants is from offsite sources, Northwest Container Services, and/or Northland Services. Stormwater discharges from this facility may represent a potential source of sediment recontamination.

Groundwater beneath the Northwest Container Services facility infiltrates the SD system. Contaminants in groundwater (if any) infiltrating the SD may represent a potential source of sediment recontamination. Additional information is provided in Section 4.1.5.

4.5.5 Data Gaps

Data gaps relevant to the potential for recontamination of LDW sediments near the Terminal 115 source control area from the Northwest Container Services facility are discussed below.

Stormwater Discharge

- A follow-up stormwater inspection is needed at Northwest Container Services to verify compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW.
- As identified in Section 3.4, an environmental evaluation is needed in this area of Terminal 115 to determine if sediment COCs are present in groundwater at concentrations that exceed groundwater-to-sediment screening levels.

4.6 Sea Pac Services

Facility Summary: Sea Pac Services	
Address	6100 West Marginal Way SW 98106
Parcel Size	~0.52 acre (leasehold, noncontiguous)
Facility/Site ID	11466114
SIC Code(s)	4225: General Warehouse & Storage 4731: Freight Transportation Arrangement 4783: Packing & Crating 4789: Transportation Services, NEC
EPA ID No.	WAH000000935 (inactive)
NPDES Permit No.	SO3003983 (inactive)
UST/LUST ID No.	None

Sea Pac Services leases a small southwest portion of the parcel 2505. The facility is bordered by Northwest Container Services to the north and east, Shultz Distributing to the south, and West Marginal Way SW to the west.

4.6.1 Current Operations

According the facility's NDPES permit application, Sea Pac Services operates a warehouse, and stores and maintains equipment at the facility. Petroleum and/or petrochemical products are stored indoors.[22] New and used equipment and materials awaiting disposal/recycling are stored outdoors (SPU 2006ac).The facility has been in operation since February 1989 (Sea Pac Services 2000). Sea Pac Services identified itself as an SQG in 1997.

Six SD catch basins are present at the facility (SPU 2006ac). Groundwater enters the SD system through a perforated pipe installed 2 to 4 feet below the finished pavement surface along the western boundary of the facility (Figures 8a and 16). Groundwater entering the pipe commingles with stormwater and is discharged to the LDW through Outfall 2220.

No additional information regarding current operations was available for this facility.

[22] A facility plan for Sea Pac Services was not available for review.

4.6.2 Historical Operations

No information regarding historical operations at this area of Terminal 115 was available for review.

4.6.3 Regulatory History

According to Ecology's Facility/Site Database, the facility's NPDES permit was cancelled in January 2006. No additional information regarding the NPDES permit was available for review.

SPU performed an environmental compliance inspection at the facility in October 2006. The following corrective actions were identified (SPU 2006ad):

- Prepare a spill plan, obtain spill containment and cleanup materials, and educate employees.
- Clean catch basins and provide maintenance as needed.
- Improve housekeeping by sweeping the loading area after each material transfer; regularly cleaning catch basins; promptly cleaning up leaks and spills; and properly disposing of excess waste, old equipment, and loading area sweepings.

SPU re-inspected the facility in May 2007 and determined that Sea Pac Services had performed all corrective actions (SPU 2007).

4.6.4 Potential for Sediment Recontamination

The potential for sediment recontamination associated with this property is summarized below by transport pathway.

Stormwater

Stormwater from Sea Pac Services is discharged to the LDW through the Terminal 115 SD system. Contaminants in stormwater (if any) may represent a source of contaminants to the LDW.

Groundwater beneath the Sea Pac Services facility infiltrates the SD system. Contaminants in groundwater (if any) that infiltrates the SD system may represent a source of contaminants to the LDW. Additional information is provided in Section 4.1.5.

4.6.5 Data Gaps

Data gaps relevant to the potential for recontamination of LDW sediments near the Terminal 115 source control area from the Sea Pac Services facility are discussed below.

Stormwater Discharge and Spills

- A facility inspection is needed to verify compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW.

- Information regarding how any hazardous materials or chemicals are stored and used at the facility is needed to evaluate the potential for spills to reach sediments adjacent to the Terminal 115 source control area.
- Information on any containment system(s) present at the site is needed to evaluate the potential for spills to reach sediments adjacent to the Terminal 115 source control area.
- As identified in Section 3.4, an environmental evaluation is needed in this area of Terminal 115 to determine if sediment COCs are present in groundwater at concentrations that exceed groundwater-to-sediment screening levels.

4.7 Shultz Distributing

Facility Summary: Shultz Distributing	
Address	6760 W Marginal Way Seattle, WA 98108
Parcel Size	~0.66 acre (leasehold)
Facility/Site ID	94368646
SIC Code(s)	5171: Petroleum Bulk Stations and Terminals
EPA ID No.	CRK000044350
NPDES Permit No.	None
UST/LUST ID No.	UST: 395043

Shultz Distributing leases the southwestern portion of parcel 2505 from the Port. The facility is bordered by Northland Services to the east, Northwest Container Services to the northeast, Sea Pac Services to the north, West Marginal Way SW to the west, and SW Front Street to the south. Shultz Distributing occupies the 260,000 sq ft masonry structure on the Terminal 115 property. A Subway sandwich shop and Portside Coffee Company is also located on this portion of the Terminal 115 property.

4.7.1 Current Operations

Shultz Distributing operates a gasoline and diesel fueling station at this portion of the Terminal 115 property. Additional information regarding current operations at the facility[23] was not available for review.

4.7.2 Historical Operations

The Foley Cardlock facility historically operated in this location. Additional information regarding historical operations, environmental investigations and cleanups in this area of Terminal 115 is included in Sections 4.1.2 and 4.1.4.

4.7.3 Regulatory History

No records of regulatory actions regarding the facility were available for review.

[23] A facility plan for Shultz Distributing was not available for review.

4.7.4 Potential for Sediment Recontamination

The potential for sediment recontamination associated with this property is summarized below by transport pathway.

Stormwater

Stormwater from Shultz Distributing is conveyed to an OWS and then discharged to the sanitary sewer. Stormwater may be discharged to the LDW via the Terminal 115 CSO during a CSO event.

4.7.5 Data Gaps

Data gaps relevant to the potential for recontamination of LDW sediments near the Terminal 115 source control area from the Shultz Distributing facility are discussed below.

Stormwater Discharge and Spills

- A facility inspection is needed to verify compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW.
- Information regarding how any hazardous materials or chemicals are stored and used at the facility is needed to evaluate the potential for spills to reach sediments adjacent to the Terminal 115 source control area.
- Information on any containment system(s) present at the site is needed to evaluate the potential for spills to reach sediments adjacent to the Terminal 115 source control area.

4.8 Seafreeze Cold Storage

Facility Summary: Seafreeze Cold Storage	
Address	250 SW Michigan Street
Parcel Size	~18 acres (leasehold)
Facility/Site ID	82536515
SIC Code(s)	2092: Fresh or Frozen Prepared Fish 9999: Nonclassifiable Establishments
EPA ID No.	WAD988496725
NPDES Permit No.	None
KCIW Discharge No.	Permit 7123 (inactive) Authorization 621-03, major
UST/LUST ID No.	UST: 666

The Seafreeze Cold Storage facility is located on the southern portion of the Terminal 115 property. It is bordered by Northland Services to the north, West Marginal Way SW to the west, the former Foss Environmental property and SW Michigan Street to the south, and by the LDW to the east. Icicle Seafoods, a tenant at the Seafreeze facility, occupies the eastern portion of the facility, which is adjacent to the LDW.

4.8.1 Current Operations

Seafreeze operates a frozen food warehouse and distribution facility. Icicle Seafoods, Northwest Seafood Processors, and Custom Seafood Services lease warehouse and processing space from Seafreeze at this location[24] (ERM 2008).

Fish processing occurs on the first floor of the building. Fish arrive in ice-packed pallets. The fish are cleaned, if necessary, then filleted and packed for distribution. Equipment is cleaned daily with a chlorinated alkyln soap. The second floor of the building is used for breading operations (Ecology 1991c).

Two large dumpsters for recyclable and non-recyclable wastes are present in the yard. Wooden pallets, equipment, tanks, and empty and full drums are stored throughout the yard. Storm drain catch basins are located throughout the Seafreeze yard (Ecology 1991c). It appears that the yard is a common area used by all tenants at the facility.

A 40-gallon diesel fuel AST is present at the facility. The fuel is for use in the emergency generator (Port of Seattle 2011a).

Waste Handling

A floor drain runs down the center of the first floor. Wastewater is conveyed to a sump, which separates fish guts from water. The sump discharges to the sanitary sewer. All wastewater discharges from the plant pass through the sump prior to discharge to the sanitary sewer (Ecology 1991c).

Spills

Icicle Seafoods began tracking spills at the Seafreeze facility in 2009, and identified six spills that occurred between March and May 2009 (Icicle Seafoods 2009):

- On March 23, 2009, approximately 10 gallons of food oil and grease leaked from a tote belonging to Northwest Seafood Processors, a tenant at the Seafreeze facility. The tote was close to the solid waste and recycled materials collection area used by Seafreeze tenants. About 70 to 80 percent of the material was recovered by Seafreeze.

- On April 24, 2009, approximately 24,000 pounds of Icicle Seafood's waste ice, which was contaminated by direct contact with salmon, melted and entered the SD system at Terminal 115. Runoff from the melting ice, which was normally conveyed to the City of Seattle sewer system, overran recently installed trench drains at the facility. The trench drains were meant to convey the ice melt to the City of Seattle sewer system; however, the drain from the trench to the sewer system had been plugged to prevent construction materials from entering the sewer system during installation of the trench drain. The plug was removed from the trench drain following discovery of the spill to the SD, which resolved the problem.

[24] A facility plan for Seafreeze was not available for review.

- On May 2, 2009, approximately 20 gallons of food oil and grease from a tote, presumably owned by Northwest Seafood Processors, leaked near the solid waste and recycled materials collection area used by Seafreeze tenants. Icicle Seafoods informed Seafreeze of the leak, and requested that the totes by placed in the proper containment area.

- On May 7, 2009, a 5-gallon tote owned by Northwest Seafood Processors leaked food oil and grease near the solid waste and recycled materials collection area used by Seafreeze tenants. Icicle Seafoods notified Seafreeze of the incident and requested that the totes be placed in the proper containment area. Approximately 70 to 80 percent of the material was recovered by Seafreeze.

- On May 7, 2009, approximately 1 gallon of hydraulic oil leaked from a hydraulic line on a stationary Seafreeze delivery truck. The hydraulic oil leaked onto the parking lot of the northeast corner of the Icicle Seafoods facility. Icicle Seafoods requested that Seafreeze fix the delivery truck.

- On May 13, 2009, approximately 20 gallons of food oil and grease leaked from a tote owned by Northwest Seafood Processors near the solid waste and recycled materials collection area used by Seafreeze tenants. Approximately 40 percent of the material was recovered by Seafreeze. Icicle Seafoods requested that Seafreeze require Northwest Seafoods Processors to obtain new totes or repair the existing totes, and require that the totes be placed in the proper containment area.

Information regarding any spills that may have occurred after May 2009 was not available for review.

4.8.2 Historical Operations

Seafreeze historically maintained a 500-gallon diesel fuel AST. The diesel fuel was used for a tractor at the facility. Frying and cooking operations were performed at the facility until December 1991 (Seafreeze 1991). The 500-gallon AST has been removed (Port of Seattle 2011a).

4.8.3 Regulatory History

In August 1987, METRO issued an Enforcement Action Informal Compliance Schedule due to discharge violations from May 27 to 30, 1986, and on May 1, 1987. Solid food waste was discharged to the municipal sanitary sewer. METRO required Seafreeze to provide an explanation for the solids collection system deficiencies; propose corrective measures and an implementation schedule for the corrective measures; and begin weekly inspections for the presence of food waste over ¼-inch in diameter and keep a written record of the inspections (METRO 1987).

Seafreeze was issued an Industrial Wastewater permit to discharge industrial wastewater into the Metro sewer system on September 21, 1988 (KCIW 1988). The permit expired on September 21, 1998 (KCIW 1993).

The King County Health Department (KCHD) received an anonymous tip on September 12, 1991, that Seafreeze was discharging wastewater to the LDW. An inspector from KCHD determined that Seafreeze disposed large quantities of ice, which was used for seafood packaging, on the banks of the LDW. The inspector did not observe any unusual discharges from the SD outfalls associated with the facility (Outfalls 2122 and Port-SF). The inspector noted drums stored outside without cover or secondary containment and ASTs stored outside with secondary containment but not covered (Ecology 1991b).

Ecology conducted a follow-up inspection to the wastewater complaint on September 20, 1991. The Ecology inspector observed ice from freezer coils and seafood packaging that were placed on the embankment to melt off to the LDW. The Ecology inspector confirmed that drums and ASTs were improperly stored without cover; and additionally, that drums containing diesel fuel and waste oil were stored without secondary containment. Drums were also used to store salad oil, kerosene, corrosives, and chlorinated products. Ecology inspectors observed an employee washing spilled oil, soap, and water into the SD (Ecology 1991c,d).

Seafreeze performed the following corrective actions and employed new BMPs in response to the Ecology inspection (Seafreeze 1991):

- Secondary containment for drums and tank storage areas:
    - Seafreeze discontinued the use of the fryer in December 1991, thereby eliminating the need to stage salad oil drums. Seafreeze planned to remove all drums of salad oil by January 1992.
    - Seafreeze began storing all drums containing cleanup chemicals and kerosene inside the plant near sanitary drains. Drip pans were placed beneath the dispensing nozzles. Five-gallon safety cans were employed to transfer kerosene to equipment.
    - Seafreeze discontinued use of the outside waste oil tank and began storing waste oil only in drums. Seafreeze began storing no more than two drums at a time. The drums were stored inside until picked up by an oil reclaiming service.
    - Seafreeze planned to discontinue use of the 500-gallon AST storing diesel fuel and license the facility's tractor in order to fuel it at a commercial station. Following licensing of the tractor, Seafreeze planned to remove both the diesel oil tank and the waste oil tank, and dismantle the bermed containment area by April 1, 1992.
- Ice discharge:
    - Seafreeze began spreading dirty ice on the pavement where it would drain into the sanitary sewer system. However, Seafreeze requested approval from Ecology to spread the dirty ice on the embankment.

On September 1, 1994, METRO issued a Final Notice and Compliance Order for violations that occurred on July 25, 1994. Solid wastes were discharged to the sanitary sewer, due to a lack of effective maintenance and monitoring of the pretreatment system, which was a violation of the effluent limitations and violation criteria (Condition S11) of the discharge permit (METRO 1994). The order required the following corrective actions:

- Install a screen across the entire opening below the exterior rotoscreen to prevent entry of solid waste into the sanitary sewer.

- Immediately begin performing daily inspections and monthly preventative maintenance.

Ecology performed a stormwater compliance inspection at the facility in January 2008 to determine if Seafreeze was eligible for a Conditional No Exposure (CNE) certificate. Ecology determined that the facility was eligible (Ecology 2008a), and the CNE certificate was issued in May 2008. Northwest Seafood Processors and Custom Seafood Services, both subtenants to Seafreeze, were issued CNE certificates in February 2008 and 2009, respectively (Port of Seattle 2011a).

EPA sent a CERCLA Section 104(e) Request for Information letter to Seafreeze in January 2009. The Seafreeze response to the request was not available for review at the time this report was written.

SPU inspected the Seafreeze facility on July 16, 2009. The facility was in compliance and no corrective actions were identified (Ecology 2011, in preparation). The inspection was not available for review.

4.8.4 Potential for Sediment Recontamination

The potential for sediment contamination associated with this property is summarized below by transport pathway.

Stormwater

Stormwater from the Seafreeze facility is discharged to the LDW through Outfall 2122 and via the Terminal 115 SD system. Recyclable and non-recyclable wastes, equipment, and empty and full drums are stored throughout the Seafreeze yard in two containment areas that are encircled by containment drains connected to the sanitary sewer. Wastes are to be placed in containment areas; however, based on information provided by Icicle Seafoods, some tenants at Seafreeze fail to properly handle waste in this area. However, no spills have been recorded since May 2009 (Port of Seattle 2011a). Storm drain catch basins are present in the yard. Contaminants in stormwater (if any) may represent a potential source of sediment recontamination.

Spills

Icicle Seafoods reported six spills at the Seafreeze facility in 2009. None of these spills reached the LDW. Spilled materials included food oil, grease, waste ice, and hydraulic oil. No spills have been recorded since May 2009 (Port of Seattle 2011a). These materials do not represent a potential source of sediment contamination. However, these materials can potentially harm the river environment. The potential for sediment recontamination via this pathway is low.

4.8.5 Data Gaps

Data gaps relevant to the potential for recontamination of LDW sediments to the east of the Seafreeze facility are discussed below.

Stormwater Discharge and Spills

- A review of the response from Seafreeze to the CERCLA Section 104(e) Request for Information letter is needed to identify potential sources of sediment recontamination (if any) that may be associated with current or historical operations.

4.9 Seattle Engineering Department Penn Yard

Facility Summary: Seattle Engineering Department Penn Yard	
Tax Parcel No.	5367202510, 5367202512, 5367202514, 5367202518
Address	1st Avenue SW & SW Peninsula Place
Property Owner	2510& 2518: Seattle Department of Transportation 2512 & 2514: State of Washington
Parcel Size	2510: 0.24 acre (10,572 sq ft) 2512: 0.12 acre (5,166 sq ft) 2514: 0.93 acre (40,169 sq ft) 2518: 0.08 acre (3,458 sq ft)
Facility/Site ID	644121161
SIC Code(s)	4225: General Warehousing and Storage 9199 General Government, not elsewhere classified
EPA ID No.	WAD982658551 (inactive)
NPDES Permit No.	None
UST/LUST ID No.	None

The Penn Yard is located adjacent to the LDW and consists of four small parcels. The property is bordered by Terminal 115 on the north and west, SW Michigan Street on the south, a public right-of-way area supporting the 1st Avenue S bridge to the east, and the LDW to the northeast.

4.9.1 Current Operations

Based on a review of aerial photographs and King County tax assessor records, parcel 2518 is Seaview Park, parcels 2512 and 2514 are used as parking areas, and parcel 2510 is a right-of-way, which is used for access to the southeast corner of the Terminal 115 property and the parking areas for Seaview Park. The parking areas do not appear to be paved. The West Michigan CSO discharges at Seaview Park.

Based on maps provided by SPU, there do not appear to be any SD structures on this property. The property is located within the Terminal 115 CSO basin; therefore, stormwater is likely conveyed to the sanitary sewer. Stormwater may also infiltrate the ground surface or be conveyed to the LDW via sheet flow.

4.9.2 Historical Operations

Penn Yard was operated by the City of Seattle Engineering Department. Operations at the property are unknown. The EPA ID No. for Penn Yard was active from July 28, 1989, to December 31, 1995. Penn Yard was listed as a hazardous waste generator. Additional information regarding historical operations by the Seattle Engineering Department at the property was not available for review.

Based on aerial photographs and Sanborn maps included in the Terminal 115 ECR, it appears that two restaurants and an office building were present on the property from approximately 1929 to 1946. These buildings had been demolished by 1956 (SES 2011).

4.9.3 Regulatory History

As stated above, the EPA ID No. for Penn Yard has been inactive since December 31, 1995. Additional information regarding the regulatory history for the Penn Yard was not available for review.

4.9.4 Environmental Investigations and Cleanups

No records of environmental investigations or cleanups at this property were identified.

4.9.5 Potential for Sediment Recontamination

The Penn Yard property is adjacent to the LDW. The potential for sediment contamination associated with this property is summarized below by transport pathway.

Stormwater

Stormwater from this property is likely conveyed to the sanitary sewer. Alternatively, stormwater may infiltrate the ground surface. The potential for sediment recontamination via the stormwater pathway is low.

Surface Runoff and Spills

Surface runoff is likely to be conveyed to the LDW via sheet flow. Spills that may occur at this property are likely to infiltrate the ground surface or be conveyed to the sanitary sewer. Contaminants in spilled materials, if any, may become entrained with surface runoff and be conveyed to the LDW.

Groundwater Discharge

Contaminants in groundwater, if any, may be conveyed to the LDW via groundwater discharge.

4.9.6 Data Gaps

Information is needed to assess the potential for ongoing releases and sediment recontamination associated with current operations at Penn Yard. This information can be obtained during the facility inspections currently performed by SPU, KCIW, and Ecology.

- Information regarding ongoing industrial activities, if any, is needed to verify that these activities are in compliance with all applicable regulations and BMPs.

- Information on the materials used to construct SD and sanitary sewer lines in this area and the age of the SD and sanitary sewer lines would be useful to assess the potential for contaminated groundwater to infiltrate the combined sewer system.
- Additional information regarding the historical operations performed by the City of Seattle Engineering Department to determine if operations may have resulted in releases of contaminants to soil and/or groundwater.

4.10 Former Foss Environmental Services

Facility Summary: Former Foss Environmental Services	
Tax Parcel No.	5367202506
Address	200 SW Michigan Street 98106
Property Owner	Haslund MP LLC
Parcel Size	2.15 acres (93,654 sq ft)
Facility/Site ID	36326474
SIC Code(s)	None
EPA ID No.	WAH000014977 (inactive)
NPDES Permit No.	None
UST/LUST ID No.	None

Information regarding parcel 2506, currently owned by Haslund MP LLC (Haslund MP) and historically owned by Foss Redevelopment and the Port, is included in this section because stormwater from this property discharges to the LDW through the SD system on the Terminal 115 property.

The property is bordered on the west, north, and east by Terminal 115, and to the south by SW Michigan Street. According to King County tax records, an 85,126 sq ft three-story masonry building constructed in 1929 is present on this parcel.

Foss Environmental Services formerly occupied parcel 2506 from 1998 until 2002. Foss Redevelopment was the property owner during that time. Haslund MP LLC (Haslund MP) is the current owner of the property. This property was historically owned by the Port and was referred to as Parcel B of Terminal 115.

4.10.1 Current Operations

The building on this property has been used as office space for tenants of Haslund MP since its ownership began in 2006. Current tenants at the building include State of Washington Employment Security Department, Washington State Department of Transportation (WSDOT), and McGraw-Hill Companies, Inc. (Real Property Law Group 2009).

Three Seattle City Light transformers are present at the west end of the office building. Labels affixed to the transformers state that they contain less than 50 parts per million (ppm) PCBs (Real Property Law Group 2009). A utility-owned pad-mounted electrical transformer is present on the property (IVI International 2002b).

Haslund MP owns two parcels, 5367202507 (0.68 acre) and 5367202520 (0.74 acre), south of SW Michigan Street. These two parcels are within the current source control area; however, an Ecology Facility/Site ID number has not been assigned to these parcels. These parcels are used as a parking lot for workers at the office building on parcel 2506.

Stormwater

The property sits approximately 3 to 6 feet below the elevations of the Seafreeze facility on the west and SW Michigan Street on the south (ADI Geoscience 1998). Surface stormwater from the facility is conveyed to a pumping station at the western end of the building. The pumping station pumps the stormwater to the Port SD system on Terminal 115. Stormwater discharging from roof drains and sewage are conveyed to the pumping station at the eastern end of the building and then pumped to the City of Seattle sewage system (Real Property Law Group 2009).

Stormwater from the parking lot parcels is conveyed to the LDW through the Highland Way SW SD basin (Real Property Law Group 2009).

4.10.2 Historical Operations

The Edward Heath Boatyard operated at this property from approximately 1909 to 1916. The property was part of the former Boeing Plant 1 site from approximately 1917 to 1969. The southern portion of the building was constructed in 1929 and the northern portion was constructed in 1939. The building served as the administrative and engineering offices of Boeing Plant 1. Boeing sold the property and improvements to the Port in 1971 (Arai/Jackson 1981; ADI Geoscience 1998; IVI International 2002b).

Boeing operated an x-ray laboratory, a specimen preparation room, a dark room, a polish room, a general testing room, and a metallurgical office within the building. Three outbuildings were present on the property during Boeing's tenure: a metal flammable storage shed on a concrete pad, a test building, and a sand blasting building. The types of tests performed in the test building are unknown but were likely metallurgical-related or similar to other historical testing operations performed by Boeing (Golder Associates 2006).

The Port owned the property from 1971 to 1997, when the Port and Foss Redevelopment entered into a purchase agreement. During the Port's ownership of the building, the building was largely vacant (ADI Geoscience 1998), although Lockheed Shipbuilding and Construction Company rented a large portion of the building in the early 1980s (Arai/Jackson 1981). Foss Redevelopment renovated the building in 1989 and again in 1999 (IVI International 2002b).

Foss Environmental occupied the building at the property from approximately 1997 to 2001. This facility supported the emergency response services of Foss Environmental and served as the base for its transportation services and corporate offices. Emergency response services were provided to many clients, including some state agencies. Foss Environmental specialized in responding to releases to water, industrial cleaning, transportation of waste related to emergency response and industrial cleaning, and regular pick up and transfer of wastes for its clients. A 10-day transfer facility was also present at this location. Tank pulls were also performed by Foss Environmental; however, all scrap metal and other waste was typically removed from the client's property without being transferred through the Foss Environmental facility. At the time of a

Dangerous Waste Compliance Inspection in October 2001 (Section 4.10.3), Foss Environmental was planning to move from the SW Michigan Street location in mid-December 2001 and all of its services were to be relocated to a co-located facility with the Chevron Refinery at Point Wells, Washington (Ecology 2001).

Foss Environmental rarely transferred wastes from truck containers to other containers or holding areas. Trucks generally parked on the property only overnight. Truck maintenance was not performed at the SW Michigan Street facility. The company maintained emergency spill equipment and a Coast Guard-approved spill contingency plan. No spills occurred at the facility (Ecology 2001).

Information regarding use of this facility between 2002, when Foss Environmental left the facility, and 2006, when Haslund MP took ownership of the facility, was not available for review at the time this Data Gaps Report was prepared.

4.10.3 Regulatory History

Ecology performed a Dangerous Waste Compliance Inspection at the Foss Environmental facility in October 2001. Written logs recording the entry and exit of vehicles carrying manifested waste were not kept. Foss Environmental was required to keep a log for each vehicle, which included: the date the vehicle entered the facility; the manifest number of the shipment; and the date the vehicle left the facility. Ecology required Foss Environmental to maintain a similar log at the Point Wells facility. Foss Environmental was required to retain the log for three years (Ecology 2001). Foss Environmental agreed to comply with this request (Foss Environmental 2001).

Following a remedial excavation and groundwater compliance monitoring performed in 2002 and 2003 (Section 4.10.4), Ecology issued a No Further Action letter to Foss Development with regard to petroleum-contaminated soil and groundwater at the property (Ecology 2003a).

EPA sent CERCLA Section 104(e) Request for Information letters to McGraw-Hill Companies, Inc., Haslund MP, and Ilahie Holdings, Inc. in January and April 2009 and December 2010, respectively. EPA requested information relevant to Foss Redevelopment’s operations at this property from Ilahie Holdings, Inc. The response from Haslund MP was available for review. Information relevant to source control has been included in the Data Gaps Report. The responses from McGraw-Hill Companies, Inc. and Ilahie Holdings, Inc. were not available for review.

4.10.4 Environmental Investigations and Cleanups

Several environmental investigations and cleanups have been performed at this property. Sample locations are shown on Figure 17b and soil and groundwater sample analytical data are provided in Tables 20 and 21.

Asbestos, Lead Paint and PCB Survey (1993–1994)

A complete copy of the Asbestos, Lead Paint and PCB Survey report (Pickering Environmental 1994) was not available for review by SAIC during the preparation of this draft Data Gaps Report. SAIC reviewed the laboratory data appendix, which includes laboratory analysis of potentially asbestos-bearing building materials and lead-based paint. Information regarding the PCB survey was not available in the appendix.

In December 1993, 19 paint samples were collected for laboratory analysis from Building A-6. The paint samples were analyzed for lead. Lead was present in 14 of the samples, with concentrations ranging from 6.7 to 6,207 mg/kg. Numerous samples were assessed for the presence of lead using X-ray fluorescence (XRF) technology. Lead paint was positively identified on an interior masonry wall, metal molding material, ceiling and wall plaster, and sheet rock walls (Pickering Environmental 1994). The laboratory data appendix to the report provides sample descriptions only, not sample locations. Based on the sample descriptions, it appears that all paint samples were collected from the interior of the building.

Building materials such as floor and ceiling tiles, vinyl flooring, plaster, chalky and gypsum wall materials, and insulation were analyzed for asbestos. Chrysotile was identified in 23 of 98 samples and amosite was identified in 4 of 98 samples (Pickering Environmental 1994).

Underground Storage Tank Closure (1998)

In 1998, a 1,000-gallon diesel fuel UST (Tank No. 3) and a 3,000-gallon Bunker C fuel oil UST (Tank No. 2) were discovered on the Foss Environmental parcel during landscaping activities. The USTs were located southwest of the office building (Figures 17a and 17b). The USTs were removed on April 2, 1998. Two excavations were performed (one for each UST) and were completed at approximately 10 feet bgs. Groundwater was encountered at 3 feet bgs in the 1,000-gallon UST excavation (SD&C 1998).

A petroleum hydrocarbon sheen was observed on the groundwater; approximately 110 gallons of contaminated water was removed from the excavation by Foss Environmental. Soil samples were collected from the sidewalls of each UST excavation (Figure 17b). Groundwater monitoring wells (MW-1 and MW-2) were installed in each excavation. Soil and groundwater samples were analyzed for total petroleum hydrocarbons. Diesel- and heavy oil-range hydrocarbon concentrations in soil samples collected from 1,000-gallon UST excavation exceeded the current MTCA Method A cleanup levels (Table 19). Concentrations in samples collected from the 3,000-gallon UST excavation did not exceed current cleanup levels. Diesel-range hydrocarbons were detected in both groundwater samples; however, only the concentration from the 1,000-gallon UST excavation exceeded current MTCA Method A cleanup levels (Table 20) (SD&C 1998).

Phase I Environmental Site Assessment (1998)

A Phase I ESA was performed for Foss Redevelopment. The Phase 1 ESA indicates that plating operations were historically performed in the eastern portion of the building to support Boeing Plant 1; however, no information documenting the plating processes used was available for review. The Phase I ESA report indicates that as of May 1993, a 4,000-gallon diesel fuel UST (Tank No. 1, Figure 12) had been removed from the property. This was the third UST removed from the property, in addition to the 1,000- and 3,000-gallon USTs, which were removed in 1998 (ADI Geoscience 1998).

Phase I Environmental Site Assessment (2002)

In 2002, a Phase I ESA was performed at parcel 2506 for GMAC Commercial Mortgage Corporation. During a property visit in support of the Phase I ESA, one SCL-owned, pad-mounted transformer was observed on the property. Based on its most probable date of installation, the transformer may have contained PCBs; however, the equipment appeared to be in good condition and no evidence of leaks was observed. An elevator had been installed in the building in 1998 or 1999. The hydraulic fluid used in the elevator system was determined to be unlikely to contain PCBs since PCB-bearing hydraulic fluid has not been manufactured since 1979 (IVI International 2002b).

IVI International noted that monitoring wells MW-1 and MW-2 were not observed during a property visit and that, reportedly, the wells had been abandoned. Due to the presence of soil and groundwater contamination around the former 1,000-gallon diesel fuel UST, recommendations from the Phase I ESA included entering Ecology's VCP (IVI International 2002b).

Limited Subsurface Soil Investigation (2002)

In August 2002, a limited subsurface soil investigation was performed in the former 1,000-gallon diesel UST area. Results from the investigation indicated that petroleum-contaminated soil was present and extended approximately 10 to 20 feet beyond the former UST area. Groundwater screening samples collected from the backfilled UST excavation indicated minor petroleum impacts (Urban Redevelopment 2002).

Four temporary wells, GP-1, GP-3, GP-4, and GP-5, were installed in the vicinity of the former UST (Figure 17b). These four wells were sampled and analyzed for diesel-range hydrocarbons. Diesel-range hydrocarbons exceeded the MTCA Method A cleanup level in the groundwater samples from wells GP-4 and GP-5 (Table 20) (Urban Redevelopment 2002).

Phase II Environmental Site Assessment (2002)

In September 2002, ten soil borings (B-1 through B-10) were advanced on the property near the 1,000- and 3,000-gallon UST excavations (Figure 17b). Ten soil and three groundwater samples were collected. All samples were analyzed for diesel-range hydrocarbons. Diesel-range hydrocarbons were detected in five soil samples, with concentrations exceeding the current MTCA Method A cleanup level in four samples. Diesel-range hydrocarbons were detected in one groundwater sample at a concentration that exceeded the MTCA Method A cleanup level (Table 20) (IVI Environmental 2002a).

Remedial Excavation (2002)

A remedial excavation was performed in October 2002 to remove petroleum-contaminated soil associated with the former 1,000-gallon diesel UST (Figure 17b). Approximately 45 tons of petroleum-contaminated soil was removed from the property during the excavation. Sidewall samples (11 total) and bottom samples (4 total) were collected from the excavation and analyzed for diesel-range hydrocarbons. Diesel-range hydrocarbons were either not detected or were below MTCA Method A cleanup level (Appendix E) (Urban Redevelopment 2002).

The areas where concentrations of diesel-range hydrocarbons in groundwater exceeded the MTCA Method A cleanup level were over-excavated during the remedial excavation (Urban Redevelopment 2003a).

Groundwater Compliance Monitoring (2003)

In January 2003, groundwater compliance monitoring was performed to verify that diesel-range concentrations in groundwater were below MTCA Method A cleanup levels following the remedial excavation. Four temporary wells (W-1 through W-4) were installed around the former 1,000-gallon diesel UST area (Figure 17b). Groundwater samples were collected from each well and analyzed for diesel-range hydrocarbons. Diesel-range hydrocarbons were not detected in any of the samples (Urban Redevelopment 2003b).

Environmental Due Diligence Review (2006)

In 2006, an Environmental Due Diligence Review of the property was performed for Puget Sound Realty Advisors, LLC, who was under contract to purchase the property from Foss Redevelopment. The building maintenance supervisor indicated that the interior of the building was renovated in 1997 and 1998, including mechanical and heating, ventilating and air-conditioning (HVAC) systems, flooring, interior walls, windows, and window moldings; which likely removed asbestos-bearing materials and lead-based paint from the interior of the building (Golder Associates 2006).

An elevator was previously installed in the building. Based on the age of the former elevator, PCBs may have been present in the hydraulic system; however, there was no evidence indicating that the hydraulics may have leaked or that it may have contained PCBs. The building maintenance supervisor indicated that the elevator pit had been filled with concrete (Golder Associates 2006). It is not clear if this elevator is the same elevator identified during the 2002 Phase I ESA or if it is a second historical elevator.

4.10.5 Potential for Sediment Recontamination

The potential for sediment recontamination associated with this property is summarized below by transport pathway.

Stormwater Discharge

The locations of SD lines on the former Foss Environmental property are unknown; however, based on the information currently available, it appears that stormwater from the property is conveyed both to the LDW through the Terminal 115 stormwater system and to the combined sewer system. Discharges to the combined sewer system may be discharged through the Terminal 115 CSO during a storm event.

A previous building assessment included a survey for PCB-bearing building materials. The PCB survey was not available for review. Given the age of the building, there is potential that some PCB-bearing materials, such as paint, may have been applied to the building exterior. However, given that the building exterior is comprised primarily of brick, the potential for the presence of PCB-bearing materials is likely to be low.

Spills

Four transformers appear to be present at property. Three of these transformers have been identified as containing less than 50 ppm PCBs. It is unclear if the utility-owned, pad-mounted transformer remains at the property or if this transformer could contain PCB-bearing fluid. A spill of fluid from the transformer, if present, may represent a risk to LDW sediments if the spill was conveyed to the LDW through the SD system.

The building on the property is used for business offices. Only small amounts of potentially hazardous materials, such as cleaning products typically associated with an office, are stored on the property (Real Property Law Group 2009). Leaks from vehicles parked at the facility may have the potential to reach the SD system; however, spills of this nature are unlikely to represent a source of contaminants to sediment.

Soil and Groundwater

Conflicting information regarding a former elevator within the building suggests that PCB-bearing hydraulic fluid may have been used in the elevator. However, there is no evidence to suggest that PCBs were released to the subsurface. Petroleum-contaminated soil and groundwater at the property appear to have been adequately addressed. Petroleum hydrocarbons are not a COC with regard to sediment recontamination. The potential for sediment recontamination via this pathway appears to be low.

4.10.6 Data Gaps

Data gaps relevant to the potential for recontamination of LDW sediments from the former Foss Environmental property are identified below.

Stormwater/Spills

- Additional information regarding the status of the utility-owned pad-mounted electrical transformer is needed to determine if it remains at the property, and if so, to determine if it contains PCB-bearing fluid.
- Additional information is needed to determine the locations of SD lines on the former Foss Environmental property.
- A review of the responses from McGraw-Hill Companies, Inc. and Ilahie Holdings, Inc. to the CERCLA Section 104(e) Request for Information letters is needed to identify potential sources of sediment recontamination that may be associated with current or historical operations.
- Additional information is needed to clarify the dates of installation and periods of use for one or more elevators historically present in the building and to determine if PCB-bearing hydraulic fluid may have been used in the elevator(s). This information is needed to determine if PCBs may be present in soil and/or groundwater around the underground elevator pit.

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5.0 Potential for Sediment Recontamination from Upland Properties

Upland properties that could potentially affect sediments associated with the Terminal 115 source control area include the following:

- A&E Auto Repair
- Aluminum & Bronze Fabricators
- Catholic Printery
- Emswiler Construction
- Enviro Metal
- Lloyd Electric Apparatus
- Molner's One Stop
- Pacific Plumbing Supply
- Pacific Rim Equipment Rental/Krueger Sheet Metal Company
- Pioneer Industries
- SPU SW Trenton Tank
- SPU Vactor Pit

The upland properties are not adjacent to the LDW; therefore, surface runoff or spills directly to the waterway and bank erosion are not potential sediment recontamination pathways and will not be discussed in this section. Contaminants from upland properties could be transported to the LDW via stormwater, groundwater, and CSO discharge pathways.

Stormwater

Stormwater from these properties drains to the LDW from the Terminal 115 source control area via four pathways (Figures 6a and 6b):

- Highland Way SW SD system, discharging to Outfall 2125 (A&E Auto Repair, Enviro Metal, Lloyd Electric, Pacific Plumbing Supply, Pioneer Industries, and SPU SW Trenton Tank)
- SW Kenny Street SD system, discharging to Outfall 2127 (Aluminum & Bronze, Catholic Printery, Emswiler Construction and Pacific Rim/Krueger Sheet Metal)
- Terminal 115 CSO (Aluminum Bronze, Catholic Printery, Emswiler Construction, Lloyd Electric, Pacific Rim/Krueger Sheet Metal, and Pacific Plumbing Supply)
- West Michigan CSO (A&E Auto Repair, Enviro Metal, Molner's One Stop, Inc. Pioneer Industries, SPU SW Trenton Tank, and SPU Vactor Pit)

Groundwater Discharge

A UST removal was performed at the Pacific Rim/Krueger Sheet Metal facility in 2006. Groundwater was not encountered during the investigation and no contaminants were detected above MTCA Method A cleanup levels in soil (Filco 2006). Additional details regarding this UST removal are presented in Section 5.3.3. No information regarding environmental investigations or cleanups was discovered in the records reviewed for the remaining upland properties. Therefore, the groundwater discharge pathway has not been evaluated for the upland properties. However, based on the distance between these properties and the LDW, the potential for sediment recontamination via the groundwater discharge pathway is low.

Combined Sewer Overflow Discharges

Operations or activities at these properties may result in discharges to the sanitary sewer. Contaminants in wastewater (if any) may be transported to the LDW during a CSO event via the Terminal 115 or West Michigan CSO. Contaminants in soil and groundwater beneath the facility (if present) may leach into groundwater and infiltrate the combined sewer system. Therefore, there is a potential for sediment recontamination associated with combined sewer discharges from this property. However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will recontaminate sediments adjacent to the Terminal 115 source control area is very low.

5.1 Data Gaps Common to All Upland Facilities

Information needed to assess the potential for ongoing releases and sediment recontamination associated with current operations at each of the facilities in the Highland Way SW and SW Kenny Street SD basins and the Terminal 115 and West Michigan CSO basins is listed below. This information can be obtained during the facility inspections currently performed by SPU, KCIW, and Ecology.

- Additional information is needed to determine if undocumented and unregulated industrial operations are occurring within the Highland Way SW and SW Kenny Street SD basins and the Terminal 115 and West Michigan CSO basins, and whether they are an ongoing source of sediment recontamination.
- Information regarding ongoing industrial activities is needed to verify that the facilities are in compliance with all applicable regulations and BMPs.
- Information on how and where any hazardous materials, chemicals, or hazardous wastes are stored or used at these facilities is needed to evaluate the potential for spills to commingle with wastewater and stormwater.
- Facility plans showing the locations of floor drains, catch basins, sewer connections, and SDs (if any) are needed to evaluate the potential for contaminants suspended in wastewater and stormwater (if any) to be transported to the LDW via stormwater and combined sewer discharges.
- Information regarding any containment systems at these properties is needed to evaluate the adequacy of the systems and determine the potential for spills to commingle with wastewater and stormwater.

- Information on the materials used to construct SD and sanitary sewer lines in this area and the age of the SD and sanitary sewer lines would be useful to assess the potential for contaminated groundwater to infiltrate the combined sewer system.

5.2 Facilities within the Highland Way SW Storm Drain Basin

5.2.1 A&E Auto Repair

Facility Summary: A&E Auto Repair	
Tax Parcel No.	7972600405
Address	8145 9th Ave SW 98106
Property Owner	Tony Lee and Jennifer Wen
Parcel Size	0.17 acre (7,466 sq ft)
Facility/Site ID	19424
SIC Code(s)	None
EPA ID No.	None
NPDES Permit No.	None
UST/LUST ID No.	None

This property is located at the southeast corner of the intersection between 9th Avenue SW and SW Kenyon Street. Residential and commercial properties surround the A&E Auto Repair property. According to King County tax records, one building is present on the property, a 1,340 sq ft office building, which was constructed in 1953.

This facility is also located within the West Michigan CSO basin.

Current and Historical Operations

A&E Auto Repair is an automobile service and repair garage. The following materials are used in its operations: antifreeze, batteries, metals, petroleum products, and solvents. These materials are used for performing automobile repair and service (SPU 2010n).

Five catch basins connected to the sanitary sewer are present on the property (SPU 2010n).

Regulatory History

SPU performed an initial inspection of the facility on April 12, 2010, and a follow-up inspection on May 24, 2010. During the initial inspection, the SPU inspector observed wastewater from vehicle washing entering SD catch basins on the street and outdoor storage of batteries (SPU 2010n,q). SPU directed A&E Auto Repair to comply with the following corrective actions:

- Develop a spill plan, obtain and maintain a spill kit, and train employees to handle spills.
- Direct wastewater to the sanitary sewer catch basins on the property.
- Properly store hazardous materials.
- Follow proper guidelines for recycling or disposing of spent antifreeze.

During the follow-up inspection in May 2010, SPU determined that the facility had satisfactorily completed the corrective actions and was in compliance (SPU 2010v,w).

Potential for Sediment Recontamination

The potential for sediment contamination associated with this property is summarized below by transport pathway.

Stormwater and Spills

Stormwater associated with this property is conveyed to the sediments adjacent to the Terminal 115 source control area through the Highland Way SW SD system. Sediment COCs, if any, suspended in stormwater associated with this property may be conveyed to the LDW.

If spills occur at the property, the spilled materials may flow directly to SD catch basins on or adjacent to the property (if any) or become commingled with stormwater and be conveyed to the catch basins.

Data Gaps

No facility-specific data gaps were identified for this property.

5.2.2 Enviro Metal

Facility Summary: Enviro Metal	
Tax Parcel No.	Unknown
Address	8145 9th Ave SW 98106
Property Owner	Unknown
Parcel Size	Unknown
Facility/Site ID	96557226
SIC Code(s)	9512: Land, Mineral, Wildlife Conservation
EPA ID No.	WAD988522389 (inactive)
NPDES Permit No.	None
UST/LUST ID No.	None

Based on the address for Enviro Metal and aerial photographs, the facility is located within a residential area. There are no parcels with this address listed in the King County tax records. In this report, the location of Enviro Metal matches the location given by Ecology’s Facility/Site database, and Enviro Metal is reported as the land owner on a 2010 Ecology report (Ecology 2010b).

Little information regarding this facility was available for review. According to Ecology 2010b Enviro Metal reported as an SQG from June 21, 1993, to December 21, 1994. According to the EPA Envirofacts Warehouse website, which was last updated in October 2008, the EPA ID number for the facility is active and the facility is a conditionally exempt SQG.

This facility is also located within the West Michigan CSO basin.

Potential for Sediment Recontamination

The potential for sediment contamination associated with this property is summarized below by transport pathway.

Stormwater and Spills

Stormwater associated with this property is conveyed to the sediments adjacent to the Terminal 115 source control area through the Highland Way SW SD system. Sediment COCs, if any, suspended in stormwater associated with this property may be conveyed to LDW.

If spills occur at the property, the spilled materials may flow directly to SD catch basins on or adjacent to the property (if any) or become commingled with stormwater and be conveyed to the catch basins.

Data Gaps

No facility-specific data gaps or action items were identified for this property.

5.2.3 Lloyd Electric

Facility Summary: Lloyd Electric	
Tax Parcel No.	7643400005
Address	7126 West Marginal Way SW 98106
Property Owner	Greg Jacobsen
Parcel Size	0.77 acre (33,382 sq ft)
Facility/Site ID	58864121
SIC Code(s)	none
EPA ID No.	WAD020245395 (inactive)
NPDES Permit No.	None
UST/LUST ID No.	none

Lloyd Electric Apparatus Co. occupied parcel 0005, which is bordered to the north, east, and southeast by vacant parcels owned by WSDOT, SDOT, and the state of Washington, respectively, and to the southwest by West Marginal Way SW. Pacific Plumbing Supply is west of the facility, across West Marginal Way SW. According to King County tax records, a 16,320 sq ft light industrial manufacturing building, constructed in 1975, is present on the property.

This property is also located within the Terminal 115 service area.

Current Operations

No information regarding the current use of this property was available for the review.

Historical Operations

According to King County tax records, Lloyd Controls Inc. owned this property from 1985 until 2003, when it was sold to Greg Jacobsen. Based on the reporting history in a 2010 Ecology report (Ecology 2010c), it appears that Lloyd Electric operated at this location only during the period of its ownership of the property. Based on the company's website, Lloyd Controls, Inc. currently operates in Mountlake Terrace (Lloyd Controls, Inc. 2010).

Regulatory History

The 2010 Ecology report indicates the EPA ID number for this facility is inactive as of December 31, 2003. The company first reported as an MQG in 1995 and reported as an SQG from 1998 to 2003. The EPA ID number for this facility has been inactive since December 2003 (Ecology 2010c).

No additional information regarding the regulatory history for this property was available for review.

Potential for Sediment Recontamination

The potential for sediment recontamination associated with this property is summarized below.

Stormwater and Spills

Stormwater associated with this property is conveyed to the sediments adjacent to the Terminal 115 source control area through the Highland Way SW SD system. Sediment COCs, if any, suspended in stormwater associated with this property may be conveyed to LDW.

If spills occur at the property, the spilled materials may flow directly to SD catch basins on or adjacent to the property (if any) or become commingled with stormwater and be conveyed to the catch basins.

Data Gaps

No facility-specific data gaps were identified for this property.

5.2.4 Pacific Plumbing Supply

Facility Summary: Pacific Plumbing Supply	
Tax Parcel No.	3024049016
Address	7115 West Marginal Way SW 98106
Property Owner	S&S Partners LLC
Parcel Size	3.01 acres (130,900 sq ft)
Facility/Site ID	5039
SIC Code(s)	None
EPA ID No.	None
NPDES Permit No.	None
UST/LUST ID No.	None

Pacific Plumbing Supply is located south of S Myrtle Street between West Marginal Way SW and Detroit Avenue SW. Pioneer Industries and Lloyd Electric are located to the west and east, respectively. According to King County tax records, one building is present on the property, a 51,600 sq ft warehouse, constructed in 1976.

This property is also located in the Terminal 115 CSO basin.

Current Operations

Pacific Plumbing Supply is a wholesaler of plumbing supplies. Truck washing occurs at the facility at least two times per week, and pipes that have been stored outdoors are washed occasionally. There are five SD catch basins on the property. New equipment and materials to be disposed of or recycled are stored outdoors. Materials stored outdoors include PVC, metal pipes, and fiberglass shower units (SPU 2009c).

Historical Operations

Puget Sound Brick and Tile was historically located at this property at the time that the McAllister Slough flowed in this area.

Regulatory History

SPU performed an initial inspection of the facility on December 17, 2009 (SPU 2009c) and follow-up inspections on February 2 and 22, 2010. During the initial inspection, SPU identified the following corrective actions (SPU 2009e):

- Develop a spill plan, obtain and maintain a spill kit, and train employees to handle spills.
- Clean the SD catch basins.
- Improve housekeeping measures to include increased sweeping of property, removal of excess waste and equipment, and installation of drip pans where leaks or spills may occur.
- Cease washing in areas that drain to the SD.
- Properly dispose of fluorescent lamps.

SPU re-inspected the facility on February 2, 2010, and determined that the corrective actions had not been implemented (SPU 2010e,f). Pacific Plumbing Supply achieved compliance on February 23, 2010, after the second follow-up inspection was performed on February 22, 2010 (SPU 2010h,i).

Potential for Sediment Recontamination

The potential for sediment contamination associated with this property is summarized below by transport pathway.

Stormwater and Spills

Stormwater associated with this property is conveyed to the sediments adjacent to the Terminal 115 source control area through the Highland Way SW SD system. Sediment COCs, if any, suspended in stormwater associated with this property may be conveyed to LDW.

If spills occur at the property, the spilled materials may flow directly to SD catch basins on or adjacent to the property (if any) or become commingled with stormwater and be conveyed to the catch basins.

Data Gaps

No facility-specific data gaps were identified for this property.

5.2.5 Pioneer Industries

Facility Summary: Pioneer Industries	
Tax Parcel No.	3024049003
Address	7000 Highland Park Way SW 98106
Property Owner	Pioneer Human Services
Parcel Size	6.18 acres (268,984 square feet)
Facility/Site ID	66464199 (Pioneer Industries Seattle)
SIC Code(s)	3399: Primary Metal Products 3399: Primary Metal Products, NEC 3444: Sheet Metalwork 3499: Fabricated Metal Products, NEC
EPA ID No.	WAD982657504
NPDES Permit No.	WAR001897
UST/LUST ID No.	none

The Precision Sheet Metal Fabrication and Machining division of Pioneer Industries is the operator of parcel 9003. The property is bordered by Highland Park Way SW and an industrial property to the north, a City of Seattle Park to the west and south, and Detroit Avenue SW to the east. King County tax records indicate a 70,400 sq ft building, constructed in 1970, is present on the property.

The property is also located in the West Michigan CSO basin.

Current Operations

Pioneer Industries performs precision sheet metal fabrication, fabrication of cargo liners for aircraft, and metal and plastics finishing, including painting, powder coating, and electrostatic and spray coating. Pioneer Industries fabricates exotic metals, phenolics, and plastics, and performs contract work for Boeing (Pioneer Industries 1990, 1995; Ecology 1995b).

Production, assembly, and packaging areas are present at the facility. Processes used in production include computer numeric control punch tooling, laser cutting, waterjet cutting, forming/bending, milling, welding, and screen printing (Pioneer Industries 2011). Curing and burn-off ovens are used for some of these processes (Ecology and SPU 2009).

Pioneer Industries is a training facility for individuals completing drug and alcohol rehabilitation. The goal of the training programs is to provide these individuals with the appropriate skills to enter the industrial work force (Pioneer Industries 1995).

Materials and Equipment Used in Operations

Materials used in operations include alkaline cleaners and etchers for aluminum and steel, de-oxiders, phosphate and chromate conversion coatings, neutralizers for correcting pH, flocculants, and solutions for converting hexavalent chromium to trivalent chromium (Pioneer Industries 1990). Solvents used in operations include acetone, toluene, and heptanes (Pioneer Industries 1994). Mineral oil-based and synthetic coolants are used in the machining operations (ECOSS 1994).

Stormwater

Six SD catch basins are present on the property. The facility is covered under the Industrial Stormwater General Permit (WAR001897). Information regarding the permit and stormwater discharges from the facility was not available for review; however, the facility was inspected in November 2009 and implemented corrective actions identified by Ecology and SPU by January 2010 (Ecology and SPU 2009; SPU 2010d).

Waste Handling

Wastewater is held in an AST for pH treatment prior to discharge to the sanitary sewer. Rinse solutions containing hexavalent chromium are contained in closed systems and are not discharged to the sanitary sewer. Waste sludges generated from metal precipitation, paints, and sludges are stored in drums before removal from the facility (Pioneer Industries 1990). Wastewater discharges from the anodizing and chemical coating lines, laser cut processes, and screen printing are covered under the facility's KCIW discharge permit (Ecology and SPU 2009).

During 1997, Pioneer Industries established a satellite waste accumulation area within the facility. This allowed the facility to reduce its hazardous waste shipments from approximately every 90 days to three to four shipments per year (Pioneer Industries 1997). Pioneer Industries has greatly reduced its waste streams since the early 1990s through implementing improved BMPs such as "Return to Vendor" programs for expired adhesives, improved coolant management practices, and elimination of chromium primer (Pioneer Industries 2000, 2005; Ecology 2000b).

An outdoor hazardous waste accumulation area is located in an area where the pavement slopes away from the facility building. The area has secondary containment. A storm drain is present down slope from the hazardous waste accumulation area (Ecology 2006a). Containerized metal turnings and scrap metal, paint waste, and a solid waste compactor are present in this area (Ecology and SPU 2009).

Historical Operations

Historical hazardous waste streams generated at the facility include spent primer coating, spent chromate primer, water, spent machine coolant, oil, acetone, and methyl ethyl ketone (MEK), aqueous solutions, rags, absorbent booms, sludges, spent paint and solvents containing MEK, and epoxy silicone resins. One aqueous sludge waste stream contained 2.6 ppm mercury (Pioneer Industries 1995).

Additional information regarding historical operations at the property prior to 1990 was not available for review. Pioneer Human Services, the parent company of Pioneer Industries, has owned the property since 1991.

Regulatory History

On August 21, 1990, Ecology received a report of a 200-foot-long and 6- to 8-inch-deep pool of brown foaming goo at the backside of the building next to the hillside at 7000 Highland Park Way. Ecology conducted a follow-up inspection on February 21, 1991, and determined the pool was due to installation of a new roof at the Pioneer Industries building. There was no evidence of the original reported contamination; however, a strong solvent odor was noticed coming from the shop and office. The matter was referred to Labor & Industries and the Puget Sound Air Pollution Control Authority (Ecology 1991a).

Ecology inspected the facility at the request of Pioneer Industries on August 23, 1994. The purpose of the visit was to provide support in developing a pollution prevention plan for the facility. Ecology determined that the facility's most hazardous waste stream is chromic acid (Ecology 1994). Ecology performed similar visits in January, May, and June 1995 (Ecology 1995a,b,c). During the May visit, Ecology suggested color coding the waste segregation system to help employees properly segregate wastes. Due to the high level of trainee turnover, good waste handling practices were difficult to maintain at the facility (Ecology 1995b).

An RCRA Compliance Inspection was performed at the facility in June 1998. The inspector recorded six compliance violations; four of these citations were related to labeling and recordkeeping; one citation was for an inadequate spill contingency plan; and one citation was for the presence of potentially dangerous waste containing chromate primer and spent/excess powder coating (USEPA 2006).

KCIW issued Industrial Wastewater Permit No. 7723 to Pioneer Industries on July 14, 1999, for discharges into the sewer system (KCIW 1999). The discharge permit was revised in 2003 to include discharge of wastewater from a silk-screening operation at the facility (KCIW 2003). The discharge permit was renewed in May 2004 (KCIW 2004).

Ecology performed technical planning visits to the facility in April and August 2000 (Ecology 2000b).

KCIW issued an Assessment of Penalty and Compliance Order for Discharge Violations, which occurred on September 8 and 19, 2000. On September 8, 2000, a concentrated bath was discharged to the sanitary sewer without appropriate sampling. An inspection on September 19, 2000, found several permit violations. Two 5-gallon buckets marked "acid" and "caustic" were sitting next to one another near the anodizing line; a process tank was mislabeled; another process tank had no labeling to identify the material contained in the tank; and the wastewater sampling site contained an opaque, oily liquid. The only wastewater permitted at the sampling site was from the hand-washing sink in the debur room (KCIW 2000).

A Dangerous Waste Compliance Inspection was conducted by Ecology on February 15, 2006. Several recurring waste streams were noted, including: paints and solvents, spent paint booth filters with chromium, chromate paint and solvents, and mixed lubricants that may have contained MEK. Staining was noted on the floor near the wastewater process area. The floor appeared pitted or corroded. Facility personnel indicated that the floor had been sealed against acid or caustic spills, but did not know when the seal was poured (Ecology 2006a). Several areas of non-compliance were found:

- Pioneer Industries had reported as an LQG since 1995; however, based on waste manifests for 2005, the facility was an MQG.
- Used rags were placed on benches to allow solvents to evaporate before being placed in a step can.
- Step cans were generally not located near the point of generation and were improperly labeled.
- Small containers (i.e., 5-gallon drums) of dangerous waste in the paint booths were not sealed or labeled and lacked secondary containment. These containers were to be emptied into a satellite accumulation drum.
- Hazardous waste containers in the satellite and outdoor accumulation areas had labels with incomplete or missing start dates and were missing risk labels (e.g., toxic or poison).
- Immediate access to communications devices or alarms was not provided to personnel involved in handling of dangerous waste in the outdoor hazardous waste accumulation area.
- Containers of liquid dangerous waste were stored outdoors without labels and without adequate secondary containment.
- The appropriate signed manifests were not kept by the generator.

On April 13, 2006, Ecology determined that Pioneer Industries satisfactorily corrected the items of non-compliance (Ecology 2006b).

SPU and Ecology performed a source control inspection at the facility on November 3, 2009 (Ecology and SPU 2009). Small capacitors, which may contain PCBs or phthalates, were observed in a scrap metal bin at the eastern end of the parking lot. The SPU and Ecology inspectors identified the following corrective actions:

- Prepare a spill plan and educate employees.
- Clean catch basins and install outlet traps.
- Improve housekeeping by sweeping the lot regularly and the loading area after each material transfer, disposing of waste materials and equipment promptly and properly, monitoring and cleaning catch basins regularly, and cleaning up leaks and spills as they occur.
- Provide secondary containment for all storage areas containing fuels, oils, hazardous materials, and potential pollutants.
- Properly label wastes.

- Remove the small electrical capacitors from the scrap metal bin and store the capacitors inside or under cover if they must be stored outside in order to prevent contact with stormwater.

Additionally, SPU indicated that Pioneer Industries may need to obtain a permit from PSCAA for burn-off ovens at the facility (SPU 2009a).

On November 17, 2009, SPU performed a dye test at some of the internal floor drains at the facility. The dye was not observed in the SD structures associated with the facility. SPU advised Pioneer Industries to seal the interior floor drains if these were not in use to prevent spills from entering the drains. SPU also advised Pioneer Industries to contact KCIW if the floor drains were to be used for discharges (SPU 2009b).

SPU re-inspected the facility on December 14 and 28, 2009, and January 25, 2010. Pioneer Industries had prepared a spill plan and moved the capacitors indoors by December 2009 (SPU 2009d). Catch basins had been cleaned and outlet traps were installed by January 2010 (SPU 2009j, 2010c). SPU determined that the facility had satisfactorily implemented the corrective actions identified during the November 3, 2009, inspection (SPU 2010d).

Potential for Sediment Recontamination

The potential for sediment recontamination associated with this property is summarized below by transport pathway.

Stormwater and Spills

Pioneer Industries is located within the Highland Way SW SD basin. According to the Ecology Facility/Site database, Based on a 2006 inspection by Ecology; an SD catch basin is downslope from an outdoor hazardous waste accumulation area at the facility (Ecology 2006a). A spill in this area, if uncontained, may be conveyed through the Highland Way SW SD system to the LDW either through a direct discharge to the SD catch basin or by commingling with stormwater and conveyance to the SD catch basin.

Data Gaps

No facility-specific data gaps were identified for this property.

5.2.6 SPU SW Trenton Tank

Facility Summary: SPU SW Trenton Tank	
Tax Parcel No.	7972603535
Address	SW Trenton Street & 8th Avenue SW 98106
Property Owner	Seattle Public Utilities
Parcel Size	20.71 acres (902,128 sq ft)
Facility/Site ID	70721925
SIC Code(s)	None
EPA ID No.	WAD988524161 (inactive)

Facility Summary: SPU SW Trenton Tank	
NPDES Permit No.	None
UST/LUST ID No.	None

The West Seattle Reservoir and West Crest Park are located at this property. Limited information regarding this property was available for review. Based on the information available in a 2010 Ecology report (Ecology 2010d), it appears that the facility was a one-time SQG in 1996. The EPA ID No. for the facility has been inactive since December 31, 2001.

Potential for Sediment Recontamination

The SPU SW Trenton Tank facility is included in this report because an Ecology Facility/Site ID has been assigned to the facility and it is located within the Highland Way SW SD basin and the West Michigan CSO basin. The primary uses of this property are related to the public water supply and recreational use of the park. Operations and activities at this property are unlikely to be a source of sediment COCs. The potential for sediment contamination via the stormwater or soil and groundwater pathways is low.

Data Gaps

No data gaps were identified for this property.

5.3 Facilities within the SW Kenny Street Storm Drain Basin

5.3.1 Aluminum & Bronze Fabricators

Facility Summary: Aluminum & Bronze Fabricators	
Tax Parcel No.	3024049082
Address	6301 West Marginal Way SW 98106
Property Owner	Cortes Family LLC
Parcel Size	0.82 acres (35,812 square feet)
Facility/Site ID	35163443
SIC Code(s)	3446
EPA ID No.	WAD004903852 (inactive)
NPDES Permit No.	None
UST/LUST ID No.	None

Aluminum & Bronze Fabricators, Inc. operates on parcel 9082. The parcel is bordered by West Marginal Way SW to the east, a currently vacant industrial parcel to the north, a City of Seattle park to the west, and Catholic Printery to the south. King County tax records indicate that a 16,040 sq ft building, constructed in 1964, is present on the property.

Current Operations

The facility performs metal fabrication services, including pipe bending and fitting, and produces metal hand and guard rails. All work is performed indoors. Waste streams generated through production include waste paints, coating, and oils (SPU 2010z).

Three SD catch basins are present on the property. Drainage from the hillside to the west of the property is conveyed to these catch basins (SPU 2006c). The facility does not produce any industrial wastewater (SPU 2010z).

Historical Operations

This property was initially developed in the 1910s as a wood-framed, one-story residence. The building was heated by a stove. The residence was demolished in 1964 and replaced by the current facility (SES 2011).

Regulatory History

Ecology's Facility/Site Database indicates that the EPA ID number associated with this facility became inactive effective December 31, 2005.

SPU performed an inspection at the Aluminum & Bronze facility on March 24, 2006. Sandblasting material was observed in the SD catch basins (SPU 2006c). SPU observed several areas of noncompliance with City of Seattle codes and issued the following corrective actions (SPU 2006f):

- Develop a spill plan, obtain spill response materials, and educate employees.
- Clean catch basins on the property.
- Cease outdoor sandblasting operations.
- Properly label containers of hazardous wastes.
- Properly dispose of fluorescent tubes and used oil.

SPU re-inspected the facility in May and June 2006 and learned that the business was under a sale agreement. SPU again directed the facility to cease outdoor sandblasting operations (SPU 2006i,j). SPU determined that Aluminum & Bronze had satisfactorily completed the corrective actions following the June 2006 inspection (SPU 2006k).

SPU performed an inspection at the Aluminum & Bronze facility on July 30, 2010. The SPU inspector observed wash water being discharged to the SD (SPU 2010z). Based on code violations observed during the inspection, SPU issued the following corrective actions (SPU 2010aa):

- Develop a spill plan, obtain spill response materials, and educate employees.
- Perform routine maintenance of the SD system, including cleaning the catch basins and installing outlet traps.
- Implement source control BMPs with regard to housekeeping.
- Prevent wash water from entering the SD system.
- Properly label and dispose of hazardous wastes.

Additionally, SPU referred the facility to the Puget Sound Clean Air Agency (PSCAA) to determine if paint booth operations require additional permits and registrations and to Ecology in order to obtain coverage under the Industrial Stormwater General Permit (SPU 2010aa). SPU re-inspected the facility in September 2010 and determined that the corrective actions had been satisfactorily implemented. Aluminum & Bronze had also applied for a CNE certificate with Ecology (SPU 2010n, ab).

Potential for Sediment Recontamination

The potential for sediment contamination associated with this property is summarized below by transport pathway.

Stormwater and Spills

Stormwater associated with this property is conveyed to the sediments adjacent to the Terminal 115 source control area through the SW Kenny Street SD system. Sediment COCs, if any, suspended in stormwater associated with this property may be conveyed to LDW.

If spills occur at the property, the spilled materials may flow directly to SD catch basins on or adjacent to the property (if any) or become commingled with stormwater and be conveyed to the catch basins.

Data Gaps

Stormwater

- Additional information is needed to determine if Aluminum & Bronze obtained a CNE certificate or was required to obtain coverage under the Industrial Stormwater General Permit.

5.3.2 Catholic Printery

Facility Summary: Catholic Printery	
Tax Parcel No.	3024049005
Address	6327 West Marginal Way SW 98106
Property Owner	Keith Sterling
Parcel Size	1.18 acres (51,276 sq ft)
Facility/Site ID	14533
SIC Code(s)	None
EPA ID No.	None
NPDES Permit No.	None
UST/LUST ID No.	None

Catholic Printery, Inc. is located on the west side of West Marginal Way SW across from Terminal 115. Aluminum & Bronze is located north of Catholic Printery. A vacant industrial parcel is to the south, and a City of Seattle park is to the west. According to King County tax records, one building is present on the property, a 25,500 sq ft storage warehouse, constructed in 1981.

Current Operations

Catholic Printery has occupied this facility since approximately 2005 (SPU 2008a). The company operates electronic and type printing presses. Approximately 5 gallons of waste ink is generated each year. The waste ink is recycled. All work is performed indoors. No materials are stored outdoors (SPU 2006a).

There are six SD catch basins present on the property (SPU 2008a).

Historical Operations

Information on historical operations at this property was not available for review at the time this report was prepared.

Regulatory History

SPU performed a stormwater pollution prevention inspection at the facility on March 13, 2006. The following corrective actions were identified (SPU 2006b):

- Clean catch basins, install outlet traps, and perform regular maintenance and inspections.
- Properly dispose of used fluorescent tubes.

SPU re-inspected the facility on March 31, 2006. The facility had complied with the corrective actions (SPU 2006d,e).

SPU performed an environmental compliance inspection at the facility on June 26, 2008. SPU directed Catholic Printery to clean the catch basins at the property and recommended increased sweeping in the parking lot in order to reduce the amount of solids reaching the SD catch basins (SPU 2008b). SPU re-inspected the facility on July 8, 2008. Catholic Printery had complied with the corrective action (SPU 2006c).

SPU performed inspections at Catholic Printery in March 2006, and June and July 2008 (Ecology 2011, in preparation; SPU 2010ac). Corrective actions identified during the 2006 and 2008 inspections included SD cleaning, replacing and/or repairing components of the SD system, and using proper washing practices. The facility was in compliance as of July 2008 (Ecology 2008d). According to Ecology’s Facility/Site Database, a local source control inspection was performed at Catholic Printery in April 2010; no additional information regarding this inspection was available for review. Inspection reports were not available for review during the preparation of this report. Information from the inspections will be included in the Final Data Gaps Report.

Potential for Sediment Recontamination

The potential for sediment contamination associated with this property is summarized below by transport pathway.

Stormwater and Spills

Stormwater associated with this property is conveyed to the sediments adjacent to the Terminal 115 source control area through the SW Kenny Street SD system. Sediment COCs, if any, suspended in stormwater associated with this property may be conveyed to LDW.

If spills occur at the property, the spilled materials may flow directly to SD catch basins on or adjacent to the property (if any) or become commingled with stormwater and be conveyed to the catch basins.

Data Gaps

Stormwater

- Review of the April 2010 local source control inspection report is needed to determine if there is a potential for sediment recontamination via the stormwater pathway.

5.3.3 Emswiler Construction

Facility Summary: Emswiler Construction	
Tax Parcel No.	1924049016, 1924049044, 1924049072, 1924049073
Address	6045 West Marginal Way SW 98106
Property Owner	Nicholas Ernst Emswiler
Parcel Size	9016: 0.40 acre (17,563 square feet) 9044: 0.31 acre (13,552 square feet) 9072: 0.13 acre (5,480 square feet) 9073: 0.79 acre (34,408 square feet)
Facility/Site ID	15223
SIC Code(s)	1521
EPA ID No.	None
NPDES Permit No.	None
UST/LUST ID No.	None

Emswiler Construction operates on four parcels: 9016, 9044, 9072, and 9073. The property is bordered by West Marginal Way SW to the east, a currently vacant industrial parcel to the north, a City of Seattle park to the west, and Aluminum & Bronze to the south. King County tax records indicate that all four parcels are vacant.

Current Operations

Emswiler Construction provides side sewer construction services and landscape supplies. Trucks, forklifts and backhoes are stored at the property. A diesel AST is present and used for vehicle fueling. Vehicles and equipment are not washed outdoors. Stockpiled materials are stored outdoors (SPU 2006g, 2009i).

Four SD catch basins are present on the property. A solids removal vault is present (SPU 2009i).

Historical Operations

Information on historical operations at this property was not available for review at the time this report was prepared.

Regulatory History

SPU performed an inspection at Emswiler Construction on April 28, 2006. Ten to 15 containers of used oil were observed by the fueling area and a shed at the property. SPU observed several areas of noncompliance with City of Seattle codes and issued the following corrective actions (SPU 2006h):

- Develop a spill plan, obtain spill response materials, and educate employees.
- Properly dispose of all used oil containers and label containers of hazardous wastes.

SPU re-inspected the facility in July 2006 and determined that Emswiler Construction had satisfactorily completed the corrective actions (SPU 2006v,w).

SPU performed an inspection at the facility on December 28, 2009. The SPU inspector observed an oil leak from a vehicle; a full mop bucket stored outdoors; and piles of soil, concrete CDL, yard waste, and unwashed sand gravel, bark, and compost stored outdoors (SPU 2009i, 2010a). Based on code violations observed during the inspection, SPU issued the following corrective actions (SPU 2010a):

- Develop a spill plan, obtain spill response materials, and educate employees.
- Perform routine maintenance of the SD system, including cleaning the catch basins and installing outlet traps.
- Implement source control BMPs with regard to housekeeping.
- Prevent wash water from entering the SD system.
- Cover all materials stored outdoors to prevent commingling with stormwater.
- Implement BMPs for fueling practices and ensure that the fueling operation is permitted by the Seattle Fire Department.

SPU re-inspected the facility in February and March 2010 and determined that the corrective actions had been satisfactorily implemented following the March 2010 inspection (SPU 2010g,j,m).

Potential for Sediment Recontamination

The potential for sediment contamination associated with this property is summarized below by transport pathway.

Stormwater and Spills

Stormwater associated with this property is conveyed to the sediments adjacent to the Terminal 115 source control area through the SW Kenny Street SD system. Sediment COCs, if any, suspended in stormwater associated with this property may be conveyed to LDW.

If spills occur at the property, the spilled materials may flow directly to SD catch basins on or adjacent to the property (if any) or become commingled with stormwater and be conveyed to the catch basins.

Data Gaps

No facility-specific data gaps were identified for this property.

5.3.4 Pacific Rim Equipment Rental and Krueger Sheet Metal Company

Facility Summary: Pacific Rim Equipment Rental and Krueger Sheet Metal Company	
Tax Parcel No.	5439300004
Address	6515 West Marginal Way SW 98106
Property Owner	Brandt Marginal Way LLC
Parcel Size	2.12 acres (92,347 square feet)
Facility/Site ID	17445598
SIC Code(s)	1761: Roofing, Siding, and Sheet Metal Work
EPA ID No.	WAH000004622 (inactive)
NPDES Permit No.	None
UST/LUST ID No.	3981

Pacific Rim Equipment Rental and Krueger Sheet Metal Company operate on parcel 0004. The property is bordered by West Marginal Way SW to the east, a vacant industrial parcel to the north, and a City of Seattle park to the west and south. Based on King County tax records, a 17,442 sq ft building, used for warehouse distribution, is present on the property. The Facility/Site ID for this property is associated with Norbuk LTD. Alternative names for the property include Al Bolser’s Tire Stores, Inc. and Mono Roofing. A creek is present between the City of Seattle park and the western property boundary.

Current Operations

Pacific Rim is a general construction equipment rental company. Krueger Sheet Metal uses this parcel for satellite storage for its roofing materials. Fueling operations and vehicle and equipment washing activities are performed by Pacific Rim. Equipment, such as forklifts and backhoes are stored at the property. A mobile fueling unit is used to service equipment and vehicles (SPU 2009f). Equipment washing is performed on a wash pad that drains to a re-circulating system and recycles the wash water (Pacific Rim 2010; SPU 2010k). Krueger Sheet Metal does not perform any fueling, maintenance or washing activities at the property (SPU 2010o).

The storage area of the facility is paved. Six SD catch basins are present on the property (SPU 2009f).

Historical Operations

Klinker Sand & Gravel Company performed sand and gravel mining and/or cement mixing at this property from approximately 1922 to 1960. Cement mixing and transport operations were performed at the property beginning in 1960 by the Graystone Company and later Ready-Mix, Inc. The building on the property was constructed for Al Bolser's Tire Store in 1986. A service garage for tire and automobile repair was part of the building (SES 2011). Norbuk, a roofing contractor, historically operated at this property. The timeframe for Norbuk's operations at the property is unknown, but likely ended in 2005.

Regulatory History

Ecology's Facility/Site Database indicates that the EPA ID number associated with Norbuk became inactive as of December 31, 2005.

SPU inspected Pacific Rim on December 17, 2009, and requested several corrective actions, including (SPU 2009g,h):

- Develop a spill plan, obtain spill response materials, and educate employees.
- Perform routine maintenance of the SD system and install outlet traps.
- Prevent wash water from entering the SD system.
- Use source control BMPs for fueling operations.
- Improve housekeeping to include increased sweeping, placement of drip pans where spills or leaks may occur, removal of old and/or excess equipment, and inspect storage area for leaks and spills.

SPU performed a dye test at the facility on December 24, 2009. Dye was added to a catch basin that received wastewater from equipment washing. The dye was observed in a second catch basin at the facility, but was not observed in the sanitary or SD structures adjacent to the property in West Marginal Way. SPU inferred that the wastewater either infiltrates or flows to hillside drainage adjacent to the property (SPU 2009g).

SPU re-inspected the Pacific Rim facility on January 25 and March 4, 2010 (SPU 2010b,k). During the March 4 inspection, SPU directed Pacific Rim to prevent overspray from the wash pad from reaching catch basins on the property and the creek to the west of the property (SPU 2010k). Following the inspection on March 4, 2010, SPU determined that Pacific Rim had completed the corrective actions that were identified as a result of the December 17, 2009, inspection (SPU 2010l).

SPU inspected the Krueger Sheet Metal facility on April 12, 2010. New asphalt emulsion paint and tires were stored outdoors (SPU 2010o). SPU identified the following corrective actions (SPU 2010p):

- Develop a spill plan, obtain spill response materials, and educate employees.

- Improve housekeeping to include increased sweeping, placement of drip pans where spills or leaks may occur, removal of old and/or excess equipment, and inspect storage area for leaks and spills.
- Provide proper storage for the drums of asphalt emulsion, to include secondary containment and storage under cover.

SPU re-inspected the Krueger Sheet Metal facility on May 18, 2010, and determined that the company had completed the corrective actions (SPU 2010s,u).

Environmental Investigations and Cleanups

A 5,264-gallon gasoline UST was removed from the property in 2006. The UST had been in place for approximately 20 years and was in good condition when removed. A fuel dispenser and a concrete slab which were part of the UST system were removed at the same time. Four soil samples were collected (Figures 18a and 18b), two from the UST excavation and two from the soil stockpile, and analyzed for gasoline- and diesel-range hydrocarbons and BTEX; one sample from the UST excavation was analyzed for lead. Gasoline-range hydrocarbons, ethylbenzene and total xylenes were detected at concentrations below the MTCA Method A cleanup level (Appendix E). Lead was not detected (Filco 2006).

Potential for Sediment Recontamination

The potential for sediment contamination associated with this property is summarized below by transport pathway.

Stormwater and Spills

Stormwater associated with this property is conveyed to the sediments adjacent to the Terminal 115 source control area through the SW Kenny Street SD system. Sediment COCs, if any, suspended in stormwater associated with this property may be conveyed to LDW.

If spills occur at the property, the spilled materials may flow directly to SD catch basins on or adjacent to the property (if any) or become commingled with stormwater and be conveyed to the catch basins.

Data Gaps

No facility-specific data gaps were identified for this property.

5.4 Facilities within the West Michigan CSO Basin

5.4.1 Molner's One Stop

Facility Summary: Molner's One Stop	
Tax Parcel No.	7750500155
Address	8855 9th Avenue SW 98106
Property Owner	Morning Star Mini Mart

Facility Summary: Molner's One Stop	
Parcel Size	0.32 acre (13,740 square feet)
Facility/Site ID	68363744
SIC Code(s)	None
EPA ID No.	None
NPDES Permit No.	None
UST/LUST ID No.	3540

Molner's One Stop, Inc. is located at the northeast corner of 9th Avenue SW and SW Henderson Street. Residential and commercial properties surround the property. King County tax records indicate that one building is present at the property, a 4,271 sq ft convenience store, constructed in 1947. The tax records list the current use as a convenience store without gas.

Current Operations

Morning Star Mini Mart, a convenience store, currently operates at the property. Based on Ecology's files, the convenience store has operated under this name since approximately 2000 (Ecology 2000a).

Historical Operations

Molner's One Stop, a gasoline service station, historically operated at the facility. Six USTs were in use at the property, including two 2,000-gallon gasoline USTs, one 10,000-gallon gasoline UST, and three 1,000-gallon waste oil USTs. The ISIS database indicates that five of the USTs are temporarily closed and one of the waste oil USTs was closed in place. UST records from 2004 indicate that the tanks may be from the 1930s to 1950s era based on size and construction (Su 2004).

Fueling operations were ended in approximately 1996 and the UST system was temporarily closed (Ecology 1999, 2009g). Waste oil and gasoline were removed from the USTs in November 2004 (Marine Vacuum 2004). These six USTs are present on the property.

Regulatory History

Regulatory interactions for this facility are relevant only to the USTs at the property. The USTs were last inspected in April 2010; five of the six USTs remain temporarily closed (Ecology 2010e).

Potential for Sediment Recontamination

CSO discharges from this facility may be transported to the LDW via the West Michigan CSO during storm events.

However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will recontaminate sediments near the Terminal 115 source control area is very low.

Data Gaps

No facility-specific data gaps have been identified for this property.

5.4.2 Seattle Public Utilities Vactor Pit

Facility Summary: Seattle Public Utilities Vactor Pit	
Tax Parcel No.	7972603520
Address	9200 8th Avenue SW 98106
Property Owner	City of Seattle - FAS
Parcel Size	7.91 acres (344,650 sq ft)
Facility/Site ID	2192441
SIC Code(s)	None
EPA ID No.	WAH000027841 (inactive)
NPDES Permit No.	None
UST/LUST ID No.	None

The SPU Vactor Pit property is located on the eastern side of 8th Avenue SW between SW Henderson Street and SW Cambridge Street. The vactor pit is on the central portion of the property. Residential properties surround the vactor pit property. According to King County tax records, there is one building on the property; however, aerial photographs indicate that there are several buildings on the property. The building listed in the tax records is a 5,122 sq ft service garage, built in 1956.

Current and Historical Operations

The facilities at this property appear to be used by SPU for truck maintenance. No additional information regarding current or historical operations at this facility was available for review.

Regulatory History

Information regarding regulatory interactions for this property was not available for review during the preparation of this draft Data Gaps Report.

Potential for Sediment Recontamination

CSO discharges from this facility may be discharged to the LDW via the West Michigan CSO during storm events.

However, because combined sewer discharges are significantly diluted prior to discharge, the potential that contaminants from this property will recontaminate sediments adjacent to the Terminal 115 source control area is very low.

Data Gaps

No facility-specific data gaps have been identified for this property.

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6.0 Summary of Data Gaps

Data gaps have been identified for outfalls, adjacent properties, and facilities within the Terminal 115 Source Control Area in Sections 3.0 through 5.0. These data gaps are summarized by facility and pathway in Table 21. The data gaps are listed below by potential sediment recontamination pathway.

6.1 Stormwater and Combined Sewer Discharge/Surface Runoff and Spills

6.1.1 Outfalls

- Additional information is needed to assess the drainage area for the SD lines that are connected to Outfall 2128.
- Additional data on contaminant concentrations in SD solids within the Terminal 115, Highland Way SW, and SW Kenny Street SD systems are needed to evaluate whether contaminants are being transported to LDW sediments.
- Base flow samples from the portions of the Terminal 115 SD system that discharge to Outfall 2220 are needed to determine if contaminants in base flow (i.e., groundwater infiltrating into the SD system) are present at concentrations exceeding Washington State Water Quality Standards (WAC 173-201A) and/or the groundwater-to-sediment screening levels (SAIC 2006).
- Groundwater is known to be contaminated in the area currently occupied by Summy Lumber. Environmental evaluations are needed in the other areas of the Terminal 115 property (Northland Services, Northwest Container Services, and Sea Pac Services) where groundwater infiltrates into the SD system to determine if sediment COCs are present in groundwater at concentrations that exceed groundwater-to-sediment screening levels (SAIC 2006).
- Data on contaminant concentrations in CSO discharges are needed to evaluate whether the Terminal 115 and West Michigan CSOs are a significant source of contaminants to LDW sediments.

6.1.2 Facilities Within Storm Drain and CSO Basins

Facility inspections, similar to those currently performed by SPU, KCIW, and Ecology, are needed to collect the following types of information:

- Additional information is needed to determine if undocumented and unregulated industrial operations are occurring that may be an ongoing source of sediment recontamination within the Highland Way SW and SW Kenny Street SD basins and the Terminal 115 and West Michigan CSO basins.
- Information regarding ongoing industrial activities is needed to verify that these facilities are in compliance with all applicable regulations and BMPs.

- Information on how and where any hazardous materials, chemicals, or hazardous wastes are stored or used at the facilities is needed to evaluate the potential for spills to commingle with wastewater and stormwater.
- Facility plans showing the locations of floor drains, catch basins, sewer connections, and SDs (if any) are needed to evaluate the potential for contaminants suspended in wastewater and stormwater (if any) to be transported to the LDW via stormwater and combined sewer discharges.
- Information regarding any containment systems at these properties is needed to evaluate the adequacy of the systems and determine the potential for spills to commingle with wastewater and stormwater.
- Information on the materials used to construct SD and sanitary sewer lines in the CSO areas and the age of the SD and sanitary sewer lines would be useful to assess the potential for contaminated groundwater to infiltrate the combined sewer system.

6.1.3 Terminal 115

- Storm drain solids analytical data for the SD lines discharging to Outfalls 2122 and POS 6146 are needed to identify potential contaminant sources and to evaluate the potential for sediment recontamination via the stormwater pathway.
- Information regarding discharges to the deck drains north of Berth 1 is needed to evaluate the potential for sediment recontamination via the stormwater and spill pathways.
- Additional information is needed to determine how stormwater from the area of the Terminal 115 property at 150 SW Michigan Street is discharged to the LDW.
- A review of the response from 2-3 LLC to the CERCLA Section 104(e) Request for Information letter is needed to identify potential sources of sediment recontamination that may be associated with historical operations at the property.

6.1.4 Icicle Seafoods

- Review of the reports from SPU’s 2009 and Ecology’s 2010 inspections are needed to verify that operations and materials used at the facility do not represent a potential source of sediment COCs, which could commingle with stormwater or be spilled directly to the LDW.
- A review of the responses to the CERCLA Section 104(e) Request for Information letters from the companies that provide services to or are affiliated with Icicle Seafoods is needed to assess relevance to the Terminal 115 source control area and to identify potential sources of sediment recontamination that may be associated with operations. These companies include:
  - Custom Seafoods Service, Inc.
  - Cypress Island Seafood, LLC
  - Murphy Overseas, LLC
  - Northwest Seafood Processors

6.1.5 Gene Summy Lumber and Commercial Fence

- A review of the response to the CERCLA Section 104(e) Request for Information letter from SGM Global LLC is needed to identify potential sources of sediment recontamination that may be associated with current or historical operations.

6.1.6 Northwest Container Services

- A follow-up stormwater inspection is needed at Northwest Container Services to verify compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW.

6.1.7 Sea Pac Services

- A facility inspection is needed to verify compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW.
- Information regarding how any hazardous materials or chemicals are stored and used at the facility is needed to evaluate the potential for spills to reach sediments adjacent to the Terminal 115 source control area.
- Information on any containment system(s) present at the site is needed to evaluate the potential for spills to reach sediments adjacent to the Terminal 115 source control area.

6.1.8 Shultz Distributing

- A facility inspection is needed to verify compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW.
- Information regarding how any hazardous materials or chemicals are stored and used at the facility is needed to evaluate the potential for spills to reach sediments adjacent to the Terminal 115 source control area.
- Information on any containment system(s) present at the site is needed to evaluate the potential for spills to reach sediments adjacent to the Terminal 115 source control area.

6.1.9 Seafreeze Cold Storage

- A review of the response from Seafreeze to the CERCLA Section 104(e) Request for Information letter is needed to identify potential sources of sediment recontamination (if any) that may be associated with current or historical operations.

6.1.10 Seattle Engineering Department Penn Yard

- Information regarding ongoing industrial activities, if any, is needed to verify that these activities are in compliance with all applicable regulations and BMPs.
- Information on the materials used to construct SD and sanitary sewer lines in this area and the age of the SD and sanitary sewer lines would be useful to assess the potential for contaminated groundwater to infiltrate the combined sewer system.
- Additional information regarding the historical operations performed by City of Seattle Engineering Department to determine if operations may have resulted in releases of contaminants to soil and/or groundwater.

6.1.11 Former Foss Environmental Services

- Additional information regarding the status of the utility-owned pad-mounted electrical transformer is needed to determine if it remains at the property, and if so, to determine if it contains PCB-bearing fluid.
- Additional information is needed to determine the locations of SD lines on the former Foss Environmental property.
- A review of the responses from McGraw-Hill Companies, Inc. and Ilahie Holdings, Inc. to the CERCLA Section 104(e) Request for Information letters is needed to identify potential sources of sediment recontamination that may be associated with current or historical operations.

6.1.12 Aluminum & Bronze Fabricators

- Additional information is needed to determine if Aluminum & Bronze obtained a CNE certificate or was required to obtain coverage under the Industrial Stormwater General Permit.

6.1.13 Catholic Printery

- Review of the April 2010 local source control inspection report is needed to determine if there is a potential for sediment recontamination via the stormwater pathway.

6.2 Groundwater Discharge

6.2.1 Terminal 115

- Additional groundwater data are needed from the areas occupied by Shultz Distributing and historically occupied by Boeing Plant 1 to evaluate the potential for sediment recontamination via this pathway.

6.2.2 Former Foss Environmental Services

- Additional information is needed to clarify the dates of installation and periods of use for one or more elevators historically present in the building and to determine if PCB-bearing hydraulic fluid may have been used in the elevator(s). This information is needed to determine if PCBs may be present in soil and/or groundwater around the underground elevator pit.

6.3 Bank Erosion/Leaching

6.3.1 Terminal 115

- Soil data are needed from the areas of exposed bank soil south of Berth 1 to determine if sediment COCs are present and evaluate the potential for sediment recontamination via this pathway.

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Figures

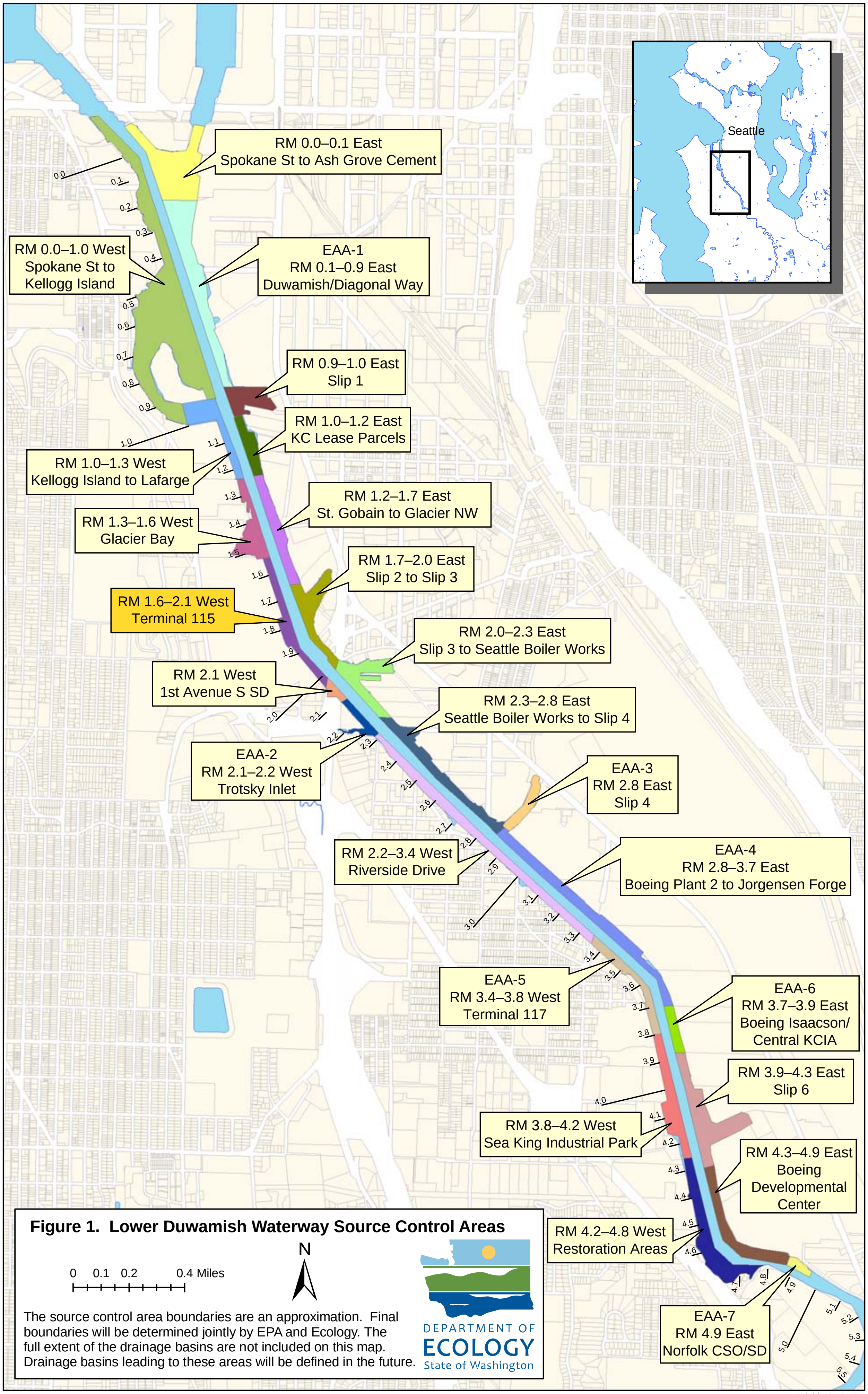

Figure 1. Lower Duwamish Waterway Source Control Areas

The source control area boundaries are an approximation. Final boundaries will be determined jointly by EPA and Ecology. The full extent of the drainage basins are not included on this map. Drainage basins leading to these areas will be defined in the future.

L. Delwiche SAIC, 2010

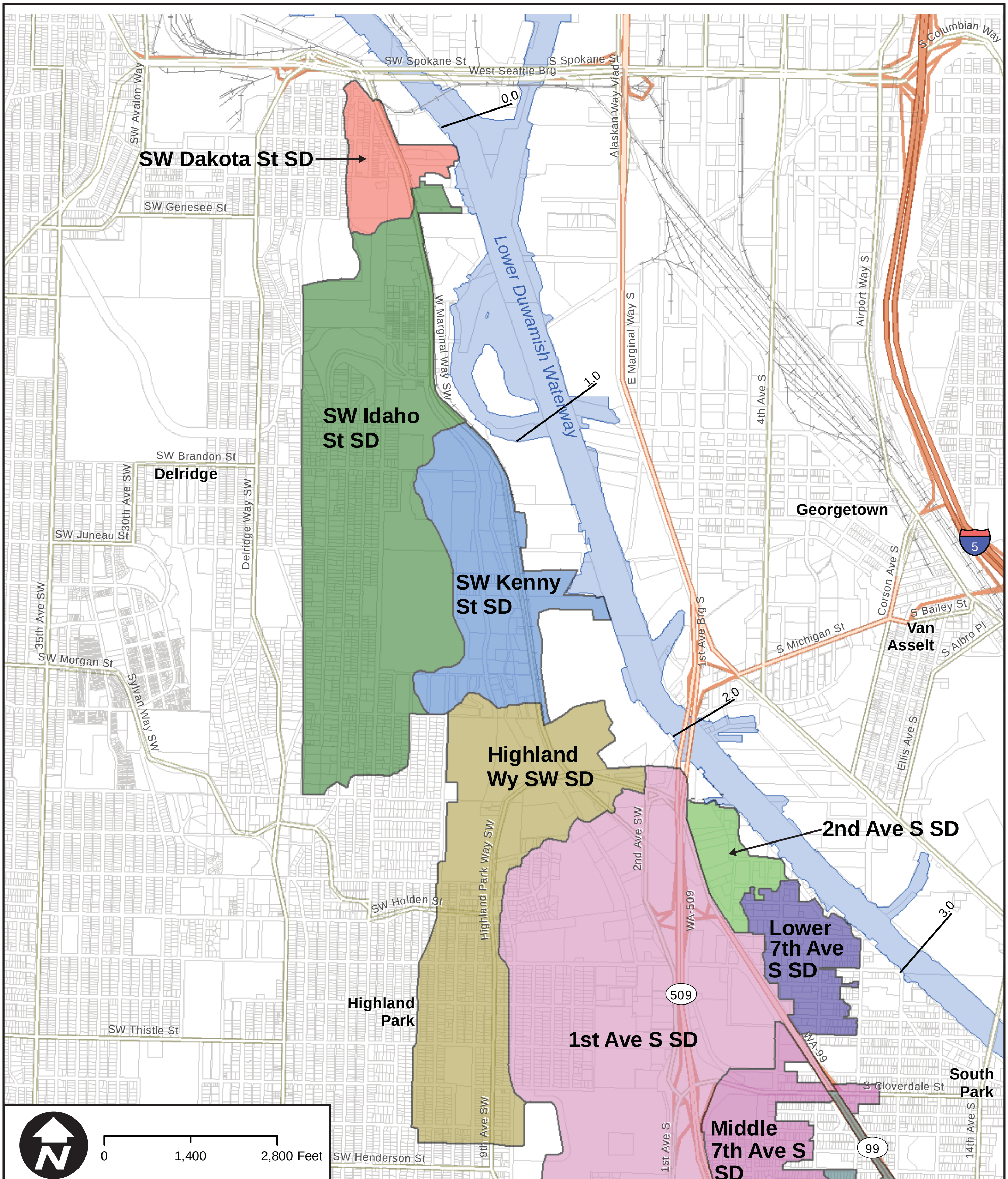

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Figure 2. Lower Duwamish Waterway Storm Drain Basins – West Side

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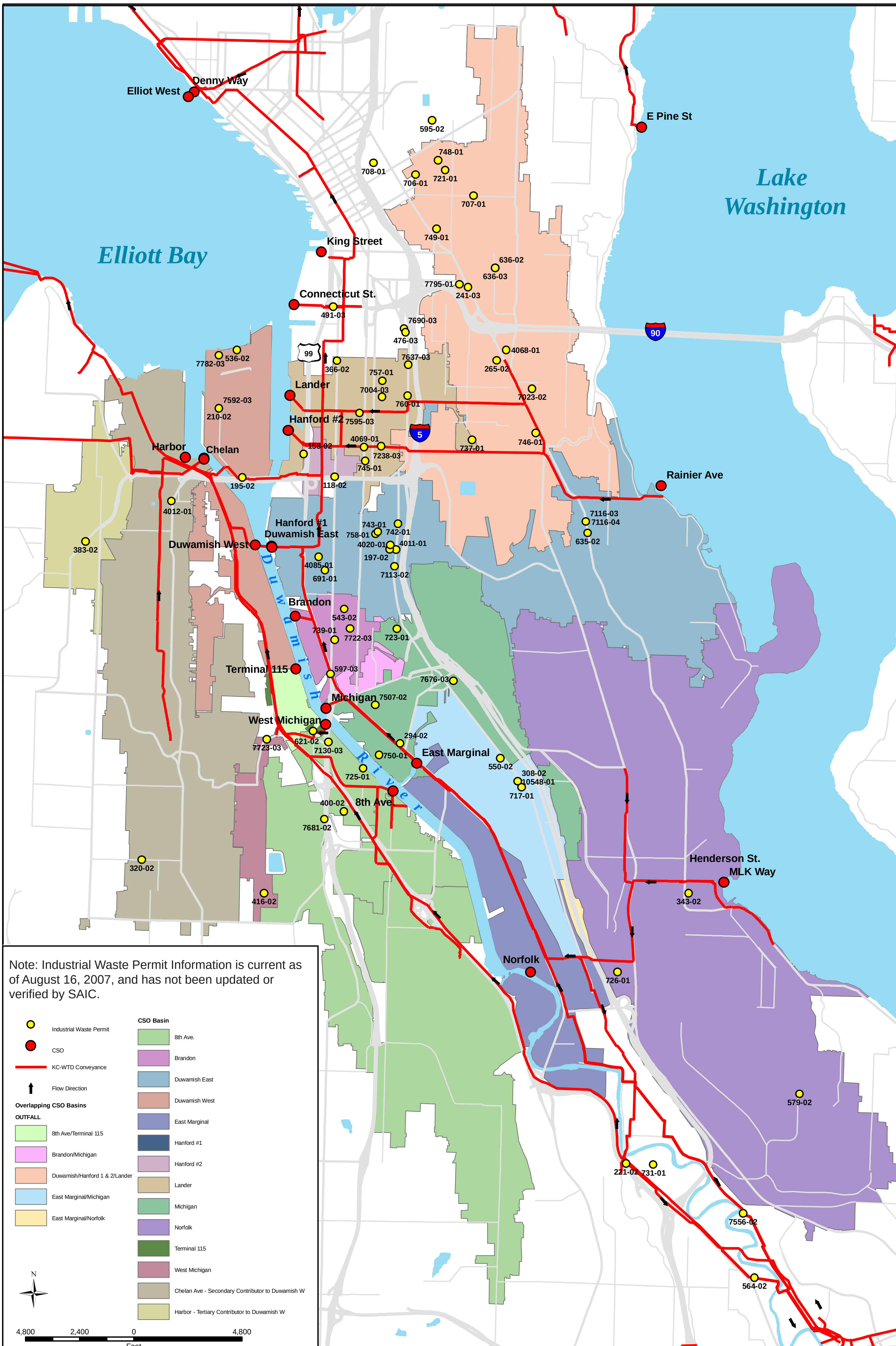

King County
Department of
Natural Resources and Parks
Wastewater Treatment
Division

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Source: King County 2007

Figure 3. Lower Duwamish Waterway Combined Sewer Overflow Basins

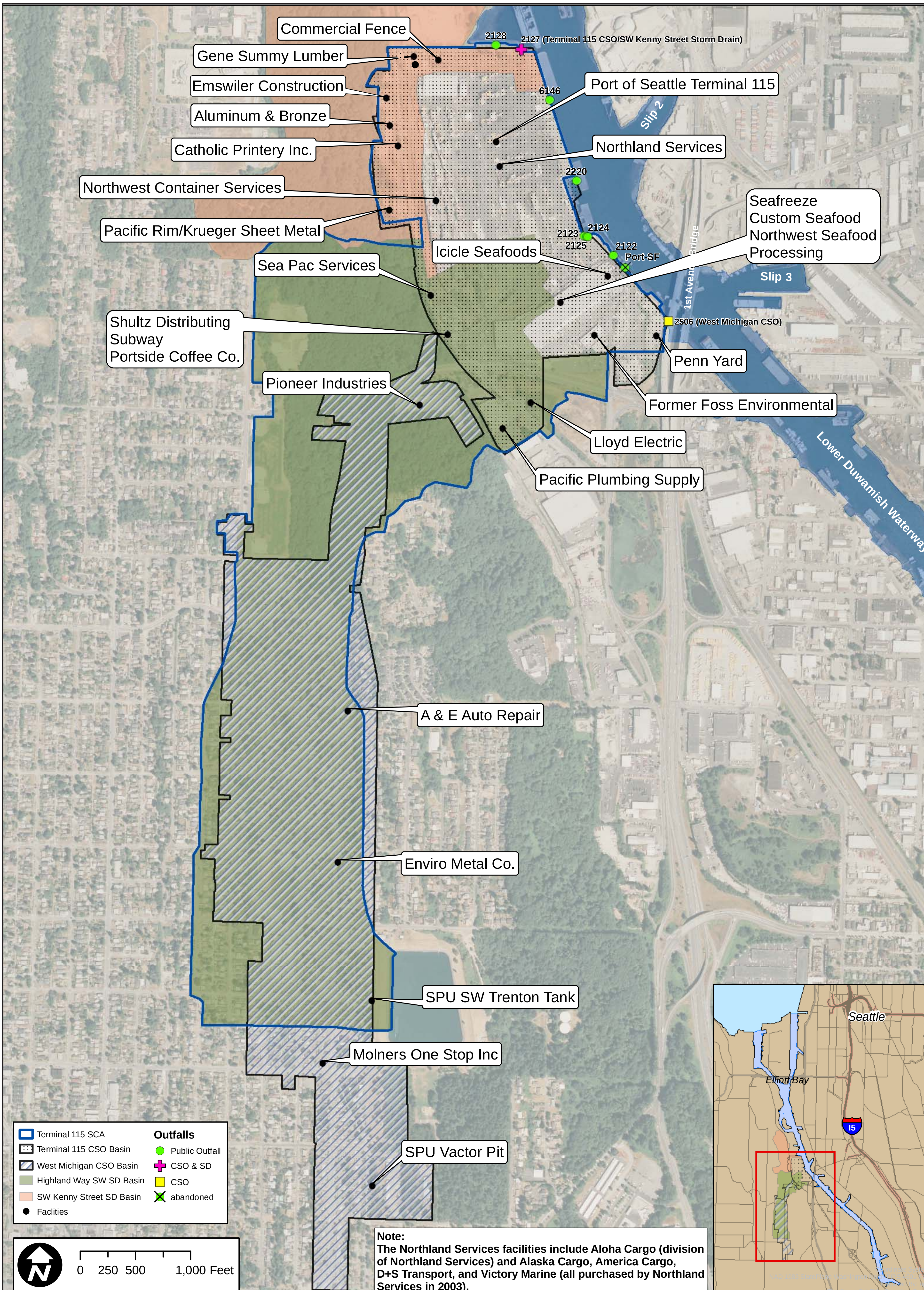

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Figure 4. Terminal 115 Source Control Area

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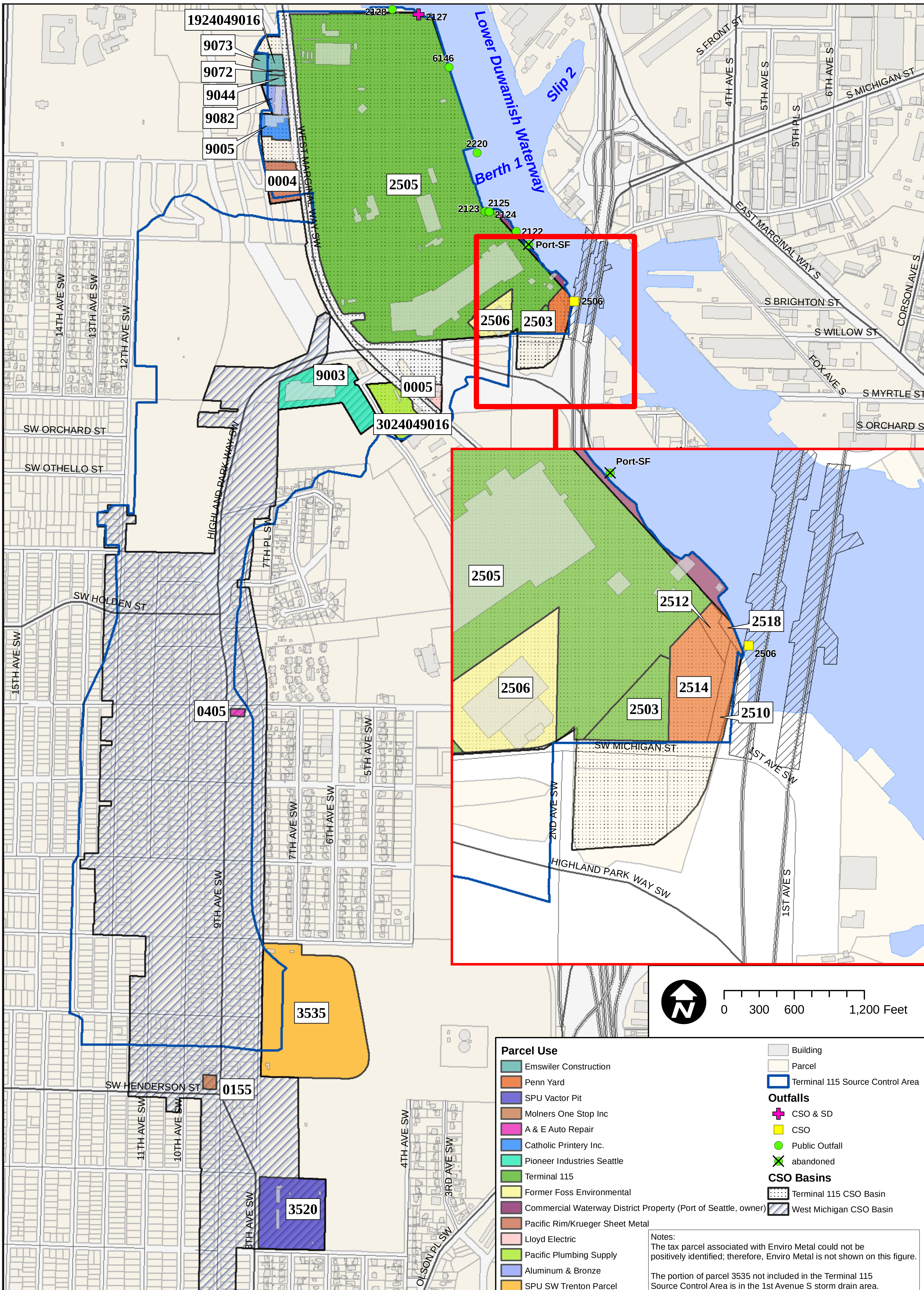

Figure 5. Tax Parcels for Properties with Ecology Facility/Site Identification Numbers in the Terminal 115 Source Control Area and West Michigan CSO Basin

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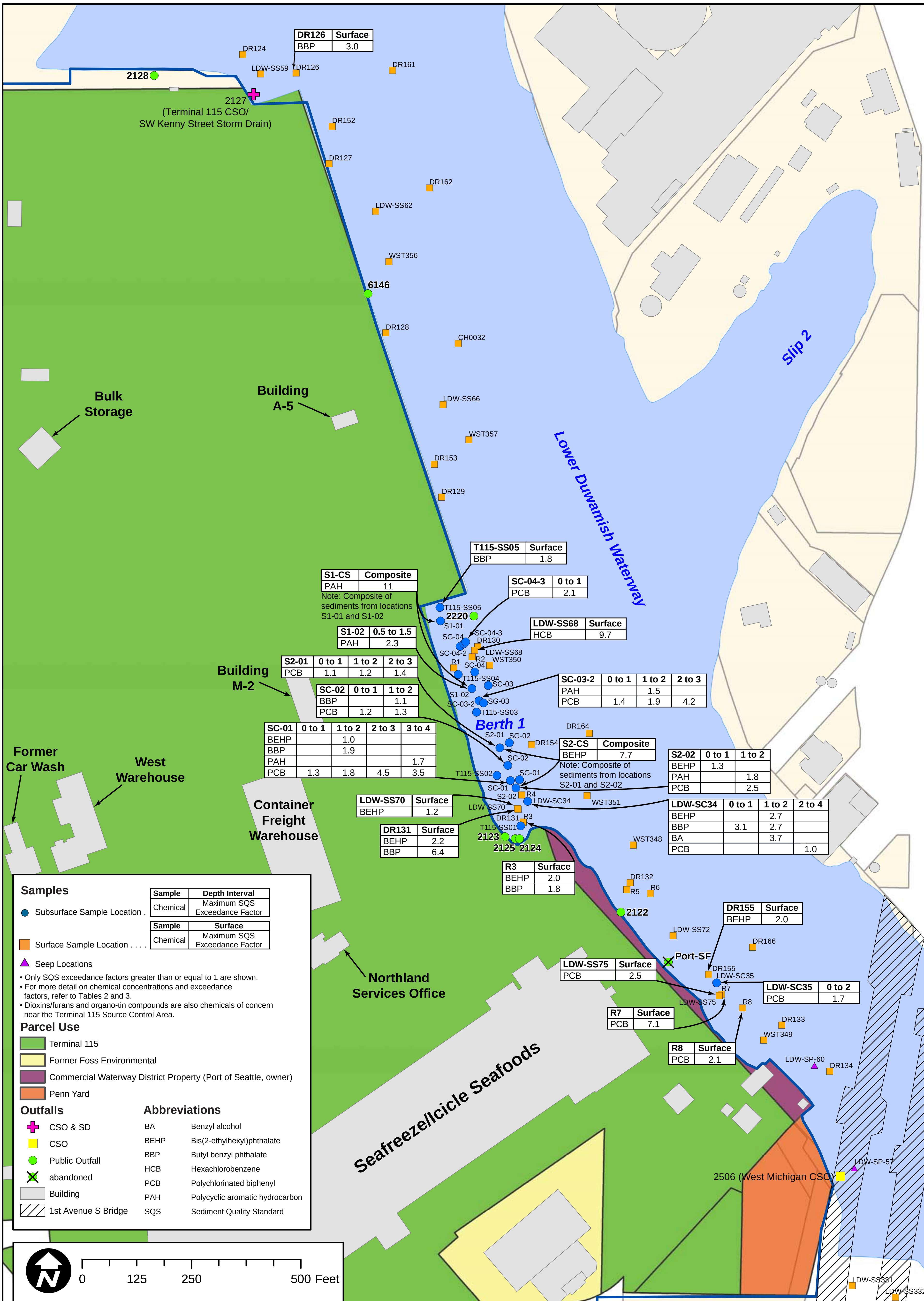

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Figure 6. Sediment Sample Locations Near the Terminal 115 Source Control Area

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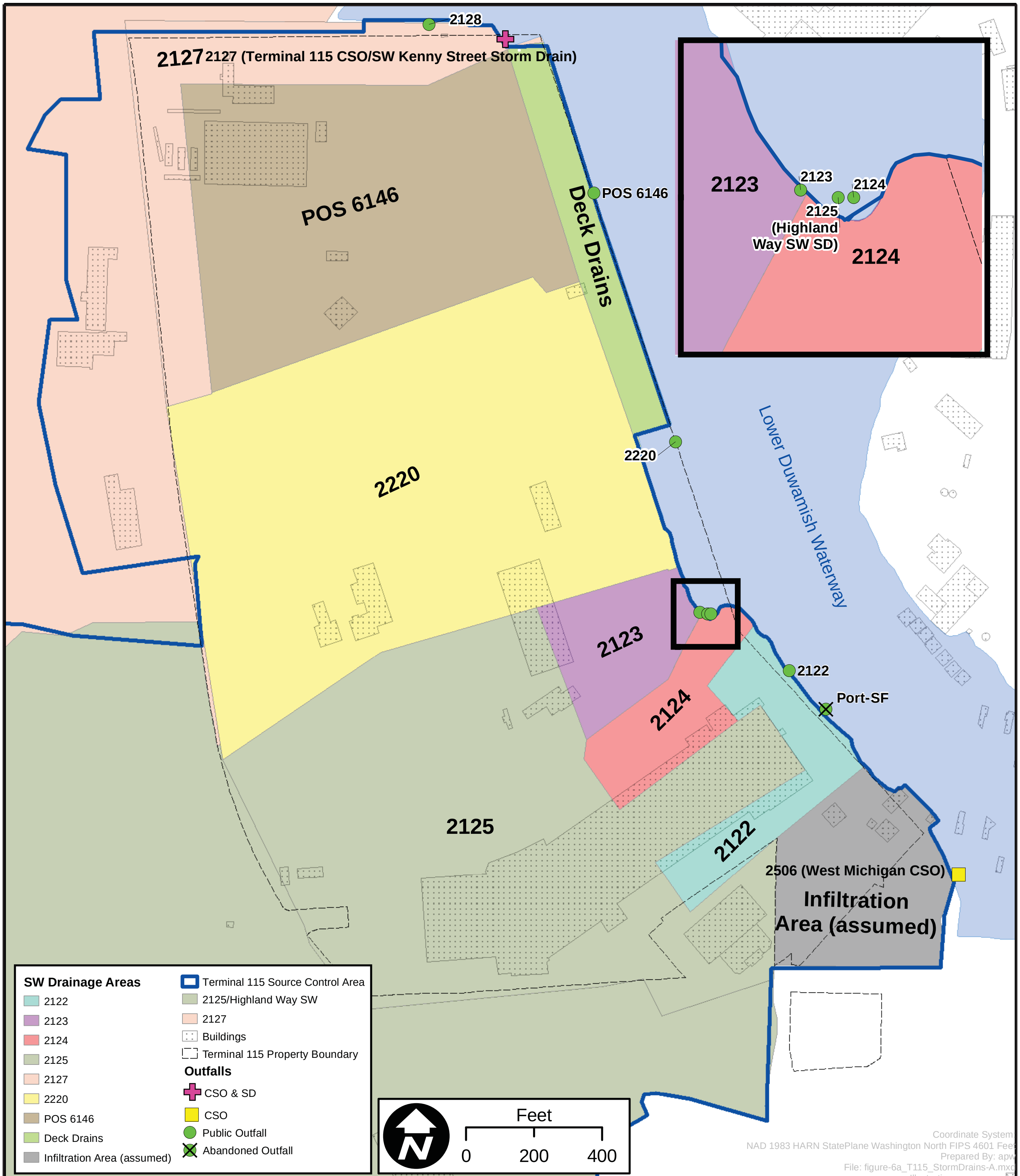

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Figure 7a. Terminal 115 Stormwater Drainage Areas

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Source: Aspect Consulting and The Phoinix Corporation 2007

Figure 7b. Storm Drain and Sewer Lines and Structures at Terminal 115

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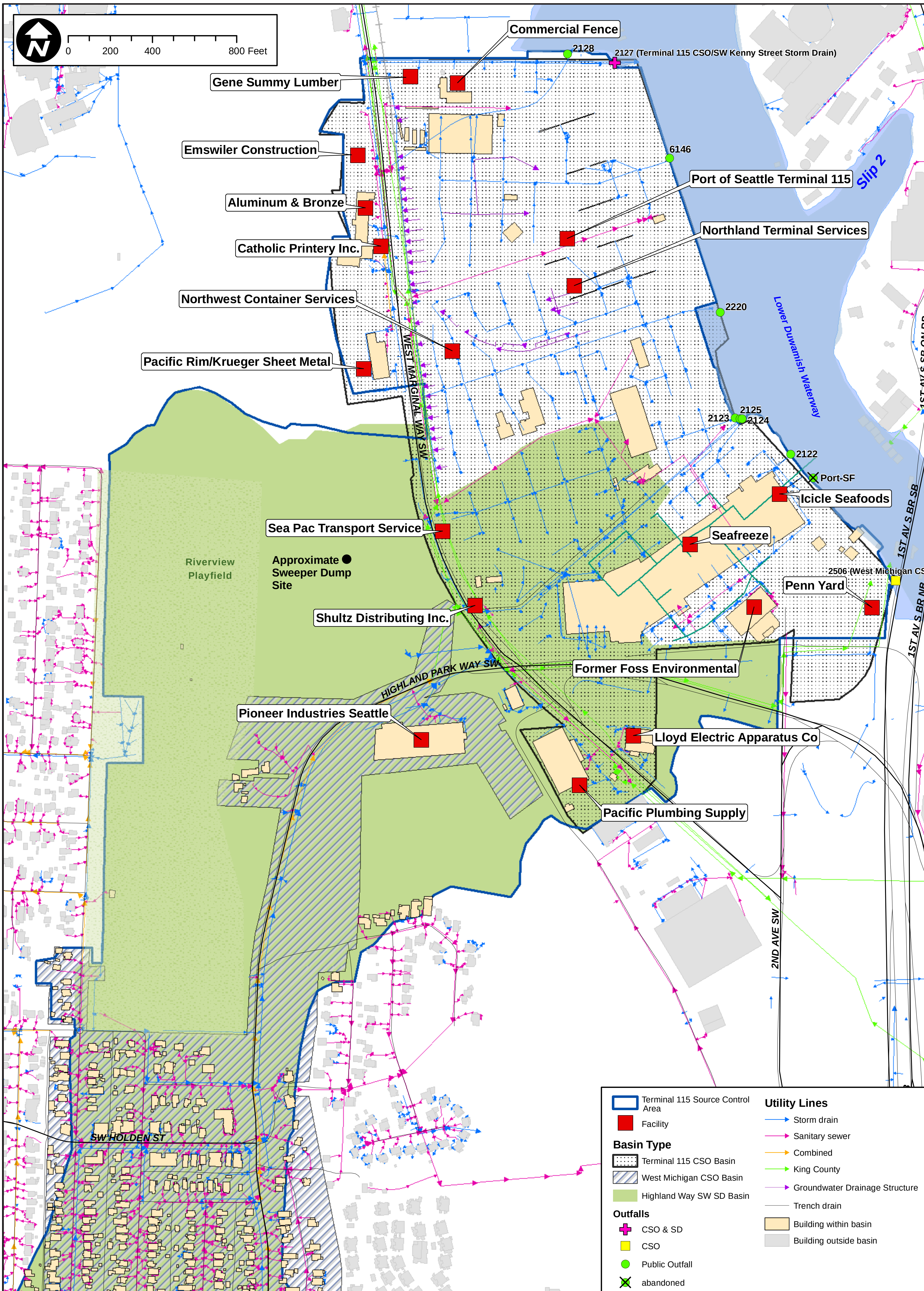

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Figure 8a. Storm Drain and Sanitary Sewer Lines in the Terminal 115 Source Control Area (Northern Portion)

SAIC From Science to Solutions

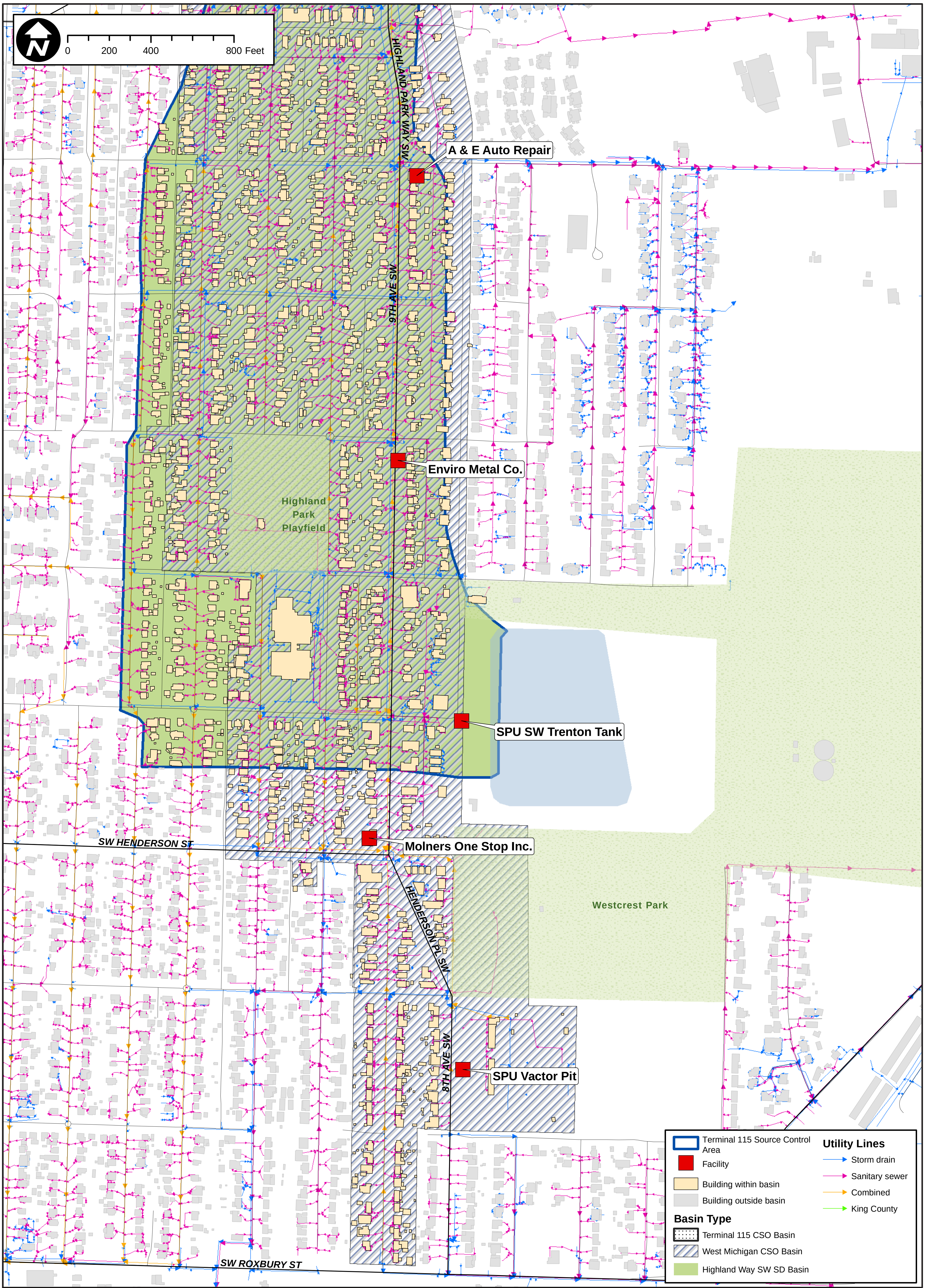

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Figure 8b. Storm Drain and Sanitary Sewer Lines in the Terminal 115 Source Control Area (Southern Portion)

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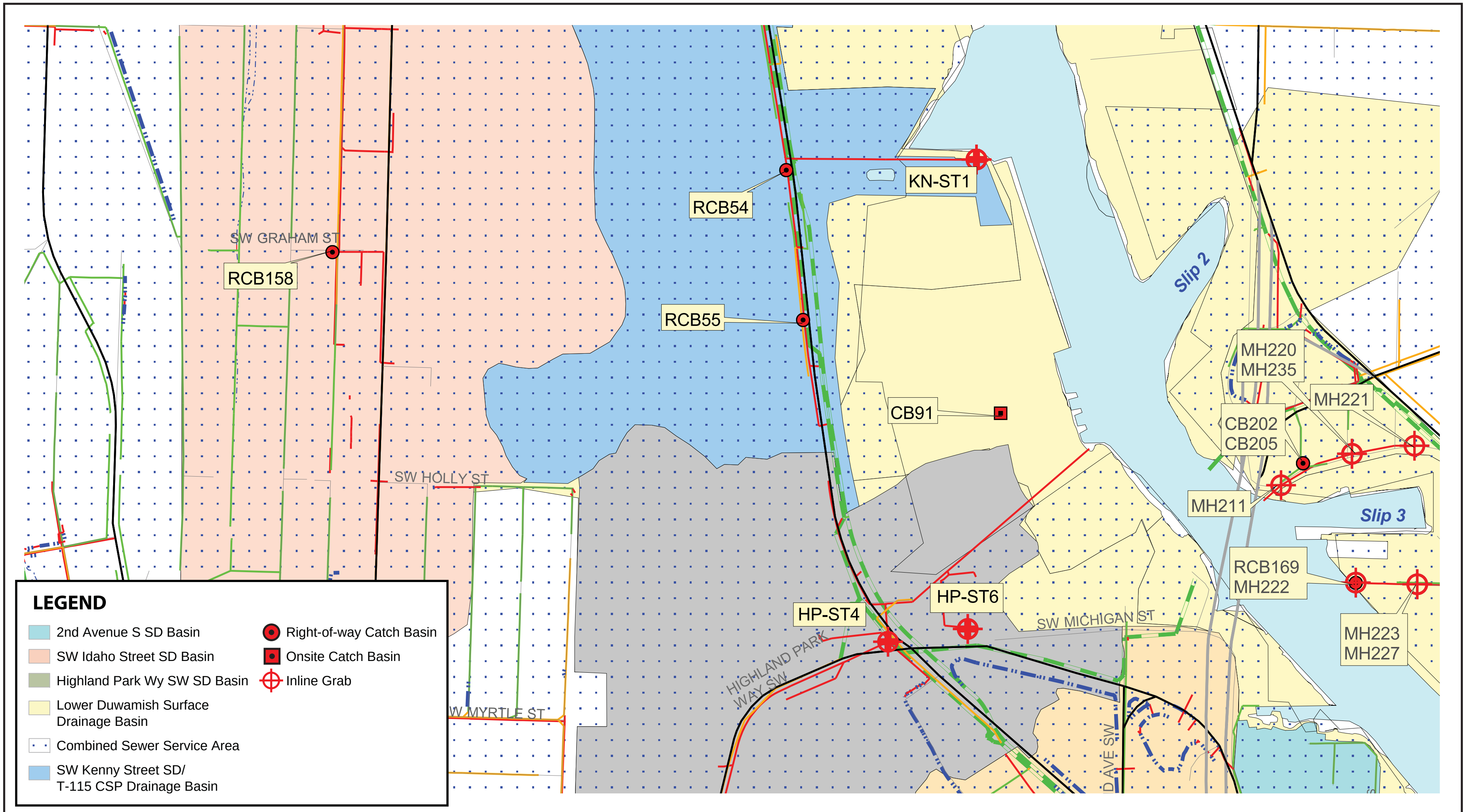

Source: SPU 2010ac

Figure 9. SPU Storm Drain Sample Locations, Terminal 115 Source Control Area

DEPARTMENT OF ECOLOGY State of Washington

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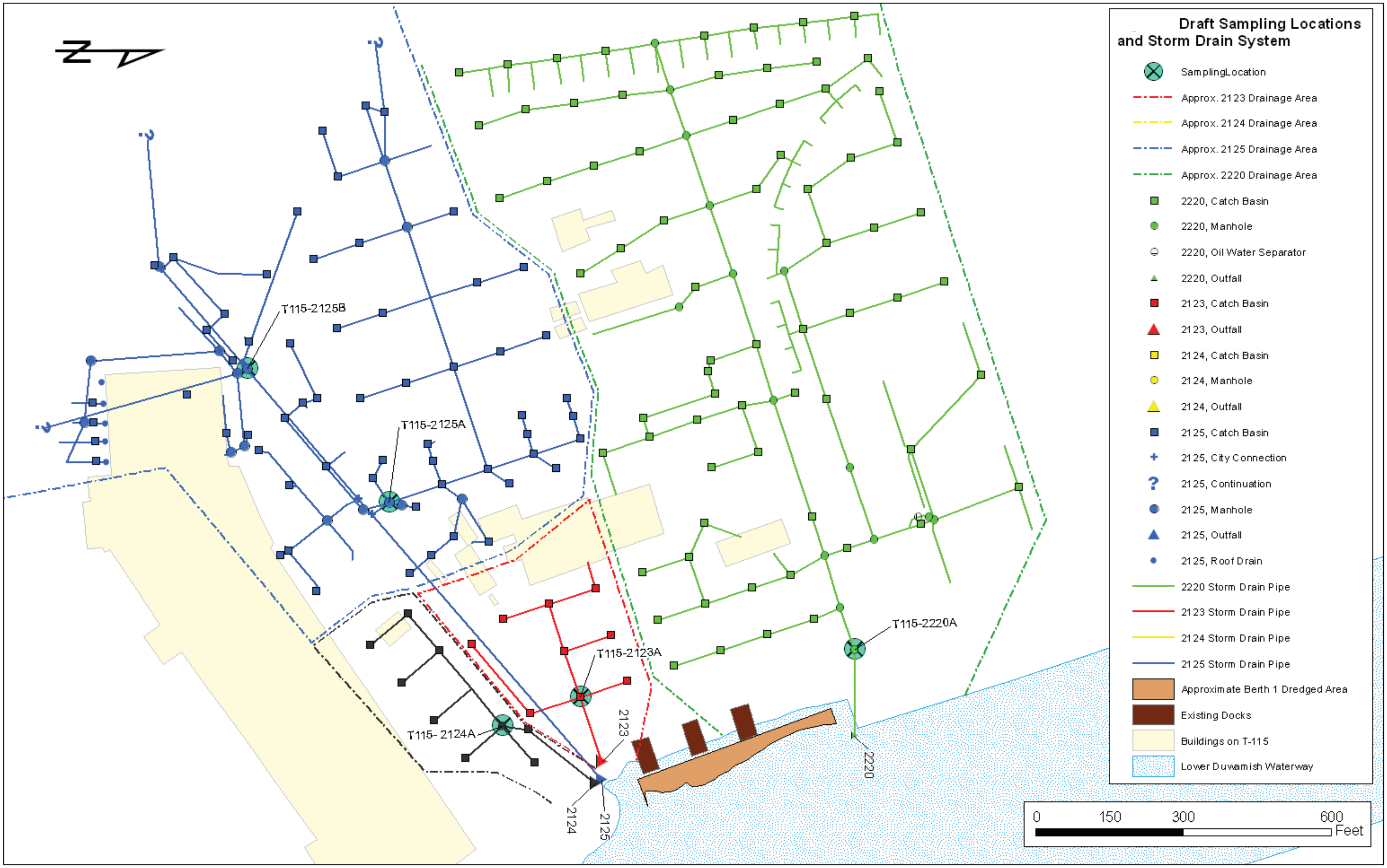

Source: Kuroiwa 2010b

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Figure 10. Port of Seattle Terminal 115 Sediment Trap Sample Locations (2010)

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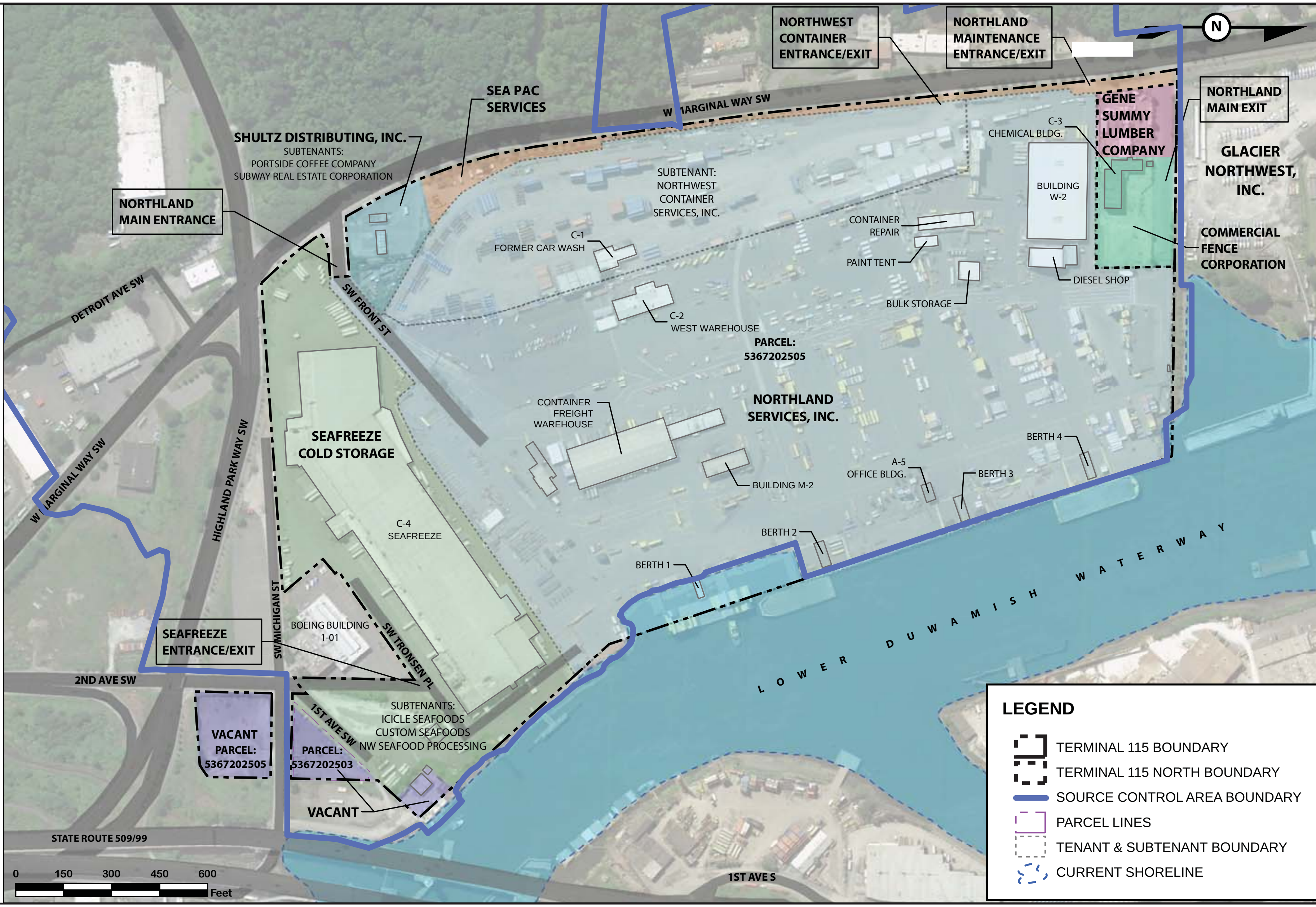

Source: SES 2011

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State of Washington

Figure 11. Tenants at Port of Seattle Terminal 115

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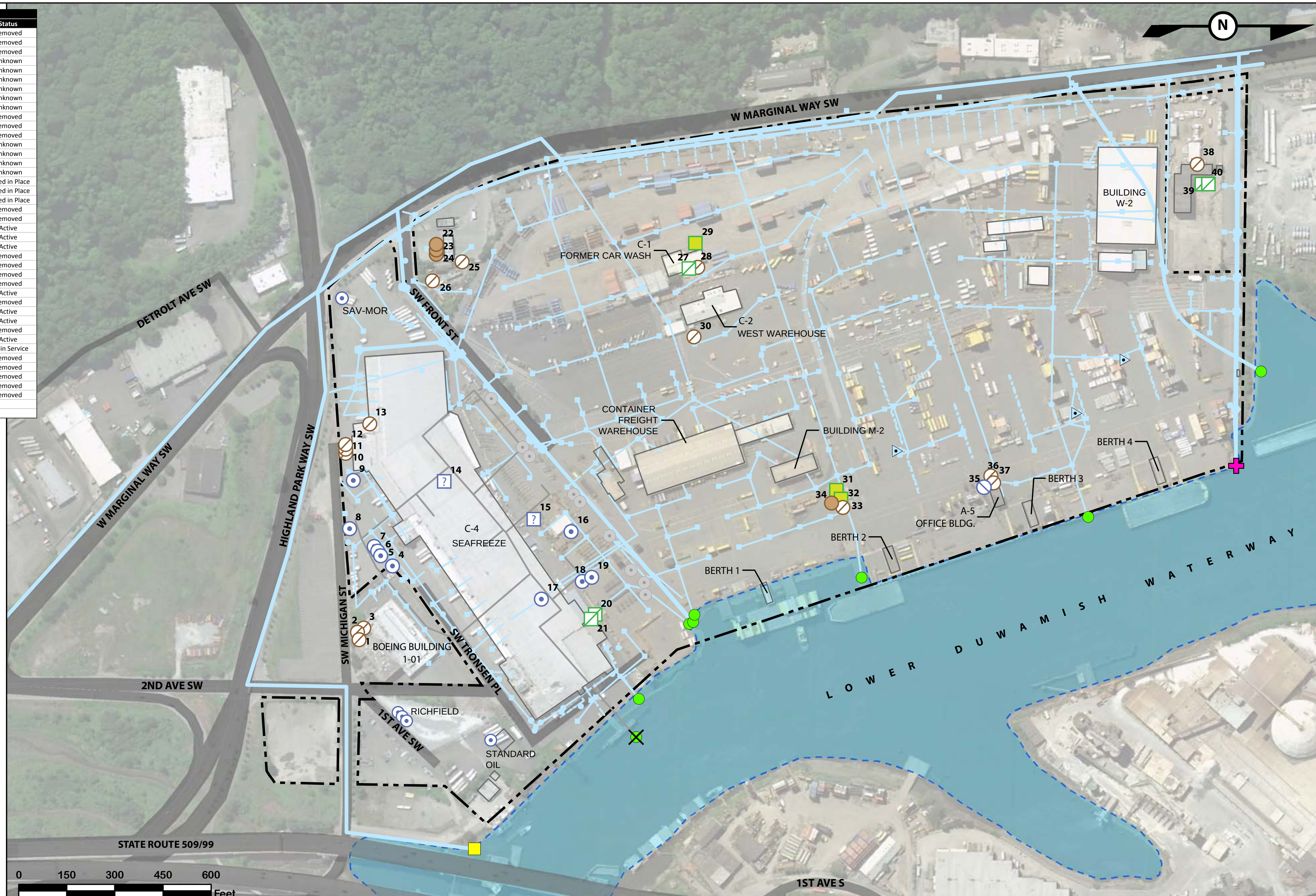
Tank Identification				
Tank #	Contents	Capacity (Gallons)	Type	Status
1	Diesel	4,000	UST	Removed
2	Bunker C	3,000	UST	Removed
3	Diesel	1,000	UST	Removed
4	Unknown	Unknown	UST	Unknown
5	Suspected Jet Fuel/Avgad	5,000	UST	Unknown
6	Suspected Jet Fuel/Avgad	5,000	UST	Unknown
7	Suspected Jet Fuel/Avgad	5,000	UST	Unknown
8	Unknown	Unknown	UST	Unknown
9	Diesel	4,000	UST	Unknown
10	Suspected Jet Fuel/Avgad	6,000	UST	Removed
11	Suspected Jet Fuel/Avgad	6,000	UST	Removed
12	Suspected Jet Fuel/Avgad	6,000	UST	Removed
13	Gasoline	3,000	UST	Unknown
14	Unknown	Unknown	Unknown	Unknown
15	Unknown	Unknown	Unknown	Unknown
16	Bunker/Diesel	4,200	UST	Unknown
17	Diesel	20,000	UST	Closed in Place
18	Unknown	Unknown	UST	Closed in Place
19	Unknown	Unknown	UST	Closed in Place
20	Unknown	Unknown	AST	Removed
21	Unknown	Unknown	AST	Removed
22	Diesel	10,000	UST	Active
23	Diesel	10,000	UST	Active
24	Diesel	10,000	UST	Active
25	Diesel	600	UST	Removed
26	Diesel	9,500	UST	Removed
27	Kerosene	2,000	AST	Removed
28	Kerosene	5,000	UST	Removed
29	Gasoline	1,000	AST	Active
30	Diesel	10,000	UST	Removed
31	Diesel	1,000	AST	Active
32	Gasoline	1,000	AST	Active
33	Diesel	6,000	UST	Removed
34	Diesel	6,000	UST	Active
35	Diesel	1,100	UST	Not in Service
36	Diesel	2,000	UST	Removed
37	Gasoline	1,000	UST	Removed
38	Diesel/Bunker Fuel	1,100	UST	Removed
39	Diesel	250	AST	Removed
40	H_2SO_4, NaOH, chemical wastes	13 Bulk ASTs	AST	Removed

Closed in place = Tank decommissioned in place before 1980

Not in Service = Tank is not decommissioned, however does not store fuel products.



LEGEND

- ACTIVE STORMWATER OUTFALL
- HISTORICAL STORMWATER OUTFALL
- COMBINED SEWER OVERFLOW/ STORMDRAIN OUTFALL
- COMBINED SEWER OVERFLOW
- HISTORICAL UTILITY LINES
- ACTIVE UTILITY LINES AND FEATURES
- TERMINAL 115 BOUNDARY
- TERMINAL 115 NORTH BOUNDARY
- CURRENT SHORELINE
- UST – ACTIVE
- UST – REMOVED
- AST – ACTIVE
- AST – REMOVED
- UST – UNKNOWN/CLOSED IN PLACE
- UST – NOT IN SERVICE
- UNKNOWN

Source: SES 2011

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Figure 12. Storage Tank Locations, Terminal 115

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IEC Identification / Historical Operators	
IEC	Description
1	Standard Oil service station
2	Refinery Building
3	Richfield Oil service station
4	Edward Heath Boatyard/Boeing Plant 1
5	Seafreeze Building
6	Auto Salvage Yard/Sav-Mor Service Station
7	Materials Reclamation Smelter
8	Southwest Tank Yard/Cardlock Facility/Shultz Distributing
9	Klinker Gravel/Ready Mix
10	Buildings C-1 & C-2/Carwash
11	Historical Fill Activities & Material
12	Building M-2
13	Building A-5/Maritime Office Building
14	Tin Reclamation/Terminal 115 N
15	
15.01	Former Foss Environmental (Boeing Building 1-01 USTs)
15.02	Pacific Rim/Krueger Sheet Metal/Former Al Bolser's Tire Store
15.03	Aluminum & Bronze Fabricators
15.04	Former Reichhold Chemical
15.05	Glacier Northwest

Source: SES 2011

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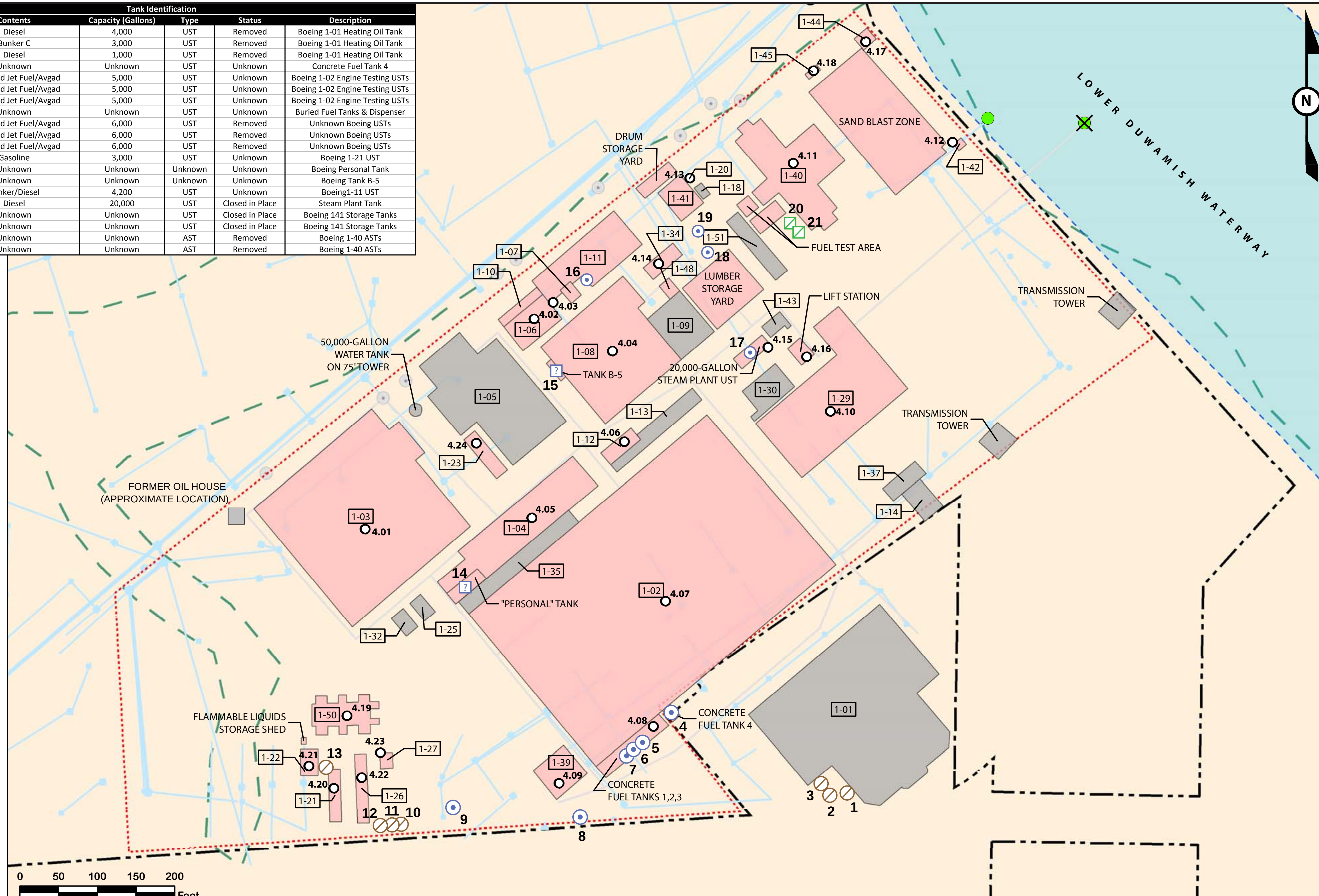
Figure 13. Environmental Concerns and Historical Industrial Operations at Terminal 115

SAIC From Science to Solutions

Building Identification	
Building #	Building Name
1-01	Administration Building
1-02	Main Factory Building
1-03	Assembly Building
1-04	Plating and Paint Shop
1-05	Factory and Maintenance
1-06	Boiler House/Test Warehouse
1-07	Transformer House
1-08	Paint Spraying, Welding, Maintenance Shop, and Materials Testing
1-09	Cafeteria
1-10	Dry Kiln/Spray Paint Shop
1-11	Structural Test Shop
1-12	Maintenance Welding Shop
1-13	Pattern Shop
1-14	Time Office and First Aid
1-18	Miscellaneous Storage
1-20	Paint Storage
1-21	Fuel Test Lab
1-22	Fuel Storage (includes fuel dispenser and storage tank)
1-23	Paint Storage
1-25	Maintenance Storage
1-26	Waste Acid Storage Facility
1-27	Hazardous Materials Storage
1-29	Hammer Shop & Aluminum Foundry
1-30	Steam Plant and UST
1-32	Maintenance Storage
1-34	Structural Test Office
1-35	Turbine Production Storage
1-37	Gate House
1-39	Compressor House
1-40	Statc Test Building
1-41	Test Shed
1-42	Incinerator
1-43	Toilet Building
1-44	Sandblast Building
1-45	Acid Test Bilding
1-48	Tank Testing
1-50	Revetment
1-51	Hydro Test Tank

Tank Identification					
Tank #	Contents	Capacity (Gallons)	Type	Status	Description
1	Diesel	4,000	UST	Removed	Boeing 1-01 Heating Oil Tank
2	Bunker C	3,000	UST	Removed	Boeing 1-01 Heating Oil Tank
3	Diesel	1,000	UST	Removed	Boeing 1-01 Heating Oil Tank
4	Unknown	Unknown	UST	Unknown	Concrete Fuel Tank 4
5	Suspected Jet Fuel/Avgad	5,000	UST	Unknown	Boeing 1-02 Engine Testing USTs
6	Suspected Jet Fuel/Avgad	5,000	UST	Unknown	Boeing 1-02 Engine Testing USTs
7	Suspected Jet Fuel/Avgad	5,000	UST	Unknown	Boeing 1-02 Engine Testing USTs
8	Unknown	Unknown	UST	Unknown	Buried Fuel Tanks & Dispenser
10	Suspected Jet Fuel/Avgad	6,000	UST	Removed	Unknown Boeing USTs
11	Suspected Jet Fuel/Avgad	6,000	UST	Removed	Unknown Boeing USTs
12	Suspected Jet Fuel/Avgad	6,000	UST	Removed	Unknown Boeing USTs
13	Gasoline	3,000	UST	Unknown	Boeing 1-21 UST
14	Unknown	Unknown	Unknown	Unknown	Boeing Personal Tank
15	Unknown	Unknown	Unknown	Unknown	Boeing Tank B-5
16	Bunker/Diesel	4,200	UST	Unknown	Boeing1-11 UST
17	Diesel	20,000	UST	Closed in Place	Steam Plant Tank
18	Unknown	Unknown	UST	Closed in Place	Boeing 141 Storage Tanks
19	Unknown	Unknown	UST	Closed in Place	Boeing 141 Storage Tanks
20	Unknown	Unknown	AST	Removed	Boeing 1-40 ASTs
21	Unknown	Unknown	AST	Removed	Boeing 1-40 ASTs



LEGEND

- 4.09 ISSUES OF ENVIRONMENTAL CONCERN WITH SUSPECTED/POTENTIAL RELEASE
- SUSPECTED/POTENTIAL RELEASE
- UST – REMOVED
- AST – REMOVED
- UST – UNKNOWN/ CLOSED IN PLACE
- UNKNOWN
- BOEING BUILDINGS
- BOEING ISSUES OF ENVIRONMENTAL CONCERN
- ISSUES OF ENVIRONMENTAL CONCERN BOUNDARY
- ACTIVE STORMWATER OUTFALL
- HISTORICAL STORMWATER OUTFALL
- ACTIVE UTILITY LINES AND FEATURES
- HISTORICAL UTILITY LINES
- PRE-1969 SHORELINE
- TERMINAL 115 BOUNDARY
- 1-01 BUILDING NUMBER

Source: SES 2011

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Figure 14. Boeing Plant 1 Facility Plan

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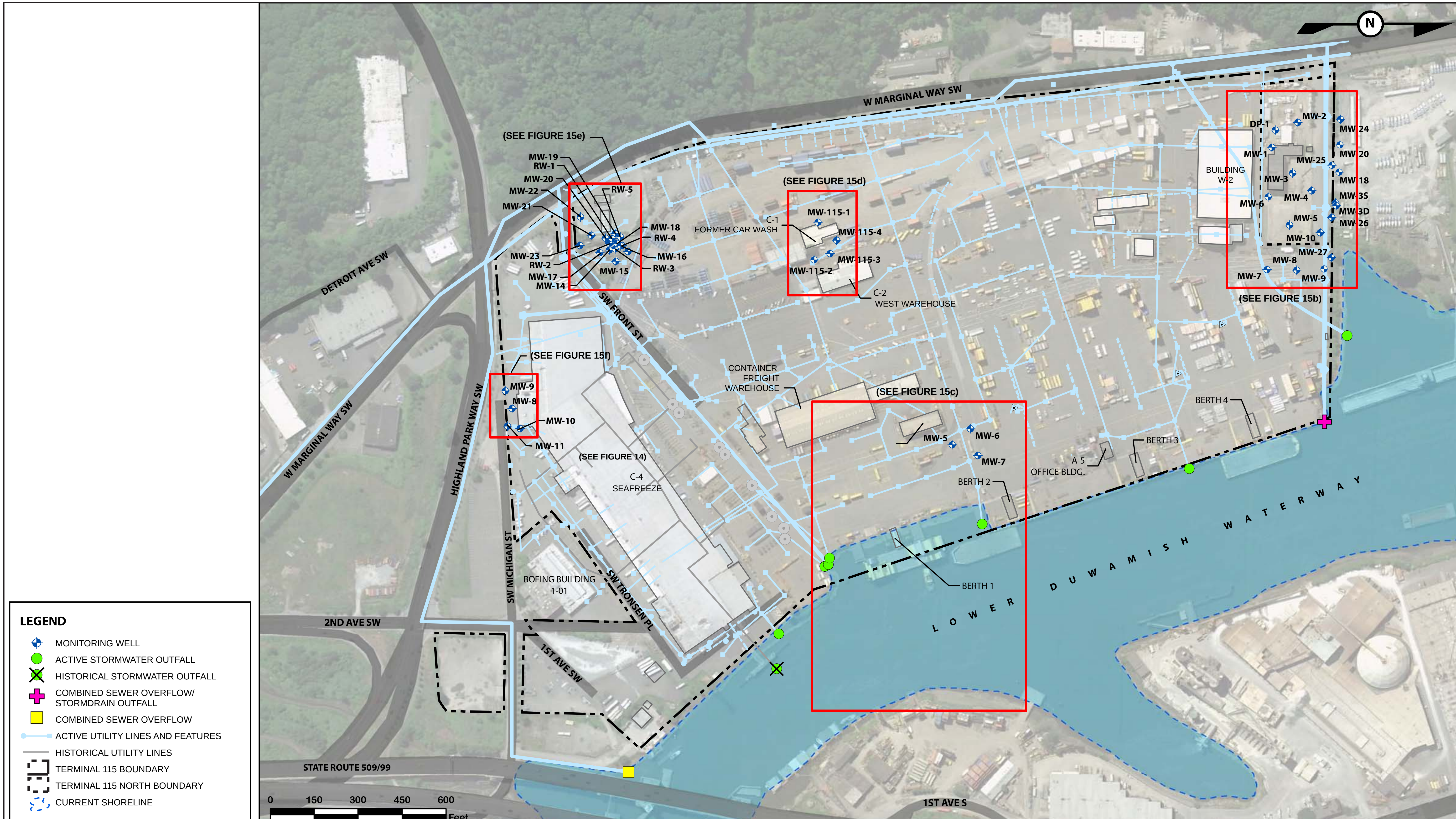

Source: SES 2011

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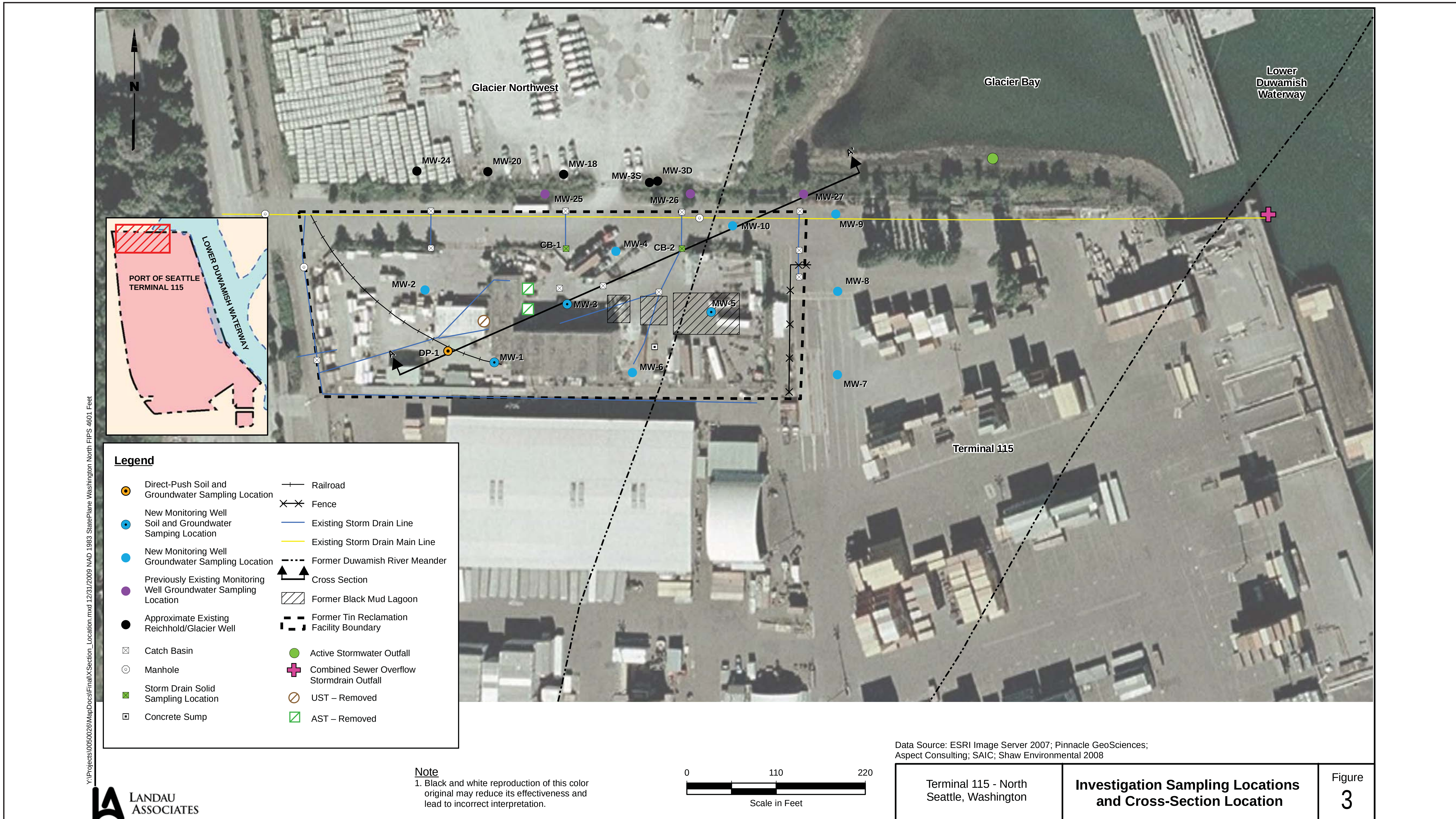
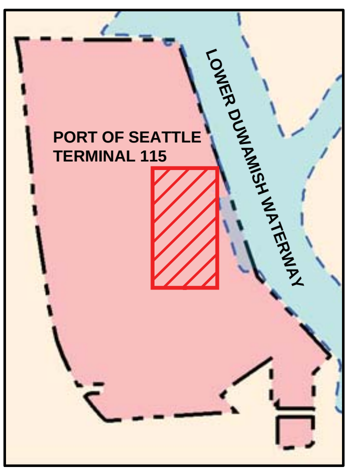
Figure 15a. Environmental Investigation Areas Overview

SAIC® From Science to Solutions



Source: Landau 2009b

Figure 15b. Environmental Investigations – Terminal 115 North



LEGEND

- MONITORING WELL
- UST – ACTIVE
- UST – REMOVED
- AST – ACTIVE
- TERMINAL 115 BOUNDARY

NOTE: TANK LOCATIONS ARE APPROXIMATE

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Figure 15c. Environmental Investigations – Building M-2 Area

Source: SES 2011

SAIC
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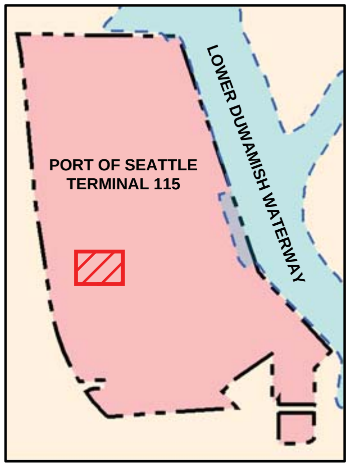

LEGEND

- SOIL BORING
- SOIL SAMPLE
- MONITORING WELL
- AST– REMOVED
- UST – REMOVED
- ACTIVE UTILITY LINES AND FEATURES
- TERMINAL 115 BOUNDARY
- GROUNDWATER FLOW DIRECTION (JUNE 1990)

Note: All sample locations are approximate.

Sources: Harding Lawson 1990; SES 2011

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Figure 15d. Environmental Investigations – Building C-1 Former Car Wash Area

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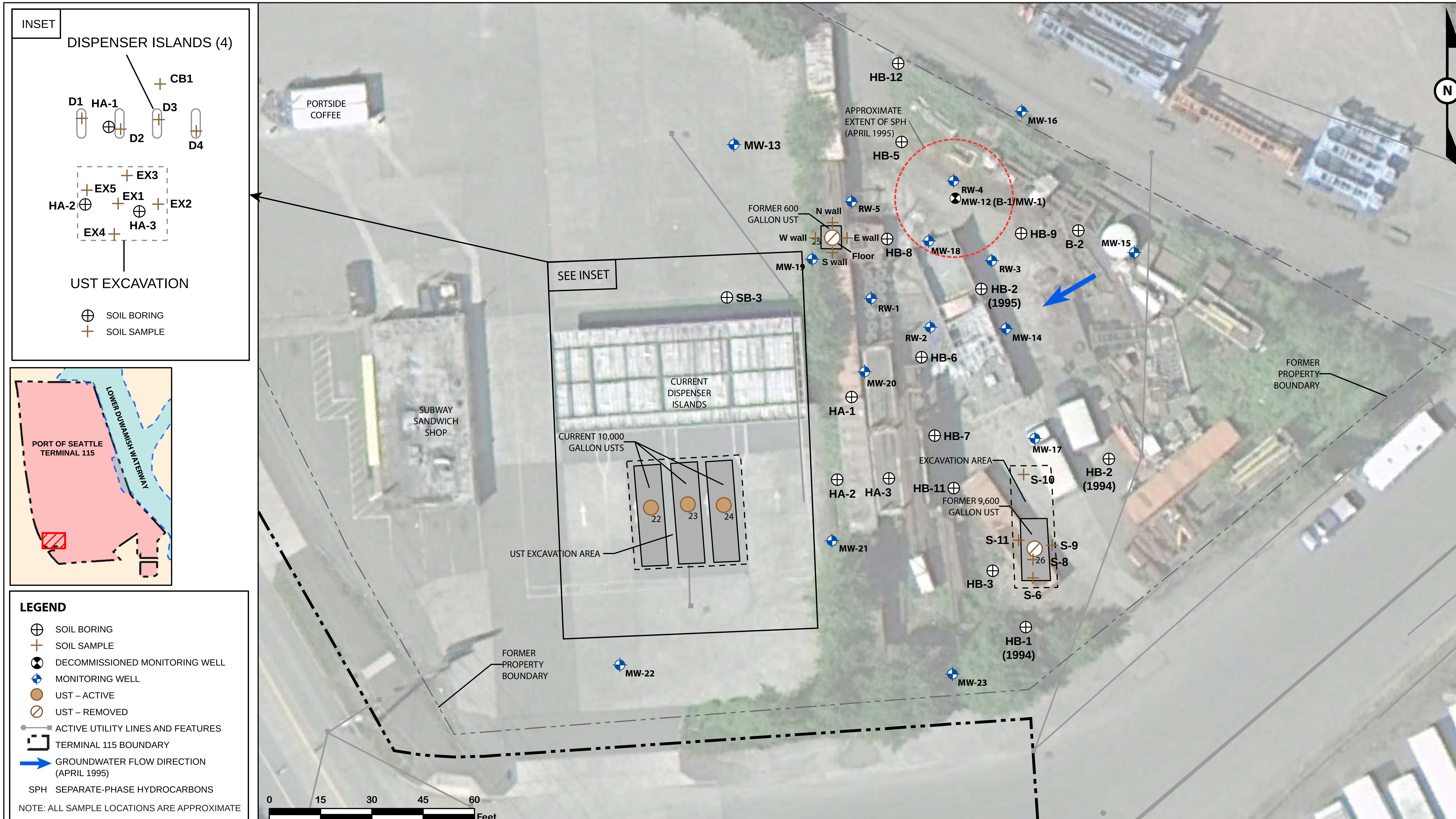
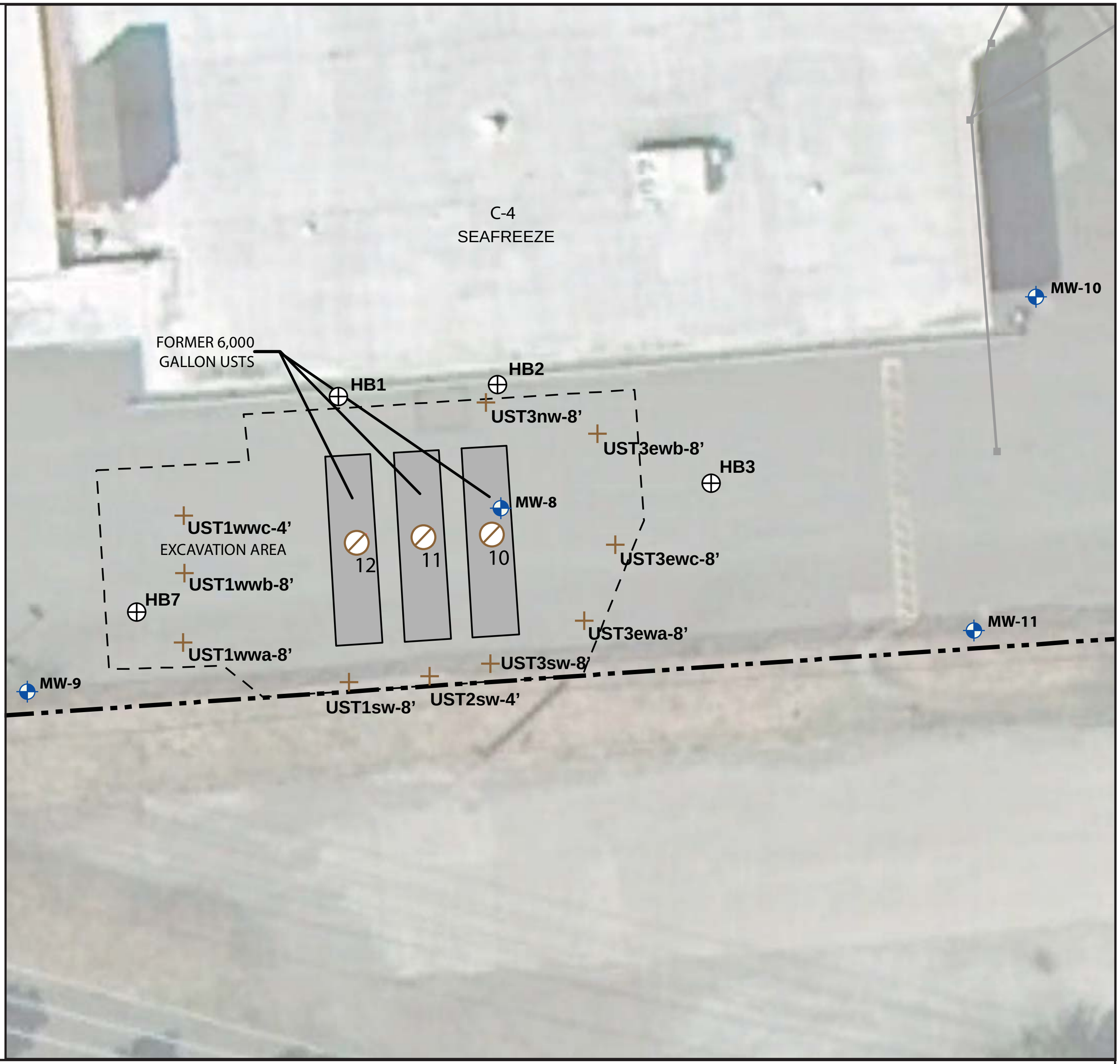
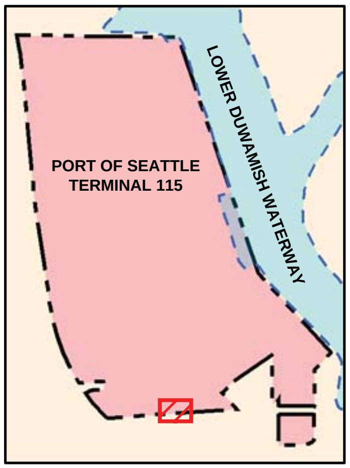


Sources: Columbia Environmental 1995, 1996a,b; GeoScience Management 1995a, 1996b; SES 2011

Figure 15e. Environmental Investigations – Southwest Tank Yard / Cardlock Facility / Shultz Distributing





LEGEND

- MONITORING WELL
- ACTIVE UTILITY LINES AND FEATURES
- TERMINAL 115 BOUNDARY
- UST – REMOVED
- SOIL SAMPLE
- SOIL BORING

NOTE: ALL SAMPLE LOCATIONS ARE APPROXIMATE.

Sources: EMCON 1995a,b; SES 2011

Figure 15f. Environmental Investigations – Seafreeze Facility Area

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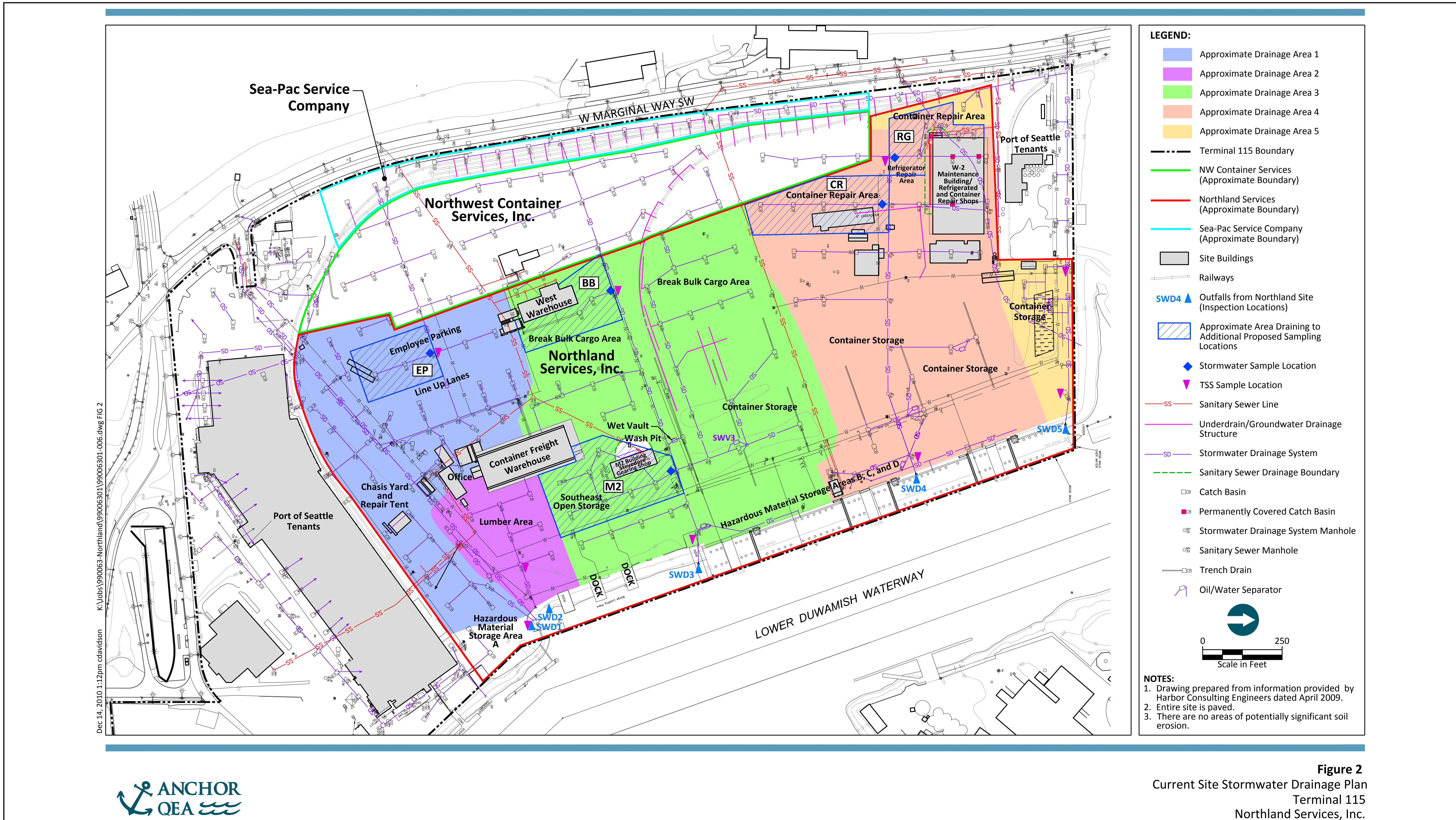

Source: Anchor 2010

Figure 16. Northland Services Facility Plan

Source: King County iMap 2011

Figure 17a. Former Foss Environmental Facility

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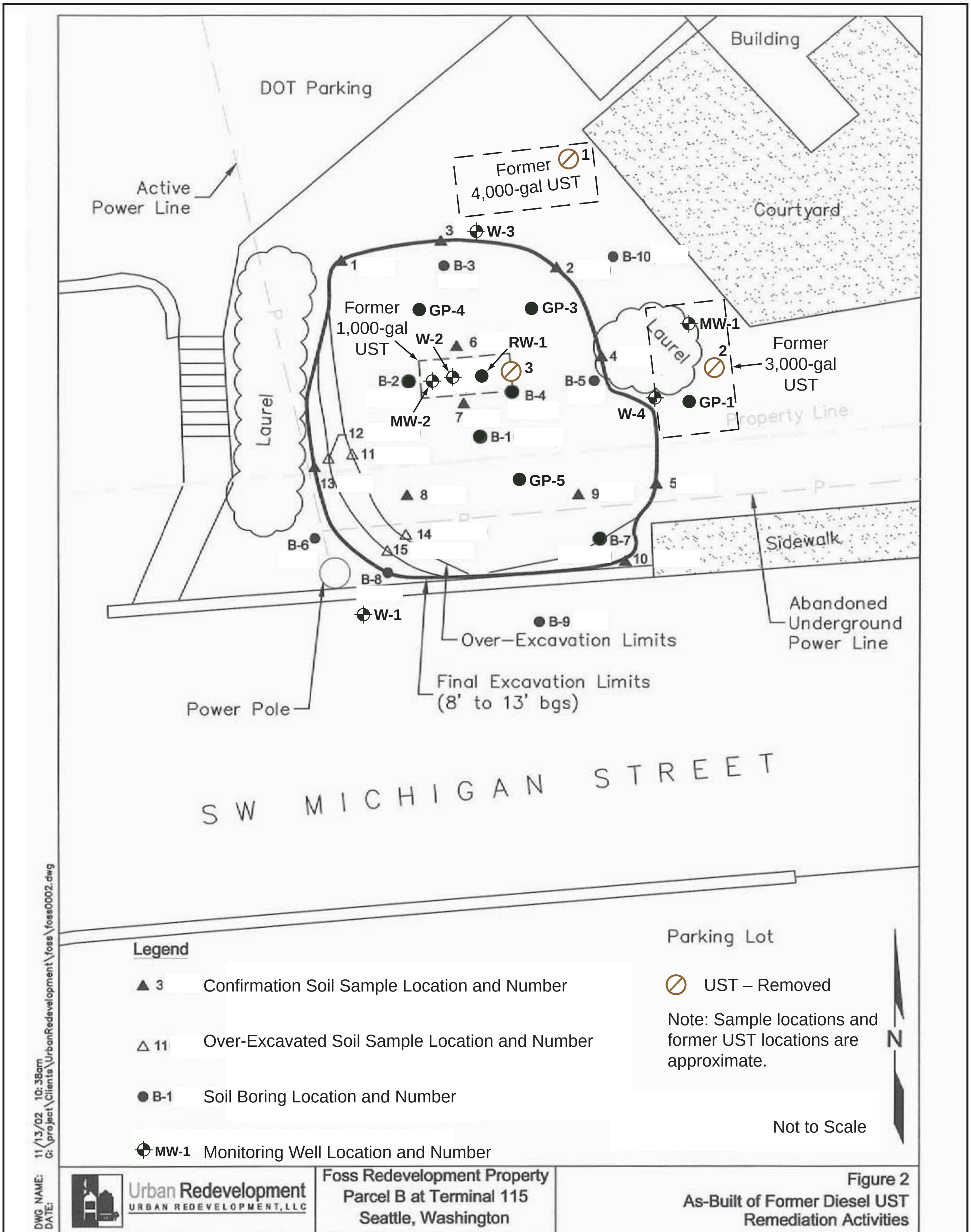
SAIC From Science to Solutions



Sources: ADI Geoscience 1998; SD&C 1998; Urban Redevelopment 2002, 2003a,b

Figure 17b. Environmental Investigations – Former Foss Environmental Facility

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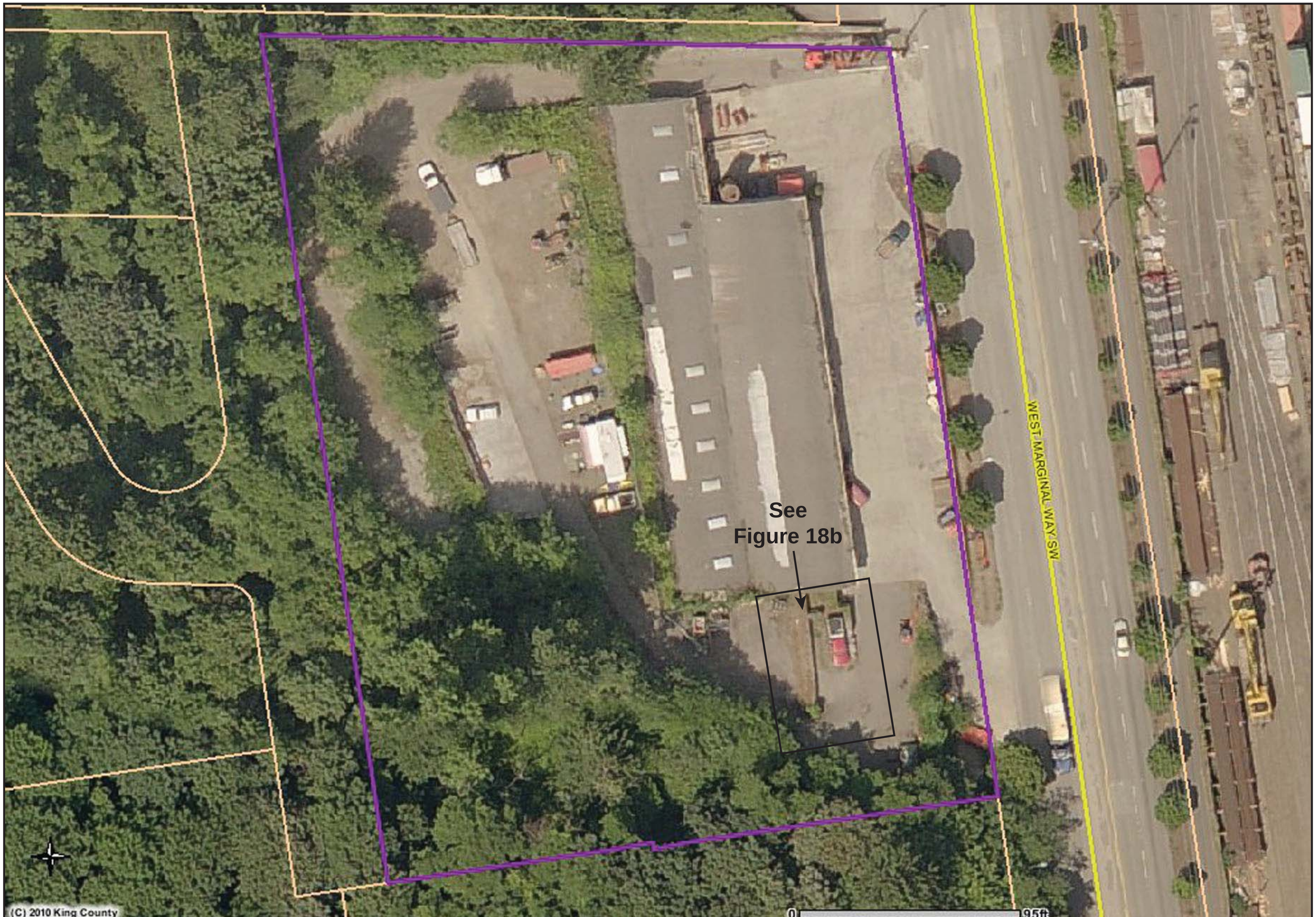

Source: King County iMap 2011

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Figure 18a. Pacific Rim and Krueger Sheet Metal Facility

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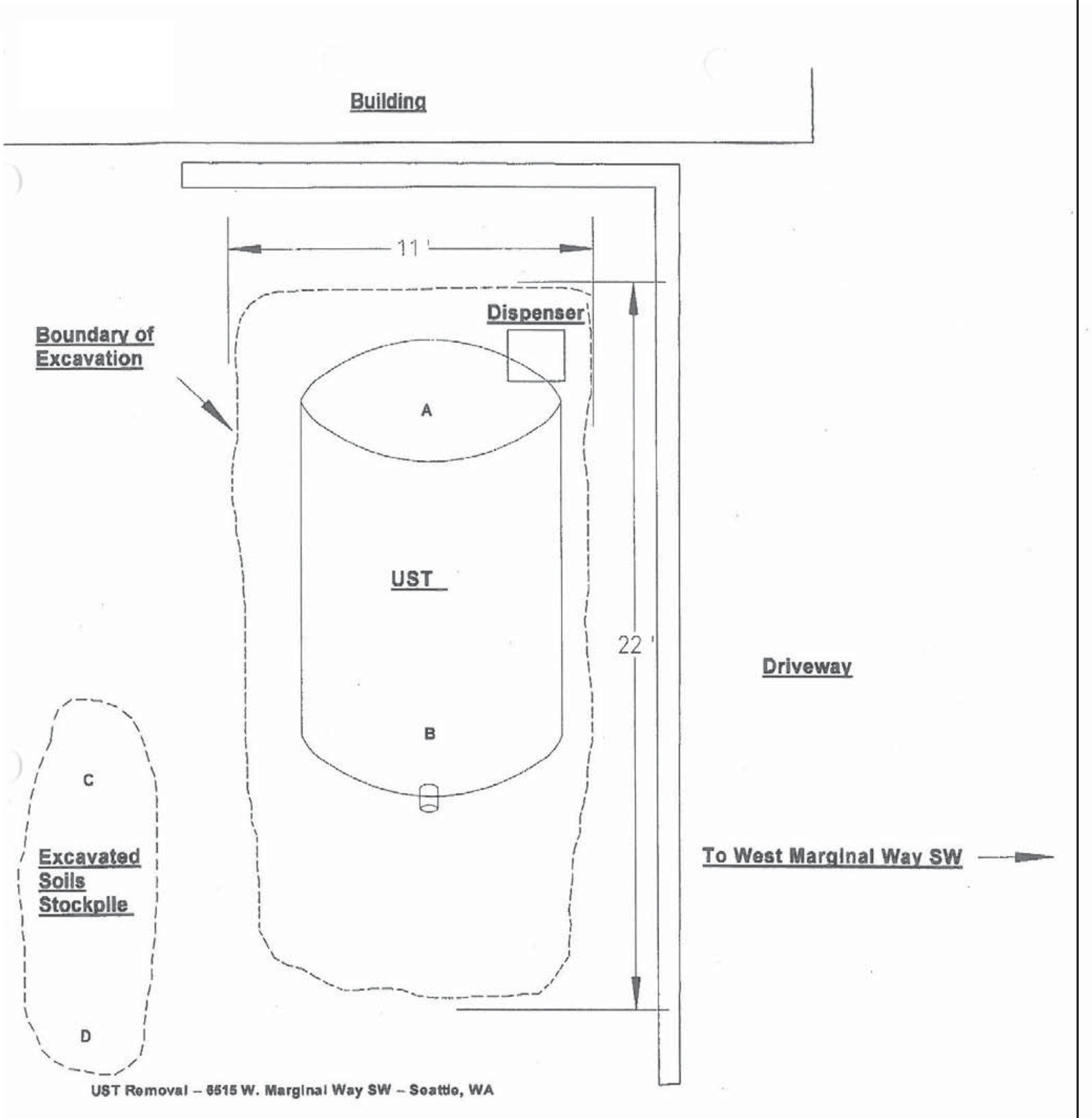

Source: Filco 2006

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Figure 18b. Environmental Investigations – Pacific Rim and Krueger Sheet Metal

SAIC
From Science to Solutions

Tables

Table 1
Sediment Samples Collected Near the Terminal 115 Source Control Area

Location Name	Date Collected	Collection Depth (feet)	Event Name	Source
WST351	10/6/1997	Surface	Duwamish Waterway Sediment Characterization Study (NOAA Site Characterization)	NOAA 1998
WST356	10/10/1997			
WST357	10/10/1997			
CH0032	10/16/1997			
WST348	10/16/1997			
WST350	10/22/1997			
WST349	10/23/1997			
R1	10/15/1997	Surface	Boeing Site Characterization	Exponent 1998
R2	10/15/1997			
R3	10/15/1997			
R4	10/15/1997			
R5	10/15/1997			
R7	10/15/1997			
R6	10/16/1997			
R8	10/16/1997			
DR126	8/12/1998	Surface	EPA Site Inspection	Weston 1999
DR127	8/12/1998			
DR128	8/12/1998			
DR130	8/12/1998			
DR131	8/13/1998			
DR132	8/13/1998			
DR134	8/13/1998			
DR154	8/13/1998			
DR155	8/13/1998			
DR166	8/13/1998			
DR164	8/19/1998			
DR129	8/27/1998			
DR152	8/27/1998			
DR162	8/27/1998			
DR153	8/31/1998			
DR161	8/31/1998			
DR133	9/2/1998			
DR124	9/15/1998			
LDW-SS70	1/21/2005	Surface	LDW RI Phase 2 Round 1	Windward 2005a
LDW-SS75	1/21/2005			
LDW-SS72	1/24/2005			
LDW-SS68	3/7/2005	Surface	LDW RI Phase 2 Round 2	Windward 2005b
LDW-SS62	3/9/2005			
LDW-SS66	3/9/2005			
LDW-SS59	3/14/2005			
LDW-SC35	2/14/2006	0 to 2	LDW Subsurface Sediment 2006	Windward 2007a
LDW-SC35	2/14/2006	2 to 4		
LDW-SC34	2/17/2006	0 to 1		
LDW-SC34	2/17/2006	1 to 2		
LDW-SC34	2/17/2006	2 to 4		

Table 1
Sediment Samples Collected Near the Terminal 115 Source Control Area

Location Name	Date Collected	Collection Depth (feet)	Event Name	Source
LDW-SS331	10/2/2006	Surface	LDW RI Phase 2 Round 3	Windward 2007b
LDW-SS332	10/2/2006			
S1-01	3/14/2008	0 to 1	Terminal 115 Sediment Characterization	Anchor 2008
S1-02	3/14/2008	0.5 to 1.5		
S1-02	3/14/2008	1.5 to 2.5		
S1-CS	3/14/2008	Composite		
S2-01	3/14/2008	0 to 1		
S2-01	3/14/2008	1 to 2		
S2-01	3/14/2008	2 to 3		
S2-02	3/14/2008	0 to 1		
S2-02	3/14/2008	1 to 2		
S2-02	3/14/2008	2 to 3		
S2-CS	3/14/2008	Composite		
T115-SS01	4/28/2009	Surface	Terminal 115 Slope Area Surface Sediment Characterization	Anchor 2009
T115-SS02	4/28/2009			
T115-SS03	4/28/2009			
T115-SS04	4/28/2009			
T115-SS05	4/28/2009			
SC-01	1/27/2010	0 to 1	Post-Dredge Subsurface Sediment Characterization and Post-Sand Cover Placement Monitoring	SEE 2010a,b
SC-01	1/27/2010	1 to 2		
SC-01	1/27/2010	2 to 3		
SC-01	1/27/2010	3 to 4		
SC-01	1/27/2010	4 to 5		
SC-02	1/27/2010	0 to 1		
SC-02	1/27/2010	1 to 2		
SC-02	1/27/2010	2 to 3		
SC-02	1/27/2010	3 to 4		
SC-02	1/27/2010	4 to 5		
SC-02	1/27/2010	5 to 5.7		
SC-03	1/27/2010	0 to 1		
SC-03	1/27/2010	1 to 2		
SC-03	1/27/2010	2 to 3		
SC-03	1/27/2010	3 to 4		
SC-03	1/27/2010	4 to 4.9		
SC-04	1/27/2010	0 to 1		
SC-04	1/27/2010	1 to 2		
SC-04	1/27/2010	2 to 3		
SC-04	1/27/2010	3 to 4		
SC-04	1/27/2010	4 to 4.8		
SC-03-2	3/10/2010	0 to 1		
SC-03-2	3/10/2010	1 to 2		
SC-03-2	3/10/2010	2 to 3		
SC-03-2	3/10/2010	3 to 3.7		
SC-04-2	3/10/2010	0 to 1		
SC-04-2	3/10/2010	1 to 2		
SC-04-2	3/10/2010	2 to 3		
SC-04-2	3/10/2010	3 to 4		

Table 1
Sediment Samples Collected Near the Terminal 115 Source Control Area

Location Name	Date Collected	Collection Depth (feet)	Event Name	Source
SC-04-3	3/10/2010	0 to 1	Post-Dredge Subsurface Sediment Characterization and Post-Sand Cover Placement Monitoring (continued)	SEE 2010a,b
SC-05-2*	3/10/2010	0 to 1		
SG-01	3/10/2010	0 to 0.3		
SG-02	3/10/2010	0 to 0.3		
SG-03	3/10/2010	0 to 0.3		
SG-04	3/10/2010	0 to 0.3		

Sample archived, no chemical analyses performed

* Field replicate of SC-03-2 (0 to 1)

Table 2
Chemicals Detected Above Screening Levels in Surface Sediment
Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS/ LAET	CSL/ 2LAET	Units	SQS Exceedance Factor	CSL Exceedance Factor
Phthalates											
Boeing Site Characterization	R3	10/15/97	Bis(2-ethylhexyl)phthalate	3.5	3.7	95	47	78	mg/kg OC	2.0	1.2
EPA Site Inspection	DR155	8/13/98	Bis(2-ethylhexyl)phthalate	2.5	2.7	93	47	78	mg/kg OC	2.0	1.2
LDW RI Phase 2 Round 1	LDW-SS70	1/21/05	Bis(2-ethylhexyl)phthalate	1.7	3.05	56	47	78	mg/kg OC	1.2	<1
EPA Site Inspection	DR131	8/13/98	Bis(2-ethylhexyl)phthalate	1.5	1.47	102	47	78	mg/kg OC	2.2	1.3
EPA Site Inspection	DR126	8/12/98	Butyl benzyl phthalate	0.46	3.09	15	4.9	64	mg/kg OC	3.0	<1
EPA Site Inspection	DR131	8/13/98	Butyl benzyl phthalate	0.46 J	1.47	31	4.9	64	mg/kg OC	6.4	<1
Boeing Site Characterization	R3	10/15/97	Butyl benzyl phthalate	0.32	3.7	8.6	4.9	64	mg/kg OC	1.8	<1
Slope Sediment Characterization	T115-SS05	4/28/09	Butyl benzyl phthalate	0.16	1.84	8.7	4.9	64	mg/kg OC	1.8	<1
Other SVOCs											
LDW RI Phase 2 Round 2	LDW-SS68	3/7/05	Hexachlorobenzene	0.095 J	2.58	3.7	0.38	2.3	mg/kg OC	9.7	1.6
PCBs											
LDW RI Phase 2 Round 1	LDW-SS75	1/21/05	PCBs (total calc'd)	0.52	1.75	30	12	65	mg/kg OC	2.5	<1
Boeing Site Characterization	R7	10/15/97	PCBs (total-calc'd)	1.2	1.4	86	12	65	mg/kg OC	7.1	1.3
Boeing Site Characterization	R8	10/16/97	PCBs (total-calc'd)	0.40	1.55	26	12	65	mg/kg OC	2.1	<1

mg/kg - Milligram per kilogram
DW - Dry weight
TOC - Total Organic Carbon
OC - Organic carbon normalized
SQS - SMS Sediment Quality Standard
CSL - SMS Cleanup Screening Level
SVOCs - Semivolatile organic compounds
PCB - Polychlorinated biphenyl
J - Estimated value between the method detection limit and the laboratory reporting limit
SMS - Sediment Management Standard (Washington Administrative Code 173-204)

Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentrations to the CSL or SQS; exceedance factors are shown only if they are greater than 1.
Sampling events are listed in Table 1.

Table 3
Chemicals Detected Above Screening Levels in Subsurface Sediment
Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS/ LAET	CSL/ 2LAET	Units	SQS Exceedance Factor	CSL Exceedance Factor
PAHs												
Post-Dredge Subsurface Sediment Characterization	SC-01	1/27/2010	3 - 4	Acenaphthene	2.20E-01 D	1.01	2.18E+01	16	57	mg/kg OC	1.4	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Benzo(a)anthracene	6.80E+00	2.59	2.63E+02	110	270	mg/kg OC	2.4	<1
Post-Dredge Subsurface Sediment Characterization	SC-03-2	3/10/2010	1 - 2	Benzo(a)anthracene	1.90E+00 D	1.3	1.46E+02	110	270	mg/kg OC	1.3	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Benzo(a)pyrene	3.40E+00	2.59	1.31E+02	99	210	mg/kg OC	1.3	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Chrysene	2.60E+00 J	1.98	1.31E+02	110	460	mg/kg OC	1.2	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Chrysene	1.60E+01	2.59	6.18E+02	110	460	mg/kg OC	5.6	1.3
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Chrysene	1.50E+00	5.02	2.99E+01	1.4	2.8	mg/kg DW	1.1	<1
Post-Dredge Subsurface Sediment Characterization	SC-03-2	3/10/2010	1 - 2	Chrysene	2.10E+00 D	1.3	1.62E+02	110	460	mg/kg OC	1.5	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Fluoranthene	7.40E+00 J	1.98	3.74E+02	160	1200	mg/kg OC	2.3	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Fluoranthene	4.70E+01	2.59	1.81E+03	160	1200	mg/kg OC	11	1.5
Post-Dredge Subsurface Sediment Characterization	SC-01	1/27/2010	3 - 4	Fluoranthene	2.70E+00 D	1.01	2.67E+02	160	1200	mg/kg OC	1.7	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Pyrene	3.40E+01	2.59	1.31E+03	1000	1400	mg/kg OC	1.3	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Pyrene	4.60E+00	5.02	9.16E+01	2.6	3.3	mg/kg DW	1.8	1.4
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Total Benzofluoranthenes	1.42E+01	2.59	5.48E+02	230	450	mg/kg OC	2.4	1.2
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Total HPAH (calc'd)	1.95E+01 J	1.98	9.84E+02	960	5300	mg/kg OC	1.0	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Total HPAH (calc'd)	1.23E+02	2.59	4.75E+03	960	5300	mg/kg OC	4.9	<1
Post-Dredge Subsurface Sediment Characterization	SC-03-2	3/10/2010	1 - 2	Total HPAH (calc'd)	1.86E+01	1.3	1.43E+03	960	5300	mg/kg OC	1.5	<1
Phthalates												
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Bis(2-ethylhexyl)phthalate	3.90E+00	3.02	1.29E+02	47	78	mg/kg OC	2.7	1.7
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Bis(2-ethylhexyl)phthalate	1.00E+00 J	1.6	6.25E+01	47	78	mg/kg OC	1.3	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Bis(2-ethylhexyl)phthalate	6.70E+00 J	1.84	3.64E+02	47	78	mg/kg OC	7.7	4.7
Post-Dredge Subsurface Sediment Characterization	SC-01	1/27/2010	1 - 2	Bis(2-ethylhexyl)phthalate	7.30E-01	1.54	4.74E+01	47	78	mg/kg OC	1.0	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Butyl benzyl phthalate	4.40E-01	2.9	1.52E+01	4.9	64	mg/kg OC	3.1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Butyl benzyl phthalate	4.00E-01	3.02	1.32E+01	4.9	64	mg/kg OC	2.7	<1
Post-Dredge Subsurface Sediment Characterization	SC-01	1/27/2010	1 - 2	Butyl benzyl phthalate	1.40E-01	1.54	9.09E+00	4.9	64	mg/kg OC	1.9	<1
Post-Dredge Subsurface Sediment Characterization	SC-02	1/27/2010	1 - 2	Butyl benzyl phthalate	1.00E-01	1.94	5.15E+00	4.9	64	mg/kg OC	1.1	<1
Other SVOCs												
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Benzyl alcohol	2.10E-01	3.02	6.95E+00	0.057	0.073	mg/kg DW	3.7	2.9
PCBs												
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	PCBs (total calc'd)	2.50E-01	2.05	1.22E+01	12	65	mg/kg OC	1.0	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	PCBs (total calc'd)	3.70E-01 J	1.86	1.99E+01	12	65	mg/kg OC	1.7	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	PCBs (total calc'd)	2.97E-01	2.23	1.33E+01	12	65	mg/kg OC	1.1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	PCBs (total calc'd)	2.64E-01	1.89	1.40E+01	12	65	mg/kg OC	1.2	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	PCBs (total calc'd)	1.77E-01	5.25	3.37E+00	0.13	1.0	mg/kg DW	1.4	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	PCBs (total calc'd)	3.24E-01	5.02	6.45E+00	0.13	1.0	mg/kg DW	2.5	<1
Post-Dredge Subsurface Sediment Characterization	SC-01	1/27/2010	0 - 1	PCBs (total calc'd)	3.30E-01	2.15	1.54E+01	12	65	mg/kg OC	1.3	<1
Post-Dredge Subsurface Sediment Characterization	SC-01	1/27/2010	1 - 2	PCBs (total calc'd)	3.33E-01	1.54	2.16E+01	12	65	mg/kg OC	1.8	<1
Post-Dredge Subsurface Sediment Characterization	SC-01	1/27/2010	3 - 4	PCBs (total calc'd)	4.25E-01	1.01	4.21E+01	12	65	mg/kg OC	3.5	<1
Post-Dredge Subsurface Sediment Characterization	SC-01*	1/27/2010	2 - 3	PCBs (total calc'd)	5.90E-01	4.69	1.26E+01	0.13	1.0	mg/kg DW	4.5	<1

Table 3
Chemicals Detected Above Screening Levels in Subsurface Sediment
Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS/ LAET	CSL/ 2LAET	Units	SQS Exceedance Factor	CSL Exceedance Factor
Post-Dredge Subsurface Sediment Characterization	SC-02	1/27/2010	0 - 1	PCBs (total calc'd)	3.49E-01	2.44	1.43E+01	12	65	mg/kg OC	1.2	<1
Post-Dredge Subsurface Sediment Characterization	SC-02	1/27/2010	1 - 2	PCBs (total calc'd)	2.94E-01	1.94	1.52E+01	12	65	mg/kg OC	1.3	<1
Post-Dredge Subsurface Sediment Characterization	SC-03-2	3/10/2010	0 - 1	PCBs (total calc'd)	3.11E-01	1.88	1.65E+01	12	65	mg/kg OC	1.4	<1
Post-Dredge Subsurface Sediment Characterization	SC-03-2	3/10/2010	1 - 2	PCBs (total calc'd)	3.02E-01	1.3	2.32E+01	12	65	mg/kg OC	1.9	<1
Post-Dredge Subsurface Sediment Characterization	SC-03-2*	3/10/2010	2 - 3	PCBs (total calc'd)	5.40E-01	0.33	1.66E+02	0.13	1.0	mg/kg DW	4.2	<1
Post-Dredge Subsurface Sediment Characterization	SC-04-3	3/10/2010	0 - 1	PCBs (total calc'd)	2.03E-01	0.81	2.49E+01	12	65	mg/kg OC	2.1	<1
Post-Dredge Subsurface Sediment Characterization	SC-05-3-2	3/10/2010	0 - 1	PCBs (total calc'd)	2.82E-01	2.04	1.38E+01	12	65	mg/kg OC	1.2	<1

mg/kg - Milligram per kilogram
ug/kg - Microgram per kilogram
DW - Dry weight
TOC - Total Organic Carbon
OC - Organic carbon normalized
SQS - SMS Sediment Quality Standard
CSL - SMS Cleanup Screening Level

SMS - Sediment Management Standard (Washington Administrative Code 173-204)
PAHs - Polycyclic aromatic hydrocarbons
SVOCs - Semi-volatile organic compounds
C - Composite sample
J - Estimated value between the method detection limit and the laboratory reporting limit
D - Duplicate sample

Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentrations to the CSL or SQS; exceedance factors are shown only if they are greater than 1.
* Due to the TOC in this sample, results were compared to the Lowest Apparent Effects Threshold (LAET) or the second LAET (2LAET) value rather than the SQS and/or CSL. The LAET is functionally equivalent to the SQS and the 2LAET is functionally equivalent to the CSL. OC-normalization is not considered to be appropriate for when TOC concentrations are less than or
Sampling events are listed in Table 1.

Table 4
CSO/EOF Discharges to the Lower Duwamish Waterway

Outfall	Type (Owner)	Discharge Serial Number	Location	Average Overflow Frequency (events/year) 2000 to 2007	Annual average volume (mgy) 2000 to 2007
Diagonal Avenue S[a]	CSO (SPU) SD (SPU)	NA	RM 0.5 E	20.1	15.8[b]
Hanford No. 1[c]	CSO (King County)	031	RM 0.5 E	9	18.75
Duwamish pump station East	CSO (King County)	035	RM 0.5 E	<1.0	0.51
Duwamish pump station West	CSO (King County)	034	RM 0.5 W	<1.0	0.60
S Brandon Street	CSO (King County)	041	RM 1.1 E	23	31.63
Terminal 115	CSO (King County)	038	RM 1.9 W	3	3.52
S Brighton Street	CSO (SPU) SD (SPU)	NA	RM 2.1 E	NA[g]	NA
King County Airport SD#3/PS44 EOF[d]	SD (King County) EOF (SPU)	NA	RM 2.8 E	NA	NA
E Marginal Way S. pump station	EOF (King County)	043	RM 2.8 E	None recorded	NA
8th Avenue S	CSO (King County)	040	RM 2.8 W	0	0
King County Airport SD#2/PS78 EOF[e]	SD (King County) EOF (SPU)	NA	RM 3.8 E	NA	NA
Michigan Street	CSO (King County)	039	RM 1.9 E	11	17.58
W Michigan	CSO (King County)	042	RM 2.0 W	4	1.23
Norfolk	CSO (King County) SD (King County) EOF (SPU)[f]	044	RM 4.8 E	4	0.28

a - The Diagonal Avenue S. SD outfall is shared by stormwater and seven separate overflow points, including the City's Diagonal CSOs and the County's Hanford No. 1 CSO. The overflow frequency and volume listed are for the Diagonal CSOs only.

b - This average volume does not include the contribution from King County's Hanford No. 1 CSO, but does include the remaining seven overflow points that discharge through the Diagonal Avenue S. CSO/SD.

c - Hanford No. 1 discharges to the LDW through the Diagonal Avenue S. SD.

d – SPU Pump Station 44 discharges via EOF No. 117 to King County Airport SD#3 at Slip 4.

e – SPU Pump Station 78 discharges via EOF No. 156 to King County Airport SD#2, near Boeing Isaacson.

f – SPU Pump Station 17 discharges to the Norfolk CSO/SD.

g – Has not overflowed since monitoring began in March 2000.

mgy – million gallons per year

NA – Not available

Table 5
Facilities within the Terminal 115 CSO Basin that are Listed in the Ecology Facility/Site Database

Facility/ Site ID	Facility Name	Alternate Name(s)	Address	Active EPA ID No.	Ecology CSCSL	NPDES Permit	KCIW Discharge Authorization or Permit	LUST	UST	Ecology NFA Deter-mination	EPA CERCLA Section 104(e) Request for Information Letter
56256949	Alaska Cargo Transport Inc	Alaska Cargo Transport Inc	6700 Marginal Way SW								
60993417	Aloha Cargo Transport Inc	Jore Marine Services, Terminal 115	6700 W Marginal Way SW								
35163443	Aluminum Bronze Fab Inc	Aluminum Bronze Fab Inc	6301 W Marginal Way SW								
1752283	America Cargo Transport Inc	America Cargo Transport Inc	6700 W Marginal Way SW Ste 100								
14533	Catholic Printery Inc.	None	6327 W Marginal Way SW								
23743	Commercial Fence Corp	None	150 SW Michigan Street[a]								
57823643	D & S Transport Inc	D & S Transport Inc	6700 W Marginal Way SW								
15223	Emswiler Const	None	6045 W Marginal Way SW								
36326474	Foss Environmental Svcs Co Transfer Facility	Haslund MP, LLC	200 SW Michigan Street							●	●
23498	Gene Summy Lumber	None	6000 W Marginal Way SW								●
12398	Icicle Seafoods, Inc.	Icicle Seafoods Duwamish Plant	206 SW Michigan Street			●					●
58864121	Lloyd Electric Apparatus Co	Lloyd Electric Apparatus Co	7126 W Marginal Way SW								
17445598	Norbuk LTD	Pacific Rim Equipment Rental, Mono Roofing, AL Bolsers Tire Stores	6515 W Marginal Way SW						●		
15163955	Northland Terminal Services, Inc. Seattle	Jore Marine Services, Transfer Facility, Terminal 115	6700 W Marginal Way SW	●		●					
84427474	Northwest Container Services, Inc.	Coastal Trailer Repair	6110 W Marginal Way SW			●	●				●
5151	Pacific Plumbing Supply	None	7115 W Marginal Way SW								
2177	Port of Seattle North Terminal 115	M&T Chemicals, MRI, Proeler, Proler Recycling Inc Seattle, Schnitzer Steel Inc	6000 W Marginal Way SW	●	●						
15700	Port of Seattle Terminal 115 Berth 1	None	6375 W Marginal Way SW								
71289955	Samson Tug & Barge Co, Inc.	None	6700 W Marginal Way SW								
11466114	Sea Pac Service Co	SeaPac Service Company	6100 W Marginal Way SW			●					
82536515	Seafreeze Ltd Terminal 115	Seafreeze Cold Storage, Seafreeze Limited Partnership	206 SW Michigan Street	●			●		●		●
64412161	Seattle City Engineering Dept. Penn Yard	None	1st Avenue SW & SW Peninsula Place								
4040072	Seattle Port Terminal 115	Terminal 115 Improvements	6020-6760 W Marginal Way SW								
98422914	Seattle Port Terminal 115	Crowley Marine Services Inc Terminal 115	6020 W Marginal Way		●			●	●		
94368646	Shultz Distributing, Inc.	Falcon Fast Fuel	6760 W Marginal Way	●					●		
88521782	Victory Marine Inc	Victory Marine Inc	6700 W Marginal Way SW								

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
CSCSL - Confirmed or Suspected Contaminated Sites List
CSO - Combined Sewer Overflow
EPA - U.S. Environmental Protection Agency
KCIW - King County Industrial Waste
LUST - Leaking Underground Storage Tank
NFA - No Further Action
NPDES - National Pollutant Discharge Elimination System
UST - Underground Storage Tank

Facility names and alternate names are as described in Ecology's Facility/Site Database
a - The facility/site ID is associated with the former address for Commercial Fence. The current address is 6000 W Marginal Way SW.

Table 6
Facilities within the West Michigan CSO Basin that are Listed in the Ecology Facility/Site Database

Facility/ Site ID	Facility Name	Alternate Name(s)	Address	Active EPA ID No.	Ecology CSCSL	NPDES Permit	KCIW Discharge Authorization or Permit	LUST	UST	Ecology NFA Deter-mination	EPA CERCLA Section 104(e) Request for Information Letter
19424	A & E Auto Repair, Inc.	None	7902 9th Avenue SW								
96557226	Enviro Metal Co	None	8145 9th Avenue SW								
68363744	Molners One Stop Inc.	None	8855 9th Avenue SW						●		
66464199	Pioneer Industries Seattle	None	7000 Highland Parkway SW	●		●	●				
70721925	Seattle Public Utilities SW Trenton Tank	None	SW Trenton Street & 8th Avenue SW								
2192441	Seattle Public Utilities Vactor Pit	None	9200 8th Avenue SW								

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
CSCSL - Confirmed or Suspected Contaminated Sites List
CSO - Combined Sewer Overflow
EPA - U.S. Environmental Protection Agency
KCIW - King County Industrial Waste
LUST - Leaking Underground Storage Tank
NFA - No Further Action
NPDES - National Pollutant Discharge Elimination System
UST - Underground Storage Tank

Facility names and alternate names are as described in Ecology's Facility/Site Database.

Table 7
Historical and Current Underground and Aboveground Storage Tanks at Terminal 115

Tank #	Contents	Capacity (Gallons)	Type	Status	Description	Port Designation
1	Diesel	4,000	UST	Removed	Boeing 1-01 Heating Oil Tank	T-115L
2	Bunker C	3,000	UST	Removed	Boeing 1-01 Heating Oil Tank	--
3	Diesel	1,000	UST	Removed	Boeing 1-01 Heating Oil Tank	--
4	Unknown	Unknown	UST	Unknown	Concrete Fuel Tank 4	--
5	Suspected Jet Fuel/Avgas	5,000	UST	Unknown	Boeing 1-02 Engine Testing USTs	--
6	Suspected Jet Fuel/Avgas	5,000	UST	Unknown	Boeing 1-02 Engine Testing USTs	--
7	Suspected Jet Fuel/Avgas	5,000	UST	Unknown	Boeing 1-02 Engine Testing USTs	--
8	Unknown	Unknown	UST	Unknown	Buried Fuel Tanks & Dispenser	--
9	Diesel	4,000	UST	Unknown	Unknown Seafreeze UST	--
10	Suspected Jet Fuel/Avgas	6,000	UST	Removed	Unknown Boeing USTs	T-115Q
11	Suspected Jet Fuel/Avgas	6,000	UST	Removed	Unknown Boeing USTs	T-115R
12	Suspected Jet Fuel/Avgas	6,000	UST	Removed	Unknown Boeing USTs	T-115O
13	Gasoline	3,000	UST	Unknown	Boeing 1-21 UST	T-115I
14	Unknown	Unknown	Unknown	Unknown	Boeing Personal Tank	--
15	Unknown	Unknown	Unknown	Unknown	Boeing Tank B-5	--
16	Bunker/Diesel	4,200	UST	Unknown	Boeing 1-11 UST	--
17	Diesel	20,000	UST	Closed in Place	Steam Plant Tank	T-115H
18	Unknown	Unknown	Unknown	Closed in Place	Boeing 1-41 Storage Tanks	T-115F
19	Unknown	Unknown	Unknown	Closed in Place	Boeing 1-41 Storage Tanks	T-115G
20	Unknown	Unknown	AST	Removed	Boeing 1-40 ASTs	--
21	Unknown	Unknown	AST	Removed	Boeing 1-40 ASTs	--
22	Diesel	10,000	UST	Active	Shultz Distributing	--
23	Diesel	10,000	UST	Active	Shultz Distributing	--
24	Diesel	10,000	UST	Active	Shultz Distributing	--
25	Diesel	600	UST	Removed	Smelter Heating Oil UST	T-115S
26	Diesel	9,500	UST	Removed	Smelter Tanker Truck UST	T-115P
27	Kerosene	2,000	AST	Removed	Car Wash Kerosene Tanks	--
28	Kerosene	5,000	UST	Removed	Car Wash Kerosene Tanks	T-115E
29	Gasoline	1,000	AST	Active	Building C-1 Diesel Dispenser	--
30	Diesel	10,000	UST	Removed	Building C-2 refueling tank	T-115D
31	Diesel	1,000	AST	Active	T115 Building M-2 Tanks	--
32	Gasoline	1,000	AST	Active	T115 Building M-2 Tanks	--
33	Diesel	6,000	UST	Removed	T115 Building M-2 Tanks	T-115C
34	Diesel	6,000	UST	Active	T115 Building M-2 Tanks	T-115N
35	Diesel	1,100	UST	Not in Service	T115 Building A-5 Tanks	T-115M
36	Diesel	2,000	UST	Removed	T115 Building A-5 Tanks	T-115A
37	Gasoline	1,000	UST	Removed	T115 Building A-5 Tanks	T-115B

Table 7
Historical and Current Underground and Aboveground Storage Tanks at Terminal 115

Tank #	Contents	Capacity (Gallons)	Type	Status	Description	Port Designation
38	Diesel/Bunker Fuel	1,100	UST	Removed	T115-North Heating Oil Tank	--
39	Diesel	250	AST	Removed	T115-North Diesel Tank	--
40	H_2SO_4, NaOH, chemical wastes	13 Bulk ASTs	AST	Removed	T115-North Chemical Storage	--

-- No applicable Port designation is known.
Closed in Place - Tank decommissioned in place before 1980.
Not in Service - Tank is not decommissioned; however, it does not store fuel products.
Suspected Jet Fuel Avgas - Analytical results and/or historical data suggest that the tank stored an aviation fuel.

Table 8
Issues of Environmental Concern At and Near Terminal 115

Issue No.	Description
1	Former Standard Oil service station
2	Former Refinery Building
3	Former Richfield Oil service station
4	Former Boeing Plant 1
4.01	Building 1-03: Seaplane assembly building
4.02	Building 1-06: Boiler house Building 1-10: Dry kiln
4.03	Building 1-07: Transformer house
4.04	Building 1-08: Parts assembly, welding, paint spraying, crating, materials testing, shipping, plaster shop, and engineering drafting offices
4.05	Building 1-04: Paint spraying and plating shop, finishing and inspection
4.06	Building 1-12: Parts storage and maintenance welding facility
4.07	Building 1-02: Brazing and welding facilities, machine shop, sheet metal shop, heat treating facilities, assembly, metal cutting, burning, and grinding shops, welding and fuel equipment storage, and transformers
4.08	Tank No. 8: Gasoline UST
4.09	Building 1-39: Compressor house
4.10	Building 1-29: Drop hammer and aluminum foundry
4.11	Building 1-40: Static test building, fuel testing, and foundry
4.12	Building 1-42: Incinerator
4.13	Building 1-40: Paint, rivets, and lubrication oil storage building and drum storage yard
4.14	Building 1-34: Engine and structural test facility
4.15	Building 1-30: Steam plant
4.16	Wastewater lift station
4.17	Building 1-44: Sandblasting facility
4.18	Building 1-45: Acid test building
4.19	Building 1-50: Revetment test building
4.2	Building 1-21: Fuel test lab
4.21	Building 1-22: Fuel storage facility
4.22	Building 1-26: Acid storage facility
4.23	Building 1-27: Hazardous materials storage building
4.24	Building 1-23: Paint storage building
5	Seafreeze Building
6	Former Auto Salvage Yard/Sav-Mor Service Station
7	Former Materials Reclamation Smelter
8	Former Southwest Tank Yard/Cardlock Facility/Shultz Distributing
9	Former Klinker Gravel/Ready Mix
10	Buildings C-1 & C-2/Former Car Wash
11	Fill Activities & Material
12	Building M-2/Maintenance Building
13	Building A-5/Maritime Office Building
14	Former Tin Reclamation/Terminal 115 N
15	Off-Property IECs
15.01	Former Foss Environmental (Boeing Building 1-01 USTs)
15.02	Pacific Rim/Krueger Sheet Metal/Former Al Bolser’s Tire Store
15.03	Aluminum & Bronze Fabricators
15.04	Former Reichhold Chemical
15.05	Glacier Northwest

Adapted from *Terminal 115 Environmental Conditions Report* (SES 2011).

Table 9
Chemicals Detected Above Screening Levels in Soil
Terminal 115 North

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Soil-to-Sediment Screening Level[b] (mg/kg)	Exceedance Factor
Metals								
Landau 2009b	10/29/2009	MW-3	10.5-11.5	Arsenic	11	0.67	590	16
Landau 2009b	1997	MST-1	NA	Lead	470	250	67	7.0
Landau 2009b	1997	MST-2	NA	Lead	110.0	250	67	1.6
Landau 2009b	10/29/2009	MW-3	10.5-11.5	Mercury	0.086	2	0.03	2.9
Landau 2009b	10/29/2009	DP-1	0.5-1	Zinc	1,400	24,000	770	1.8
Landau 2009b	1997	MST-2	NA	Zinc	330	24,000	38	8.7
Landau 2009b	1997	MST-1	NA	Zinc	310	24,000	38	8.2
Landau 2009b	10/29/2009	MW-3	10.5-11.5	Zinc	83	24,000	38	2.2
Landau 2009b	10/29/2009	MW-1	7-8	Zinc	77	24,000	38	2.0
Landau 2009b	1997	MST-3	NA	Zinc	76	24,000	38	2.0
Landau 2009b	10/29/2009	DP-1	8.5-9.5	Zinc	66	24,000	38	1.7
Landau 2009b	10/29/2009	MW-1	11-12	Zinc	62	24,000	38	1.6
Landau 2009b	10/29/2009	DP-1	6-7	Zinc	57	24,000	38	1.5
Landau 2009b	10/29/2009	MW-3	17-18	Zinc	52	24,000	38	1.4
Landau 2009b	10/29/2009	MW-5	16-17	Zinc	50	24,000	38	1.3
Landau 2009b	10/29/2009	MW-5	10-11	Zinc	42	24,000	38	1.1
PAHs								
Landau 2009b	10/29/2009	MW-3	17-18	Acenaphthene	0.41	4,800	0.06	6.8
Landau 2009b	10/29/2009	MW-3	6.5-7	Acenaphthene	0.18	4,800	0.06	3.0
Landau 2009b	10/29/2009	MW-1	7-8	Acenaphthene	0.13	4,800	0.06	2.2
Landau 2009b	10/29/2009	MW-5	16-17	Acenaphthene	0.099	4,800	0.06	1.7
Landau 2009b	10/29/2009	DP-1	0.5-1	Benzo(a)pyrene	0.35	0.1	4.2	3.5
Landau 2009b	10/29/2009	MW-5	10-11	Benzo(a)pyrene	0.14	0.1	0.21	1.4
Landau 2009b	10/29/2009	MW-3	17-18	Fluorene	0.47	3,200	0.081	5.8
Landau 2009b	10/29/2009	MW-3	6.5-7	Naphthalene	0.28	5	0.2	1.4
Landau 2009b	10/29/2009	MW-3	17-18	Phenenthrene	1.5		0.49	3.1
Landau 2009b	10/29/2009	MW-5	10-11	Phenenthrene	0.53		0.49	1.1
Other SVOCs								
Landau 2009b	10/29/2009	MW-3	17-18	2- Methylnaphthalene	0.2	320	0.073	2.7
Landau 2009b	10/29/2009	MW-3	6.5-7	2- Methylnaphthalene	0.17	320	0.073	2.3

Table 9
Chemicals Detected Above Screening Levels in Soil
Terminal 115 North

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Soil-to-Sediment Screening Level[b] (mg/kg)	Exceedance Factor
Landau 2009b	10/29/2009	MW-3	17-18	Dibenzofuran	0.31	160	0.059	5.3
Landau 2009b	10/29/2009	MW-3	6.5-7	Dibenzofuran	0.096	160	0.059	1.6
Landau 2009b	10/29/2009	MW-1	7-8	Dibenzofuran	0.087	160	0.059	1.5

ft bgs - feet below ground surface
CSL - SMS Cleanup Screening Level
mg/kg - Milligrams per kilogram
MTCA - Model Toxics Control Act
SVOCs - Semi-volatile orgranic compounds

a - The lower of MTCA Method A or B cleanup levels was selected, from CLARC database.

b - Based on CSL. Where two screening levels are listed for a single chemical, the higher screening levels are for soil samples collected from the vadose zone and the lower screening levels are for soil samples collected from the saturated zone (SAIC 2006).

Table presents detected chemicals only.

Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level or Soil-to-Sediment Screening Level, whichever is lower.

Table 10
Chemicals Detected Above Screening Levels in Groundwater
Terminal 115 North

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Metals							
Landau 2009b	11/4/2009	MW-7	Antimony	39	6.4		6.1
Landau 2009b	11/5/2009	MW-4	Antimony	38	6.4		5.9
Landau 2009b	11/4/2009	MW-7	Antimony	37	6.4		5.8
Landau 2009b	11/5/2009	MW-4	Antimony	13	6.4		2.0
Landau 2009b	11/6/2009	MW-5	Antimony	13 D	6.4		2.0
Landau 2009b	11/5/2009	MW-5	Antimony	12	6.4		1.9
Landau 2009b	11/5/2009	MW-5	Antimony	11 J	6.4		1.7
Landau 2009b	11/5/2009	MW-5	Antimony	6.9 D, J	6.4		1.1
Landau 2009b	11/5/2009	MW-4	Arsenic	1,900	0.06	370	31,667
Landau 2009b	11/5/2009	MW-4	Arsenic	1,400	0.06	370	23,333
Landau 2009b	11/5/2009	MW-25	Arsenic	1,400	0.06	370	23,333
Landau 2009b	11/5/2009	MW-25	Arsenic	1,200	0.06	370	20,000
Landau 2009b	11/5/2009	MW-5	Arsenic	820 J	0.06	370	13,667
Landau 2009b	11/6/2009	MW-5	Arsenic	790 D	0.06	370	13,167
Landau 2009b	11/5/2009	MW-5	Arsenic	760	0.06	370	12,667
Landau 2009b	11/5/2009	MW-5	Arsenic	640 D, J	0.06	370	10,667
Landau 2009b	11/4/2009	MW-7	Arsenic	620	0.06	370	10,333
Landau 2009b	11/4/2009	MW-7	Arsenic	590	0.06	370	9,833
Landau 2009b	11/5/2009	MW-26	Arsenic	400	0.06	370	6,667
Landau 2009b	11/5/2009	MW-26	Arsenic	370	0.06	370	6,167
Landau 2009b	11/4/2009	MW-9	Arsenic	180	0.06	370	3,000
Landau 2009b	11/4/2009	MW-9	Arsenic	160	0.06	370	2,667
Landau 2009b	11/4/2009	MW-27	Arsenic	26	0.06	370	433
Landau 2009b	11/4/2009	MW-27	Arsenic	25	0.06	370	417
Landau 2009b	11/5/2009	MW-6	Arsenic	21	0.06	370	350
Landau 2009b	11/5/2009	MW-2	Arsenic	20	0.06	370	333
Landau 2009b	11/5/2009	MW-2	Arsenic	19	0.06	370	317
Landau 2009b	11/6-12/2009	MW-1	Arsenic	19	0.06	370	317
Landau 2009b	11/5/2009	MW-6	Arsenic	18	0.06	370	300
Landau 2009b	11/6-12/2009	MW-1	Arsenic	17	0.06	370	283
Landau 2009b	11/6/2009	MW-3	Arsenic	15	0.06	370	250

Table 10
Chemicals Detected Above Screening Levels in Groundwater
Terminal 115 North

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Landau 2009b	11/4/2009	MW-8	Arsenic	12	0.06	370	200
Landau 2009b	11/6/2009	MW-3	Arsenic	11	0.06	370	183
Landau 2009b	11/4/2009	MW-8	Arsenic	11	0.06	370	183
Landau 2009b	10/29/2009	DP-1-GW	Arsenic	10	0.06	370	167
Landau 2009b	11/4/2009	MW-10	Arsenic	6.9	0.06	370	115
Landau 2009b	11/4/2009	MW-10	Arsenic	6	0.06	370	100
Landau 2009b	10/29/2009	DP-1-GW	Arsenic	5.1	0.06	370	85
Landau 2009b	11/5/2009	MW-4	Cadmium	520	5.0	320	104
Landau 2009b	11/5/2009	MW-5	Cadmium	460 D	5.0	320	92
Landau 2009b	11/5/2009	MW-5	Cadmium	410	5.0	320	82
Landau 2009b	11/4/2009	MW-7	Cadmium	69	5.0	320	14
Landau 2009b	11/5/2009	MW-6	Cadmium	13	5.0	320	2.6
Landau 2009b	11/6/2009	MW-3	Cadmium	11	5.0	320	2.2
Landau 2009b	11/4/2009	MW-27	Cadmium	8.3	5.0	320	1.7
Landau 2009b	11/5/2009	MW-4	Cadmium	7.3	5.0	320	1.5
Landau 2009b	11/6-12/2009	MW-1	Cadmium	6.6	5.0	320	1.3
Landau 2009b	11/5/2009	MW-4	Chromium	1,100	50	320	22
Landau 2009b	11/6/2009	MW-5	Chromium	430 D	50	320	8.6
Landau 2009b	11/5/2009	MW-5	Chromium	410	50	320	8.2
Landau 2009b	11/4/2009	MW-7	Chromium	101	50	320	2.0
Landau 2009b	11/5/2009	MW-4	Copper	310	592	120	2.6
Landau 2009b	10/29/2009	DP-1-GW	Copper	170	592	120	1.4
Landau 2009b	11/5/2009	MW-4	Lead	470	15	13	36
Landau 2009b	11/5/2009	MW-4	Lead	460	15	13	35
Landau 2009b	11/4/2009	MW-7	Lead	220	15	13	17
Landau 2009b	10/29/2009	DP-1-GW	Lead	180	15	13	14
Landau 2009b	11/4/2009	MW-10	Lead	86	15	13	6.6
Landau 2009b	11/6-12/2009	MW-1	Lead	68	15	13	5.2
Landau 2009b	11/4/2009	MW-7	Lead	40	15	13	3.1
Landau 2009b	11/6/2009	MW-5	Lead	34 D	15	13	2.6
Landau 2009b	11/5/2009	MW-5	Lead	32	15	13	2.5
Landau 2009b	11/5/2009	MW-5	Lead	32	15	13	2.5

Table 10
Chemicals Detected Above Screening Levels in Groundwater
Terminal 115 North

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Landau 2009b	11/5/2009	MW-5	Lead	27 D	15	13	2.1
Landau 2009b	11/5/2009	MW-6	Lead	22	15	13	1.7
Landau 2009b	11/5/2009	MW-4	Mercury	0.94	2.0	0.0074	127
Landau 2009b	11/5/2009	MW-4	Mercury	0.79	2.0	0.0074	107
Landau 2009b	11/6/2009	MW-5	Mercury	0.31 D	2.0	0.0074	42
Landau 2009b	11/5/2009	MW-5	Mercury	0.27	2.0	0.0074	36
Landau 2009b	11/5/2009	MW-5	Mercury	0.26	2.0	0.0074	35
Landau 2009b	11/5/2009	MW-5	Mercury	0.19 D	2.0	0.0074	26
Landau 2009b	11/5/2009	MW-4	Zinc	760	4,800	76	10
Landau 2009b	10/29/2009	DP-1-GW	Zinc	480	4,800	76	6.3
Landau 2009b	11/5/2009	MW-4	Zinc	460	4,800	76	6.1
Landau 2009b	11/4/2009	MW-7	Zinc	230	4,800	76	3.0
Landau 2009b	11/5/2009	MW-6	Zinc	140	4,800	76	1.8
Landau 2009b	11/5/2009	MW-5	Zinc	81 D, J	4,800	76	1.1
PAHs							
Landau 2009b	11/5/2009	MW-6	Acenaphthene	13	960	9.3	1.4
Landau 2009b	11/5/2009	MW-5	Benzo(a)anthracene	2		0.63	3.2
Landau 2009b	11/6/2009	MW-5	Benzo(a)anthracene	1.5 D		0.63	2.4
Landau 2009b	11/6/2009	MW-3	Benzo(a)anthracene	1.3		0.63	2.1
Landau 2009b	10/29/2009	DP-1-GW	Benzo(a)pyrene	0.11	0.012	0.27	9.2
Landau 2009b	11/4/2009	MW-7	Benzo(a)pyrene	0.037	0.012		3.1
Landau 2009b	11/6/2009	MW-3	Benzo(b)fluoranthene	2.1		0.56	3.8
Landau 2009b	11/5/2009	MW-5	Benzo(b)fluoranthene	1.1		0.56	2.0
Landau 2009b	10/29/2009	DP-1-GW	Benzo(g,h,i)perylene	0.14		0.029	4.8
Landau 2009b	11/5/2009	MW-6	Benzo(g,h,i)perylene	0.11		0.029	3.8
Landau 2009b	11/4/2009	MW-7	Benzo(g,h,i)perylene	0.041		0.029	1.4
Landau 2009b	10/29/2009	DP-1-GW	Dibenz(a,h)anthracene	0.044		0.013	3.4
Landau 2009b	11/6/2009	MW-3	Fluorene	11	640	7	1.6
Landau 2009b	10/29/2009	DP-1-GW	Indeno(1,2,3-cd)pyrene	0.085		0.033	2.6
Phthalates							
Landau 2009b	10/29/2009	DP-1-GW	bis(2-Ethylhexyl)phthalate	4.2	6.3	0.47	8.9

Table 10
Chemicals Detected Above Screening Levels in Groundwater
Terminal 115 North

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Other SVOCs							
Landau 2009b	11/5/2009	MW-4	(3+4)-Methylphenol (m,p-Cresol)	1,600	40	77	40
Landau 2009b	11/5/2009	MW-4	2-Methylphenol (o-Cresol)	120	400	7.1	17
Petroleum Hydrocarbons							
Landau 2009b	10/29/2009	DP-1-GW	Heavy Oil-range hydrocarbons	1,800	500		3.6
VOCs							
Landau 2009b	11/5/2009	MW-4	Acetone	2,400	800		3.0
Landau 2009b	11/5/2009	MW-4	Benzene	1.7	0.8		2.1

CSL - Cleanup Screening Level from Washington Sediment Management Standards
ug/L - Micrograms per liter
MTCA - Model Toxics Control Act
J - Estimated concentration between the method detection limit and laboratory reporting limit.
D - Duplicate sample
PAHs - Polycyclic aromatic hydrocarbons
SVOCs - Semi-volatile organic compounds
VOCs - Volatile organic compounds

a - The lower of MTCA Method A or B cleanup levels was selected, from CLARC database
b - Based on CSL (SAIC 2006).
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level or Groundwater-to-Sediment Screening Value whichever is lower.

Table 11
Chemicals Detected Above Screening Levels in Catch Basin Solids
Terminal 115 North

Source	Sample Date	Sample Location	Chemical	Catch Basin Solids (mg/kg DW)	SQS/LAET (mg/kg)	CSL/2LAET (mg/kg)	SQS Exceedance Factor	CSL Exceedance Factor
Metals								
Landau 2009b	11/19/2009	CB-1	Zinc	580	410	960	1.4	<1
Phthalates								
Landau 2009b	11/19/2009	CB-1	bis(2-Ethylhexyl)phthalate	2.5	1.3	1.9	1.9	1.3

mg/kg - Milligram per kilogram
CSL - SMS Cleanup Screening Level
SQS - SMS Sediment Quality Standard

LAET - Lowest Apparent Effects Threshold
2LAET - Second LAET
PAHs - Polycyclic aromatic hydrocarbons

Table presents detected chemicals only.

Exceedance factors are the ratio of the detected concentrations to the CSL/2LAET or SQS/LAET.

Total organic carbon was not analyzed for the catch basin samples; therefore, PAH and phthalates results were compared to the LAET and the 2LAET value rather than the SQS and CSL. The LAET is functionally equivalent to the SQS and the 2LAET is functionally equivalent to the CSL.

Table 12
Chemicals Detected Above Screening Levels in Soil
Building M-2 Area

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Soil Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Exceedance Factor
Coastal Tank Services 1993	4/29/1993	# 7	NA	Diesel-range hydrocarbons	31,000	2,000	16
Coastal Tank Services 1993	4/29/1993	# 2	NA	Diesel-range hydrocarbons	8,900	2,000	4.5

ft bgs - feet below ground surface
mg/kg - Milligrams per kilogram
MTCA - Model Toxics Control Act
NA - Not available
D - Duplicate

a - MTCA Method A cleanup level
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level.

Table 13
Chemicals Detected Above Screening Levels in Groundwater
Building M-2 Area

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	Exceedance Factor
Coastal Tank Services 1993	5/20/1993	UST Pit	Diesel-range hydrocarbons	8,000	500	16

ug/L - Micrograms per liter
MTCA - Model Toxics Control Act
D - Duplicate

a - MTCA Method A cleanup level
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level.

Table 14
Chemicals Detected Above Screening Levels in Soil
Building C-1 Former Car Wash Area

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Exceedance Factor
Harding Lawson 1990	1990	B-115-7-3	13	Diesel fuel #1/Kerosene	20,000	2,000	10
Harding Lawson 1990	1990	B-115-6-2	8	Diesel fuel #1/Kerosene	3,800	2,000	1.9
Harding Lawson 1990	1990	B-115-7-1	3.5	Diesel fuel #1/Kerosene	2,900	2,000	1.5
Harding Lawson 1990	1990	B-115-7-3	13	Total Petroleum Hydrocarbons	31,360	2,000	16
Harding Lawson 1990	1990	SB-2	13	Total Petroleum Hydrocarbons	3,856	2,000	1.9

ft bgs - feet below ground surface
mg/kg - Milligrams per kilogram
MTCA - Model Toxics Control Act

a - MTCA Method A cleanup level
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level.

Table 15
Chemicals Detected Above Screening Levels in Soil
Southwest Tank Yard/Cardlock Facility/Shultz Distributing Facility

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Exceedance Factor
Columbia Environmental 1997	1996	MW21-1	6	Diesel-range hydrocarbons	9,600	2,000	4.8
GeoScience Management 1995a	3/22/1995	HB-5	4	Diesel-range hydrocarbons	8,600	2,000	4.3
GeoScience Management 1996b	1996	Wwall	9	Diesel-range hydrocarbons	5,810	2,000	2.9
GeoScience Management 1995a	3/22/1995	HB-8	4.5	Diesel-range hydrocarbons	3,300	2,000	1.7
GeoScience Management 1996b	1996	SS-2	NA	Diesel-range hydrocarbons	2,690	2,000	1.3
Columbia Environmental 1995	1995	S11	9	Diesel-range hydrocarbons	2,100	2,000	1.1
GeoScience Management 1995a	11/1994	MW-12	6	Gasoline-range hydrocarbons	66	30	2.2

ft bgs - feet below ground surface
mg/kg - Milligrams per kilogram
MTCA - Model Toxics Control Act

a - MTCA Method A cleanup level
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level.

Table 16
Chemicals Detected Above Screening Levels in Groundwater
Southwest Tank Yard/Cardlock Facility/Shultz Distributing Facility Area

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)		MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Metals								
Onsite Environmental 2009b	12/4/2009	MW-15	Arsenic	64		0.06	370	1,067
Onsite Environmental 2009a	10/7/2009	MW-15	Arsenic	42		0.06	370	700
Onsite Environmental 2009b	12/4/2009	MW-19	Arsenic	16		0.06	370	267
Onsite Environmental 2009b	12/4/2009	MW-19	Arsenic	14		0.06	370	233
Onsite Environmental 2009a	10/7/2009	MW-19	Arsenic	5.5		0.06	370	92
Onsite Environmental 2009a	10/7/2009	MW-19	Arsenic	5		0.06	370	83
Onsite Environmental 2009a	10/7/2009	MW-21	Arsenic	3.6		0.06	370	60
Onsite Environmental 2009b	12/4/2009	MW-15	Cadmium	4.5		5	3.4	1.3
Onsite Environmental 2009b	12/4/2009	MW-15	Lead	56		15	13	4.3
Petroleum Hydrocarbons								
GeoScience Management 1996a	8/2/1995	MW-14	Diesel-range hydrocarbons	180,000		500		360
GeoScience Management 1996a	8/2/1995	MW-14	Diesel-range hydrocarbons	110,000	D	500		220
GeoScience Management 1996a	12/1/1995	MW-14	Diesel-range hydrocarbons	92,000	D	500		184
GeoScience Management 1996a	12/1/1995	MW-14	Diesel-range hydrocarbons	91,000		500		182
GeoScience Management 1996a	10/22/1996	MW-14	Diesel-range hydrocarbons	80,200		500		160
GeoScience Management 1996a	3/28/1996	MW-14	Diesel-range hydrocarbons	40,000		500		80
GeoScience Management 1996a	3/28/1996	MW-14	Diesel-range hydrocarbons	40,000	D	500		80
GeoScience Management 1996a	6/25/1996	MW-14	Diesel-range hydrocarbons	38,900		500		78
GeoScience Management 1995a	4/14/1995	MW-14	Diesel-range hydrocarbons	5,400		500		11
GeoScience Management 1995a	4/14/1995	MW-16	Diesel-range hydrocarbons	1,700		500		3.4
GeoScience Management 1996a	12/1/1995	MW-13	Diesel-range hydrocarbons	1,500		500		3.0
GeoScience Management 1996a	12/1/1995	MW-15	Diesel-range hydrocarbons	1,500		500		3.0
GeoScience Management 1995a	4/14/1995	MW-15	Diesel-range hydrocarbons	1,300		500		2.6
GeoScience Management 1996a	8/2/1995	MW-15	Diesel-range hydrocarbons	1,100		500		2.2
GeoScience Management 1996a	6/25/1996	MW-15	Diesel-range hydrocarbons	1,030		500		2.1
GeoScience Management 1996a	6/25/1996	MW-15	Diesel-range hydrocarbons	984		500		2.0
GeoScience Management 1996a	3/28/1996	MW-15	Diesel-range hydrocarbons	980		500		2.0
Columbia Environmental 1997	01/1997	MW-21	Diesel-range hydrocarbons	970		500		1.9

Table 16
Chemicals Detected Above Screening Levels in Groundwater
Southwest Tank Yard/Cardlock Facility/Shultz Distributing Facility Area

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
GeoScience Management 1996a	12/2/1996	MW-16	Diesel-range hydrocarbons	873 D	500		1.7
GeoScience Management 1996a	12/2/1996	MW-15	Diesel-range hydrocarbons	820	500		1.6
GeoScience Management 1996a	10/22/1996	MW-15	Diesel-range hydrocarbons	802	500		1.6
Onsite Environmental 2009a	10/7/2009	MW-19	Diesel-range hydrocarbons	760	500		1.5
GeoScience Management 1996a	8/2/1995	MW-17	Diesel-range hydrocarbons	680	500		1.4
GeoScience Management 1996a	12/2/1996	MW-16	Diesel-range hydrocarbons	641	500		1.3
Onsite Environmental 2009a	10/7/2009	MW-19	Diesel-range hydrocarbons	640	500		1.3
GeoScience Management 1996a	8/2/1995	MW-13	Diesel-range hydrocarbons	620	500		1.2
GeoScience Management 1995a	4/14/1995	MW-17	Diesel-range hydrocarbons	570	500		1.1
GeoScience Management 1996a	12/1/1995	MW-16	Diesel-range hydrocarbons	540	500		1.1
GeoScience Management 1996a	8/2/1995	MW-14	Heavy Oil-range hydrocarbons	45,000	500		90
GeoScience Management 1996a	8/2/1995	MW-14	Heavy Oil-range hydrocarbons	3,800 D	500		7.6
GeoScience Management 1996a	8/2/1995	MW-17	Heavy Oil-range hydrocarbons	1,600	500		3.2
GeoScience Management 1996a	12/1/1995	MW-17	Heavy Oil-range hydrocarbons	1,600	500		3.2
GeoScience Management 1996a	8/2/1995	MW-15	Heavy Oil-range hydrocarbons	1,500	500		3.0
GeoScience Management 1996a	12/1/1995	MW-15	Heavy Oil-range hydrocarbons	1,400	500		2.8
GeoScience Management 1996a	12/1/1995	MW-13	Heavy Oil-range hydrocarbons	1,100	500		2.2
GeoScience Management 1996a	3/28/1996	MW-14	Heavy Oil-range hydrocarbons	910 D	500		1.8
GeoScience Management 1996a	3/28/1996	MW-14	Heavy Oil-range hydrocarbons	880	500		1.8
GeoScience Management 1996a	8/2/1995	MW-13	Heavy Oil-range hydrocarbons	820	500		1.6
GeoScience Management 1996a	3/28/1996	MW-17	Heavy Oil-range hydrocarbons	820	500		1.6
GeoScience Management 1996a	3/28/1996	MW-15	Heavy Oil-range hydrocarbons	750	500		1.5

CSL - Cleanup Screening Level from Washington Sediment Management Standards
ug/L - Micrograms per liter

MTCA - Model Toxics Control Act
D - Duplicate sample

a - The lower of MTCA Method A or B cleanup levels was selected, from CLARC database.
b - Based on CSL (SAIC 2006).
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level or Groundwater-to-Sediment Screening Value, whichever is lower.

Table 17
Chemicals Detected Above Screening Levels in Soil
Seafreeze Facility Area

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Soil Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Exceedance Factor
Petroleum Hydrocarbons							
EMCON 1995a	5/10/1994	UST1nw-8	8	Diesel-range hydrocarbons	5,050	2,000	2.5
EMCON 1995a	5/10/1994	UST1sw-8	8	Diesel-range hydrocarbons	4,530	2,000	2.3
EMCON 1995a	5/10/1994	UST3ewa-8	8	Diesel-range hydrocarbons	4,050	2,000	2.0
EMCON 1995a	5/10/1994	UST3sw-8	8	Diesel-range hydrocarbons	2,900	2,000	1.5
EMCON 1995a	5/10/1994	UST3ewa-8	8	Gasoline-range hydrocarbons	9,600	30	320
EMCON 1995a	5/10/1994	UST3sw-8	8	Gasoline-range hydrocarbons	6,700	30	223
EMCON 1995a	5/10/1994	UST1sw-8	8	Gasoline-range hydrocarbons	6,200	30	207
EMCON 1995a	5/10/1994	UST1nw-8	8	Gasoline-range hydrocarbons	4,900	30	163
EMCON 1995a	5/10/1994	UST1wwa-8	8	Gasoline-range hydrocarbons	2,350	30	78
EMCON 1995a	4/26/1994	Comp 2 (SP-3 & SP-4)	Composite	Gasoline-range hydrocarbons	595	30	20
EMCON 1995a	4/26/1994	Comp 1 (SP-1 & SP-2)	Composite	Gasoline-range hydrocarbons	495	30	17
EMCON 1995a	5/10/1994	UST3ewc-4	4	Gasoline-range hydrocarbons	37	30	1.2
VOCs							
EMCON 1995a	5/10/1994	UST1wwa-8	8	Benzene	0.06	0.03	2.0
EMCON 1995a	5/10/1994	UST3ewa-8	8	Total Xylenes	22.9	9	2.5
EMCON 1995a	5/10/1994	UST3sw-8	8	Total Xylenes	17.5	9	1.9
EMCON 1995a	5/10/1994	UST1sw-8	8	Total Xylenes	14.5	9	1.6
EMCON 1995a	5/10/1994	UST1nw-8	8	Total Xylenes	11.2	9	1.2

ft bgs - feet below ground surface
mg/kg - Milligrams per kilogram
MTCA - Model Toxics Control Act
VOCs - Volatile organic compounds

a - The lower of MTCA Method A or B cleanup levels was selected, from CLARC database
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level.

Table 18
Chemicals Detected Above Screening Levels in Groundwater
Seafreeze Facility Area

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Metals							
Port of Seattle 1996	10/23/1995	MW-11	Lead	108	15	13	8.3
Port of Seattle 1996	4/25/1995	MW-8	Lead	66	15	13	5.1
Port of Seattle 1996	4/25/1995	MW-11	Lead	61	15	13	4.7
Port of Seattle 1996	7/28/1995	MW-11	Lead	58	15	13	4.5
EMCON 1995b	11/4/1994	MW-10	Lead	54 D	15	13	4.2
Port of Seattle 1997	2/25/1997	MW-11	Lead	41 D	15	13	3.2
Port of Seattle 1996	10/23/1995	MW-8	Lead	40	15	13	3.1
EMCON 1995b	11/4/1994	MW-10	Lead	39	15	13	3.0
Port of Seattle 1997	2/25/1997	MW-11	Lead	34 D	15	13	2.6
Port of Seattle 1996	10/23/1995	MW-9	Lead	27	15	13	2.1
Port of Seattle 1996	10/23/1995	MW-10	Lead	25	15	13	1.9
Port of Seattle 1996	7/28/1995	MW-10	Lead	22	15	13	1.7
Port of Seattle 1996	7/28/1995	MW-8	Lead	22	15	13	1.7
Port of Seattle 1996	4/25/1995	MW-10	Lead	20	15	13	1.5
Port of Seattle 1996	4/25/1995	MW-9	Lead	19	15	13	1.5
Port of Seattle 1996	2/7/1996	MW-8	Lead	17	15	13	1.3
Port of Seattle 1996	2/7/1996	MW-9	Lead	16	15	13	1.2
EMCON 1995b	11/4/1994	MW-11	Lead	15	15	13	1.2
Petroleum Hydrocarbons							
EMCON 1995b	11/4/1994	MW-8	Diesel-range hydrocarbons	3,170	500		6.3
EMCON 1995b	11/4/1994	MW-9	Diesel-range hydrocarbons	1,420	500		2.8
Port of Seattle 1996	2/7/1996	MW-8	Diesel-range hydrocarbons	1,400 D	500		2.8
Port of Seattle 1996	2/7/1996	MW-8	Diesel-range hydrocarbons	1,300	500		2.6
Port of Seattle 1996	7/28/1995	MW-8	Diesel-range hydrocarbons	1,100	500		2.2
Port of Seattle 1996	4/25/1995	MW-8	Diesel-range hydrocarbons	800	500		1.6
EMCON 1995b	11/4/1994	MW-11	Diesel-range hydrocarbons	750	500		1.5
Port of Seattle 1996	7/28/1995	MW-9	Diesel-range hydrocarbons	540	500		1.1
Port of Seattle 1996	10/23/1995	MW-8	Diesel-range hydrocarbons	530	500		1.1
EMCON 1995b	11/4/1994	MW-8	Heavy Oil-range hydrocarbons	830	500		1.7
VOCs							
Port of Seattle 1996	2/7/1996	MW-9	Benzene	78	0.8		98

Table 18
Chemicals Detected Above Screening Levels in Groundwater
Seafreeze Facility Area

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Port of Seattle 1996	4/25/1995	MW-9	Benzene	74	0.8		93
Port of Seattle 1997	2/25/1997	MW-9	Benzene	32	0.8		40
Port of Seattle 1997	2/25/1997	MW-9	Benzene	30 D	0.8		38
Port of Seattle 1996	7/28/1995	MW-9	Benzene	16	0.8		20
Port of Seattle 1996	10/23/1995	MW-9	Benzene	14	0.8		18
EMCON 1995b	11/4/1994	MW-9	Benzene	10	0.8		13
Port of Seattle 1996	10/23/1995	MW-8	Benzene	2.6	0.8		3.3
Port of Seattle 1996	10/23/1995	MW-8	Benzene	2.3	0.8		2.9
Port of Seattle 1996	2/7/1996	MW-8	Benzene	2.2	0.8		2.8
Port of Seattle 1996	2/7/1996	MW-8	Benzene	2.2 D	0.8		2.8
Port of Seattle 1996	7/28/1995	MW-8	Benzene	2.1	0.8		2.6
EMCON 1995b	11/4/1994	MW-8	Benzene	2.0	0.8		2.5
Port of Seattle 1997	2/25/1997	MW-11	Benzene	1.2	0.8		1.5
EMCON 1995b	11/4/1994	MW-8	Vinyl chloride	0.6	0.029		21

CSL - Cleanup Screening Level from Washington Sediment Management Standards
ug/L - Micrograms per liter
MTCA - Model Toxics Control Act
J - Estimated concentration between the method detection limit and laboratory reporting limit.
D - Duplicate sample
SVOCs - Semi-volatile organic compounds
VOCs - Volatile organic compounds

a - The lower of MTCA Method A or B cleanup levels was selected, from CLARC database
b - Based on CSL (SAIC 2006).
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level or Groundwater-to-Sediment Screening Value, whichever is lower.

Table 19
Chemicals Detected Above Screening Levels in Soil
Former Foss Environmental Facility

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Exceedance Factor
SD&C 1998	4/2/1998	1,000 EW	5	Diesel-range hydrocarbons	83,900	2,000	42
SD&C 1998	4/2/1998	1,000 NW	5	Diesel-range hydrocarbons	28,400	2,000	14
Urban Redevelopment 2002	10/26/2002	SW-SW-2	11-12	Diesel-range hydrocarbons	>23,000	2,000	>12
Urban Redevelopment 2002	10/26/2002	SW-NW2	10-11	Diesel-range hydrocarbons	20,000	2,000	10
Urban Redevelopment 2002	10/26/2002	SW-SW	11-12	Diesel-range hydrocarbons	19,000	2,000	10
Urban Redevelopment 2002	9/10/2002	B-7	12-13	Diesel-range hydrocarbons	17,000	2,000	8.5
IVI Environmental 2002	9/12/2002	B-7	8-16	Diesel-range hydrocarbons	17,000	2,000	8.5
Urban Redevelopment 2002	10/26/2002	SW-NW	10-11	Diesel-range hydrocarbons	10,000	2,000	5.0
SD&C 1998	4/2/1998	1,000 EW	5	Diesel-range hydrocarbons	9,970	2,000	5.0
IVI Environmental 2002	9/13/2002	b-8	8-16	Diesel-range hydrocarbons	4,100	2,000	2.1
SD&C 1998	4/2/1998	1,000 NW	5	Diesel-range hydrocarbons	3,810	2,000	1.9
Urban Redevelopment 2002	9/10/2002	B-4	7.5-8	Diesel-range hydrocarbons	3,700	2,000	1.9
IVI Environmental 2002	9/12/2002	B-4	8-16	Diesel-range hydrocarbons	3,700	2,000	1.9
Urban Redevelopment 2002	9/10/2002	B-1	11-13	Diesel-range hydrocarbons	2,300	2,000	1.2
IVI Environmental 2002	9/12/2002	B-1	8-16	Diesel-range hydrocarbons	2,300	2,000	1.2
Urban Redevelopment 2002	9/10/2002	B-2	10-11	Diesel-range hydrocarbons	2,200	2,000	1.1
IVI Environmental 2002	9/12/2002	B-2	8-16	Diesel-range hydrocarbons	2,200	2,000	1.1

ft bgs - feet below ground surface
mg/kg - Milligrams per kilogram
MTCA - Model Toxics Control Act

a - MTCA Method A cleanup level
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level.

Table 20
Chemicals Detected Above Screening Levels in Groundwater
Former Foss Environmental Facility

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	Exceedance Factor
Urban Revdevelopment 2003a	8/7/2002	GP-5	Diesel-range hydrocarbons	14,000	500	28
Urban Revdevelopment 2003a	9/11/2002	B-8	Diesel-range hydrocarbons	4,100	500	8.2
Urban Revdevelopment 2003a	4/2/1998	RW-1	Diesel-range hydrocarbons	3,390	500	6.8
Urban Revdevelopment 2003a	8/7/2002	GP-4	Diesel-range hydrocarbons	700	500	1.4

ug/L - Micrograms per liter
MTCA - Model Toxics Control Act

a - MTCA Method A cleanup level
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level.

Table 21
Summary of Data Gaps
Terminal 115 Source Control Area

Facility	Data Gap
Public Outfalls	
Outfall 2128 (POS 6133) **Outfall 2127 (Terminal 115 CSO [038]/SW Kenny Street SD/POS 6132)** **POS 6146** **Outfall 2220 (POS 6153)** **Outfall 2123 (POS 6161)** **Outfall 2125 (Highland Way SW SD/POS 6162)** **Outfall 2124 (POS 6163)** **Outfall 2122 (POS SD 6165)** **Outfall 2506 (West Michigan CSO)**	***Stormwater Discharge***
	Additional information is needed to assess the drainage area for the SD lines that are connected to Outfall 2128.
	Additional data on contaminant concentrations in SD solids within the Terminal 115, Highland Way SW, and SW Kenny Street SD systems are needed to evaluate whether contaminants are being transported to LDW sediments.
	Base flow samples from the portions of the Terminal 115 SD system that discharge to Outfall 2220 are needed to determine if contaminants in base flow (i.e., groundwater infiltrating into the SD system) are present at concentrations exceeding Washington State Water Quality Standards (WAC 173-201A) and/or the groundwater-to-sediment screening levels.
	Groundwater is known to be contaminated in the area currently occupied by Summy Lumber. Environmental evaluations are needed in the other areas of the Terminal 115 property (Northland Services, Northwest Container Services, and Sea Pac Services) where groundwater infiltrates into the SD system to determine if sediment COCs are present in groundwater at concentrations that exceed groundwater-to-sediment screening levels.
	Combined Sewer Discharge
	Data on contaminant concentrations in CSO discharges are needed to evaluate whether the Terminal 115 and West Michigan CSOs are a significant source of contaminants to LDW sediments.
Adjacent Properties and Facilities	
Terminal 115	***Stormwater Discharge and Surface Runoff/Spills***
	Storm drain solids analytical data for the SD lines discharging to Outfalls 2122 and POS 6146 are needed to identify potential contaminant sources and to evaluate the potential for sediment recontamination via the stormwater pathway.
	Information regarding discharges to the deck drains north of Berth 1 is needed to evaluate the potential for sediment recontamination via the stormwater and spill pathways.
	Additional information is needed to determine how stormwater from the area of the Terminal 115 property at 150 SW Michigan Street is discharged to the LDW.
	A review of the response from 2-3 LLC to the CERCLA Section 104(e) Request for Information letter is needed to identify potential sources of sediment recontamination that may be associated with historical operations at the property.
	Groundwater Discharge
	Additional groundwater data are needed from the areas occupied by Shultz Distributing and historically occupied by Boeing Plant 1 to evaluate the potential for sediment recontamination via this pathway.
	Bank Erosion/Leaching
	Soil data are needed from the areas of exposed bank soil south of Berth 1 to determine if sediment COCs are present and evaluate the potential for sediment recontamination via this pathway.

Table 21
Summary of Data Gaps
Terminal 115 Source Control Area

Facility	Data Gap
Icicle Seafoods	***Stormwater Discharge and Surface Runoff/Spills***
	Review of the reports from SPU's 2009 and Ecology's 2010 inspections are needed to verify that operations and materials used at the facility do not represent a potential source of sediment COCs, which could commingle with stormwater or be spilled directly to the LDW.
	A review of the responses to the CERCLA Section 104(e) Request for Information letters from the companies that provide services to or are affiliated with Icicle Seafoods is needed to assess relevance to the Terminal 115 source control area and to identify potential sources of sediment recontamination that may be associated with operations. These companies include: Custom Seafoods Service, Inc., Cypress Island Seafood, LLC, Murphy Overseas, LLC, and Northwest Seafood Processors.
Gene Summy Lumber and Commercial Fence Corporation	***Stormwater Discharge and Surface Runoff/Spills***
	A review of the response to the CERCLA Section 104(e) Request for Information letter from SGM Global LLC is needed to identify potential sources of sediment recontamination that may be associated with current or historical operations.
Northwest Container Services	***Stormwater Discharge and Surface Runoff/Spills***
	A follow-up stormwater inspection is needed at Northwest Container Services to verify compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW.
Sea Pac Services	***Stormwater Discharge and Surface Runoff/Spills***
	A facility inspection is needed to verify compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW.
Shultz Distributing	***Stormwater Discharge and Surface Runoff/Spills***
	A facility inspection is needed to verify compliance with applicable regulations and BMPs to prevent the release of contaminants to the LDW.
Seafreeze Cold Storage	***Stormwater Discharge and Surface Runoff/Spills***
	A review of the response from Seafreeze to the CERCLA Section 104(e) Request for Information letter is needed to identify potential sources of sediment recontamination (if any) that may be associated with current or historical operations.
Seattle Engineering Department Penn Yard	***Stormwater Discharge and Surface Runoff/Spills***
	Information regarding ongoing industrial activities, if any, is needed to verify that these activities are in compliance with all applicable regulations and BMPs.
	Additional information regarding the historical operations performed by City of Seattle Engineering Department to determine if operations may have resulted in releases of contaminants to soil and/or groundwater.

Table 21
Summary of Data Gaps
Terminal 115 Source Control Area

Facility	Data Gap
Former Foss Environmental Services	***Stormwater Discharge and Surface Runoff/Spills***
	Additional information regarding the status of the utility-owned pad-mounted electrical transformer is needed to determine if it remains at the property, and, if so, to determine if it contains PCB-bearing fluid.
	Additional information is needed to determine the locations of SD lines on the former Foss Environmental property.
	A review of the responses from McGraw-Hill Companies, Inc. and Ilahie Holdings, Inc. to the CERCLA Section 104(e) Request for Information letters is needed to identify potential sources of sediment recontamination that may be associated with current or historical operations.
	Groundwater Discharge
	Additional information is needed to clarify the dates of installation and periods of use for one or more elevators historically present in the building and to determine if PCB-bearing hydraulic fluid may have been used in the elevator(s). This information is needed to determine if PCBs may be present in soil and/or groundwater around the underground elevator pit.
Upland Properties	
Aluminum & Bronze Fabricators	***Stormwater Discharge and Surface Runoff/Spills***
	Additional information is needed to determine if Aluminum & Bronze obtained a CNE certificate or was required to obtain coverage under the Industrial Stormwater General Permit.
Catholic Printery	Review of the April 2010 local source control inspection report is needed to determine if there is a potential for sediment recontamination via the stormwater pathway.
Properties in the Highland Way SW and SW Kenny Street Storm Drain Basins and the Terminal 115 and West Michigan CSO Service Areas	
All Properties	***Stormwater and Combined Sewer Discharge***
	Additional information is needed to determine if undocumented and unregulated industrial operations are occurring that may be an ongoing source of sediment recontamination within the Highland Way SW and SW Kenny Street SD basins and the Terminal 115 and West Michigan CSO basins.
	Information regarding ongoing industrial activities is needed to verify that these facilities are in compliance with all applicable regulations and BMPs.
	Information on how and where any hazardous materials, chemicals, or hazardous wastes are stored or used at the facilities is needed to evaluate the potential for spills to commingle with wastewater and stormwater.
	Facility plans showing the locations of floor drains, catch basins, sewer connections, and SDs (if any) are needed to evaluate the potential for contaminants suspended in wastewater and stormwater (if any) to be transported to the LDW via stormwater and combined sewer discharges.

Table 21
Summary of Data Gaps
Terminal 115 Source Control Area

Facility	Data Gap
All Properties, continued	Information regarding any containment systems at these properties is needed to evaluate the adequacy of the systems and determine the potential for spills to commingle with wastewater and stormwater.
	Information on the materials used to construct SD and sanitary sewer lines in the CSO areas and the age of the SD and sanitary sewer lines would be useful to assess the potential for contaminated groundwater to infiltrate the combined sewer system.

BMP – best management practice
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
CNE – Conditional No Exposure
COC – chemical of concern
CSO – combined sewer overflow
Ecology – Washington State Department of Ecology
LDW – Lower Duwamish Waterway
PCB – polychlorinated biphenyl
POS – Port of Seattle
SD – storm drain
SPU – Seattle Public Utilities
WAC – Washington Administrative Code

Appendix A

Sediment Sampling Data
RM 1.6 to 2.1 East (Terminal 115)

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Slope Sediment Characterization	T115-SS04	4/28/2009	1,2,3,4,5,6,7,8-OCDF	4.61E-04	1.78	2.59E-02					
Slope Sediment Characterization	T115-SS03	4/28/2009	1,2,3,4,5,6,7,8-OCDF	2.46E-04	2.57	9.57E-03					
Slope Sediment Characterization	T115-SS02	4/28/2009	1,2,3,4,5,6,7,8-OCDF	1.99E-04	3.53	5.64E-03					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,4,5,6,7,8-OCDF	8.60E-05	1.84	4.67E-03					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,4,5,6,7,8-OCDF	7.81E-05	1.84	4.24E-03					
Slope Sediment Characterization	T115-SS01	4/28/2009	1,2,3,4,5,6,7,8-OCDF	3.66E-05	3.5	1.05E-03					
Slope Sediment Characterization	T115-SS04	4/28/2009	1,2,3,4,5,7,8-HpCDD	9.13E-04	1.78	5.13E-02					
Slope Sediment Characterization	T115-SS03	4/28/2009	1,2,3,4,5,7,8-HpCDD	7.45E-04	2.57	2.90E-02					
Slope Sediment Characterization	T115-SS02	4/28/2009	1,2,3,4,5,7,8-HpCDD	5.71E-04	3.53	1.62E-02					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,4,5,7,8-HpCDD	1.57E-04	1.84	8.53E-03					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,4,5,7,8-HpCDD	1.48E-04	1.84	8.04E-03					
Slope Sediment Characterization	T115-SS01	4/28/2009	1,2,3,4,5,7,8-HpCDD	8.88E-05	3.5	2.54E-03					
Slope Sediment Characterization	T115-SS03	4/28/2009	1,2,3,4,6,7,8,9-OCDD	8.12E-03	2.57	3.16E-01					
Slope Sediment Characterization	T115-SS04	4/28/2009	1,2,3,4,6,7,8,9-OCDD	7.06E-03	1.78	3.97E-01					
Slope Sediment Characterization	T115-SS02	4/28/2009	1,2,3,4,6,7,8,9-OCDD	6.47E-03	3.53	1.83E-01					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,4,6,7,8,9-OCDD	1.29E-03	1.84	7.01E-02					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,4,6,7,8,9-OCDD	1.25E-03	1.84	6.79E-02					
Slope Sediment Characterization	T115-SS01	4/28/2009	1,2,3,4,6,7,8,9-OCDD	6.90E-04	3.5	1.97E-02					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	1,2,3,4,6,7,8-HpCDD	1.88E-03	2.07	9.08E-02					
EPA Site Inspection	DR154	8/13/1998	1,2,3,4,6,7,8-HpCDD	4.00E-07	2.33	1.72E-05					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	1,2,3,4,6,7,8-HpCDF	2.88E-04	2.07	1.39E-02					
Slope Sediment Characterization	T115-SS04	4/28/2009	1,2,3,4,6,7,8-HpCDF	1.20E-04	1.78	6.74E-03					
Slope Sediment Characterization	T115-SS03	4/28/2009	1,2,3,4,6,7,8-HpCDF	6.43E-05	2.57	2.50E-03					
Slope Sediment Characterization	T115-SS02	4/28/2009	1,2,3,4,6,7,8-HpCDF	5.56E-05	3.53	1.58E-03					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,4,6,7,8-HpCDF	2.43E-05	1.84	1.32E-03					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,4,6,7,8-HpCDF	2.20E-05	1.84	1.20E-03					
Slope Sediment Characterization	T115-SS01	4/28/2009	1,2,3,4,6,7,8-HpCDF	1.57E-05	3.5	4.49E-04					
EPA Site Inspection	DR154	8/13/1998	1,2,3,4,6,7,8-HpCDF	6.60E-08	2.33	2.83E-06					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	1,2,3,4,7,8,9-HpCDF	2.42E-05 J	2.07	1.17E-03					
Slope Sediment Characterization	T115-SS04	4/28/2009	1,2,3,4,7,8,9-HpCDF	9.44E-06	1.78	5.30E-04					
Slope Sediment Characterization	T115-SS03	4/28/2009	1,2,3,4,7,8,9-HpCDF	5.65E-06	2.57	2.20E-04					
Slope Sediment Characterization	T115-SS02	4/28/2009	1,2,3,4,7,8,9-HpCDF	4.40E-06	3.53	1.25E-04					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,4,7,8,9-HpCDF	2.03E-06 J	1.84	1.10E-04					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,4,7,8,9-HpCDF	1.97E-06 J	1.84	1.07E-04					
Slope Sediment Characterization	T115-SS01	4/28/2009	1,2,3,4,7,8,9-HpCDF	1.12E-06 J	3.5	3.20E-05					
EPA Site Inspection	DR154	8/13/1998	1,2,3,4,7,8,9-HpCDF	6.90E-09 J	2.33	2.96E-07					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	1,2,3,4,7,8-HxCDD	1.14E-05 J	2.07	5.51E-04					
Slope Sediment Characterization	T115-SS04	4/28/2009	1,2,3,4,7,8-HxCDD	8.19E-06	1.78	4.60E-04					
Slope Sediment Characterization	T115-SS03	4/28/2009	1,2,3,4,7,8-HxCDD	5.08E-06	2.57	1.98E-04					
Slope Sediment Characterization	T115-SS02	4/28/2009	1,2,3,4,7,8-HxCDD	4.51E-06	3.53	1.28E-04					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,4,7,8-HxCDD	1.99E-06 J	1.84	1.08E-04					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,4,7,8-HxCDD	1.94E-06 J	1.84	1.05E-04					

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Slope Sediment Characterization	T115-SS01	4/28/2009	1,2,3,4,7,8-HxCDD	1.60E-06 J	3.5	4.57E-05					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	1,2,3,4,7,8-HxCDF	3.05E-05	2.07	1.47E-03					
Slope Sediment Characterization	T115-SS03	4/28/2009	1,2,3,4,7,8-HxCDF	5.75E-06	2.57	2.24E-04					
Slope Sediment Characterization	T115-SS04	4/28/2009	1,2,3,4,7,8-HxCDF	5.09E-06	1.78	2.86E-04					
Slope Sediment Characterization	T115-SS02	4/28/2009	1,2,3,4,7,8-HxCDF	4.36E-06	3.53	1.24E-04					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,4,7,8-HxCDF	1.85E-06 J	1.84	1.01E-04					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,4,7,8-HxCDF	1.60E-06 J	1.84	8.70E-05					
Slope Sediment Characterization	T115-SS01	4/28/2009	1,2,3,4,7,8-HxCDF	1.17E-06 J	3.5	3.34E-05					
EPA Site Inspection	DR154	8/13/1998	1,2,3,4,7,8-HxCDF	1.00E-08	2.33	4.29E-07					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	1,2,3,6,7,8-HxCDD	6.53E-05	2.07	3.15E-03					
Slope Sediment Characterization	T115-SS04	4/28/2009	1,2,3,6,7,8-HxCDD	3.23E-05	1.78	1.81E-03					
Slope Sediment Characterization	T115-SS03	4/28/2009	1,2,3,6,7,8-HxCDD	1.91E-05	2.57	7.43E-04					
Slope Sediment Characterization	T115-SS02	4/28/2009	1,2,3,6,7,8-HxCDD	1.47E-05	3.53	4.16E-04					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,6,7,8-HxCDD	7.01E-06	1.84	3.81E-04					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,6,7,8-HxCDD	6.22E-06	1.84	3.38E-04					
Slope Sediment Characterization	T115-SS01	4/28/2009	1,2,3,6,7,8-HxCDD	4.37E-06	3.5	1.25E-04					
Slope Sediment Characterization	T115-SS03	4/28/2009	1,2,3,6,7,8-HxCDD	2.88E-06	2.57	1.12E-04					
Slope Sediment Characterization	T115-SS04	4/28/2009	1,2,3,6,7,8-HxCDD	2.79E-06	1.78	1.57E-04					
Slope Sediment Characterization	T115-SS02	4/28/2009	1,2,3,6,7,8-HxCDD	2.27E-06 J	3.53	6.43E-05					
Slope Sediment Characterization	T115-SS01	4/28/2009	1,2,3,6,7,8-HxCDD	1.10E-06 J	3.5	3.14E-05					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,6,7,8-HxCDD	1.08E-06 J	1.84	5.87E-05					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,6,7,8-HxCDD	9.56E-07 J	1.84	5.20E-05					
EPA Site Inspection	DR154	8/13/1998	1,2,3,6,7,8-HxCDD	1.70E-08	2.33	7.30E-07					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	1,2,3,6,7,8-HxCDF	7.20E-06 J	2.07	3.48E-04					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	1,2,3,7,8,9-HxCDD	2.64E-05	2.07	1.28E-03					
Slope Sediment Characterization	T115-SS04	4/28/2009	1,2,3,7,8,9-HxCDD	1.61E-05	1.78	9.04E-04					
Slope Sediment Characterization	T115-SS03	4/28/2009	1,2,3,7,8,9-HxCDD	1.06E-05	2.57	4.12E-04					
Slope Sediment Characterization	T115-SS02	4/28/2009	1,2,3,7,8,9-HxCDD	8.99E-06	3.53	2.55E-04					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,7,8,9-HxCDD	3.62E-06	1.84	1.97E-04					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,7,8,9-HxCDD	3.35E-06	1.84	1.82E-04					
Slope Sediment Characterization	T115-SS01	4/28/2009	1,2,3,7,8,9-HxCDD	2.94E-06	3.5	8.40E-05					
Slope Sediment Characterization	T115-SS03	4/28/2009	1,2,3,7,8,9-HxCDD	1.34E-06 J	2.57	5.21E-05					
Slope Sediment Characterization	T115-SS04	4/28/2009	1,2,3,7,8,9-HxCDD	1.31E-06 J	1.78	7.36E-05					
Slope Sediment Characterization	T115-SS02	4/28/2009	1,2,3,7,8,9-HxCDD	1.15E-06 J	3.53	3.26E-05					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,7,8,9-HxCDD	4.94E-07 J	1.84	2.68E-05					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,7,8,9-HxCDD	4.94E-07 J	1.84	2.68E-05					
Slope Sediment Characterization	T115-SS01	4/28/2009	1,2,3,7,8,9-HxCDD	4.06E-07 J	3.5	1.16E-05					
EPA Site Inspection	DR154	8/13/1998	1,2,3,7,8,9-HxCDD	1.00E-08	2.33	4.29E-07					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	1,2,3,7,8,9-HxCDF	5.68E-07 J	2.07	2.74E-05					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	1,2,3,7,8-PeCDD	5.24E-06 J	2.07	2.53E-04					
Slope Sediment Characterization	T115-SS04	4/28/2009	1,2,3,7,8-PeCDD	2.69E-06	1.78	1.51E-04					
Slope Sediment Characterization	T115-SS03	4/28/2009	1,2,3,7,8-PeCDD	2.18E-06 J	2.57	8.48E-05					

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Slope Sediment Characterization	T115-SS02	4/28/2009	1,2,3,7,8-PeCDD	1.77E-06 J	3.53	5.01E-05					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,7,8-PeCDD	8.29E-07 J	1.84	4.51E-05					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,7,8-PeCDD	7.97E-07 J	1.84	4.33E-05					
Slope Sediment Characterization	T115-SS01	4/28/2009	1,2,3,7,8-PeCDD	7.81E-07 J	3.5	2.23E-05					
Slope Sediment Characterization	T115-SS03	4/28/2009	1,2,3,7,8-PeCDF	1.28E-06 J	2.57	4.98E-05					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	1,2,3,7,8-PeCDF	1.08E-06 J	2.07	5.22E-05					
Slope Sediment Characterization	T115-SS02	4/28/2009	1,2,3,7,8-PeCDF	8.96E-07 J	3.53	2.54E-05					
Slope Sediment Characterization	T115-SS04	4/28/2009	1,2,3,7,8-PeCDF	6.37E-07 J	1.78	3.58E-05					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,7,8-PeCDF	5.11E-07 J	1.84	2.78E-05					
Slope Sediment Characterization	T115-SS05	4/28/2009	1,2,3,7,8-PeCDF	4.54E-07 J	1.84	2.47E-05					
Slope Sediment Characterization	T115-SS01	4/28/2009	1,2,3,7,8-PeCDF	3.38E-07 J	3.5	9.66E-06					
Slope Sediment Characterization	T115-SS04	4/28/2009	2,3,4,6,7,8,-HxCDD	4.80E-06	1.78	2.70E-04					
Slope Sediment Characterization	T115-SS03	4/28/2009	2,3,4,6,7,8,-HxCDD	4.19E-06	2.57	1.63E-04					
Slope Sediment Characterization	T115-SS02	4/28/2009	2,3,4,6,7,8,-HxCDD	3.56E-06	3.53	1.01E-04					
Slope Sediment Characterization	T115-SS05	4/28/2009	2,3,4,6,7,8,-HxCDD	1.80E-06 J	1.84	9.78E-05					
Slope Sediment Characterization	T115-SS01	4/28/2009	2,3,4,6,7,8,-HxCDD	1.59E-06 J	3.5	4.54E-05					
Slope Sediment Characterization	T115-SS05	4/28/2009	2,3,4,6,7,8,-HxCDD	1.54E-06 J	1.84	8.37E-05					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	2,3,4,6,7,8-HxCDF	5.38E-06 J	2.07	2.60E-04					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	2,3,4,7,8-PeCDF	4.71E-06 J	2.07	2.28E-04					
Slope Sediment Characterization	T115-SS03	4/28/2009	2,3,4,7,8-PeCDF	3.60E-06	2.57	1.40E-04					
Slope Sediment Characterization	T115-SS02	4/28/2009	2,3,4,7,8-PeCDF	2.62E-06	3.53	7.42E-05					
Slope Sediment Characterization	T115-SS04	4/28/2009	2,3,4,7,8-PeCDF	1.70E-06 J	1.78	9.55E-05					
Slope Sediment Characterization	T115-SS01	4/28/2009	2,3,4,7,8-PeCDF	1.34E-06 J	3.5	3.83E-05					
Slope Sediment Characterization	T115-SS05	4/28/2009	2,3,4,7,8-PeCDF	1.18E-06 J	1.84	6.41E-05					
Slope Sediment Characterization	T115-SS05	4/28/2009	2,3,4,7,8-PeCDF	7.73E-07 J	1.84	4.20E-05					
Slope Sediment Characterization	T115-SS02	4/28/2009	2,3,7,8-TCDD	6.01E-07	3.53	1.70E-05					
Slope Sediment Characterization	T115-SS03	4/28/2009	2,3,7,8-TCDD	5.26E-07	2.57	2.05E-05					
Slope Sediment Characterization	T115-SS04	4/28/2009	2,3,7,8-TCDD	3.99E-07 J	1.78	2.24E-05					
Slope Sediment Characterization	T115-SS05	4/28/2009	2,3,7,8-TCDD	2.22E-07 J	1.84	1.21E-05					
Slope Sediment Characterization	T115-SS05	4/28/2009	2,3,7,8-TCDD	1.71E-07 J	1.84	9.29E-06					
Slope Sediment Characterization	T115-SS01	4/28/2009	2,3,7,8-TCDD	1.51E-07 J	3.5	4.31E-06					
EPA Site Inspection	DR154	8/13/1998	2,3,7,8-TCDD TEQ	1.17E-05	2.33	5.02E-04					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	2,3,7,8-TCDF	1.90E-06	2.07	9.18E-05					
Slope Sediment Characterization	T115-SS03	4/28/2009	2,3,7,8-TCDF	1.80E-06	2.57	7.00E-05					
Slope Sediment Characterization	T115-SS02	4/28/2009	2,3,7,8-TCDF	1.24E-06	3.53	3.51E-05					
Slope Sediment Characterization	T115-SS04	4/28/2009	2,3,7,8-TCDF	6.06E-07	1.78	3.40E-05					
Slope Sediment Characterization	T115-SS05	4/28/2009	2,3,7,8-TCDF	5.64E-07	1.84	3.07E-05					
Slope Sediment Characterization	T115-SS01	4/28/2009	2,3,7,8-TCDF	4.93E-07 J	3.5	1.41E-05					
Slope Sediment Characterization	T115-SS05	4/28/2009	2,3,7,8-TCDF	3.26E-07 J	1.84	1.77E-05					
EPA Site Inspection	DR154	8/13/1998	2,3,7,8-TCDF	2.30E-09	2.33	9.87E-08					
Boeing Site Characterization	R3	10/15/1997	2-Methylnaphthalene	1.10E-01	3.7	2.97E+00	38	64	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	2-Methylnaphthalene	3.20E-02	3.8	8.42E-01	38	64	mg/kg OC	<1	<1

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
EPA Site Inspection	DR129	8/27/1998	2-Methylnaphthalene	3.00E-02	2.67	1.12E+00	38	64	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	2-Methylnaphthalene	2.00E-02	1.47	1.36E+00	38	64	mg/kg OC	<1	<1
Boeing Site Characterization	R5	10/15/1997	2-Methylnaphthalene	2.00E-02	1.8	1.11E+00	38	64	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	2-Methylnaphthalene	2.00E-02	1.9	1.05E+00	38	64	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	2-Methylnaphthalene	2.00E-02	2.87	6.97E-01	38	64	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	2-Methylnaphthalene	2.00E-02	3.09	6.47E-01	38	64	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	4-Methylphenol	3.00E-01	1.42	2.11E+01	0.67	0.67	mg/kg DW	<1	<1
Boeing Site Characterization	R2	10/15/1997	4-Methylphenol	8.60E-02	1.9	4.53E+00	0.67	0.67	mg/kg DW	<1	<1
Boeing Site Characterization	R3	10/15/1997	4-Methylphenol	6.50E-02	3.7	1.76E+00	0.67	0.67	mg/kg DW	<1	<1
Boeing Site Characterization	R4	10/15/1997	4-Methylphenol	2.70E-02	3.8	7.11E-01	0.67	0.67	mg/kg DW	<1	<1
Boeing Site Characterization	R8	10/16/1997	4-Methylphenol	1.50E-02 J	1.55	9.68E-01	0.67	0.67	mg/kg DW	<1	<1
Boeing Site Characterization	R3	10/15/1997	Acenaphthene	1.80E-01	3.7	4.86E+00	16	57	mg/kg OC	<1	<1
Boeing Site Characterization	R5	10/15/1997	Acenaphthene	1.70E-01	1.8	9.44E+00	16	57	mg/kg OC	<1	<1
EPA Site Inspection	DR132	8/13/1998	Acenaphthene	1.60E-01	2.9	5.52E+00	16	57	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	Acenaphthene	1.20E-01	1.9	6.32E+00	16	57	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Acenaphthene	1.00E-01	1.47	6.80E+00	16	57	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Acenaphthene	8.00E-02	3.09	2.59E+00	16	57	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Acenaphthene	7.00E-02	2.87	2.44E+00	16	57	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Acenaphthene	7.00E-02	3.8	1.84E+00	16	57	mg/kg OC	<1	<1
EPA Site Inspection	DR134	8/13/1998	Acenaphthene	6.00E-02	2.52	2.38E+00	16	57	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Acenaphthene	5.00E-02	2.67	1.87E+00	16	57	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Acenaphthene	4.00E-02	2.19	1.83E+00	16	57	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	Acenaphthene	4.00E-02	2.7	1.48E+00	16	57	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	Acenaphthene	4.00E-02	2.99	1.34E+00	16	57	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	Acenaphthene	3.00E-02	2.78	1.08E+00	16	57	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Acenaphthene	3.00E-02	2.78	1.08E+00	16	57	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	Acenaphthene	2.80E-02	1.5	1.87E+00	16	57	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	Acenaphthene	2.50E-02	1.9	1.32E+00	16	57	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Acenaphthene	2.45E-02	1.55	1.58E+00	16	57	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Acenaphthylene	3.40E-02 J	2.88	1.18E+00	66	66	mg/kg OC	<1	<1
Boeing Site Characterization	R5	10/15/1997	Acenaphthylene	2.10E-02	1.8	1.17E+00	66	66	mg/kg OC	<1	<1
EPA Site Inspection	DR161	8/31/1998	Aluminum	2.71E+04	2.87						
EPA Site Inspection	DR129	8/27/1998	Aluminum	2.65E+04	2.67						
EPA Site Inspection	DR153	8/31/1998	Aluminum	2.60E+04	2.19						
EPA Site Inspection	DR152	8/27/1998	Aluminum	2.60E+04	2.37						
EPA Site Inspection	DR164	8/19/1998	Aluminum	2.19E+04	2.58						
EPA Site Inspection	DR132	8/13/1998	Aluminum	2.14E+04	2.9						
EPA Site Inspection	DR162	8/27/1998	Aluminum	2.13E+04	1.9						
EPA Site Inspection	DR127	8/12/1998	Aluminum	2.09E+04	2.78						
EPA Site Inspection	DR128	8/12/1998	Aluminum	2.04E+04	2.99						
EPA Site Inspection	DR155	8/13/1998	Aluminum	1.99E+04	2.7						
EPA Site Inspection	DR124	9/15/1998	Aluminum	1.98E+04	2.78						

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Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
EPA Site Inspection	DR130	8/12/1998	Aluminum	1.95E+04	2.87						
EPA Site Inspection	DR134	8/13/1998	Aluminum	1.92E+04	2.52						
EPA Site Inspection	DR126	8/12/1998	Aluminum	1.92E+04	3.09						
EPA Site Inspection	DR154	8/13/1998	Aluminum	1.90E+04	2.33						
EPA Site Inspection	DR166	8/13/1998	Aluminum	1.41E+04	1.47						
EPA Site Inspection	DR131	8/13/1998	Aluminum	1.09E+04	1.47						
EPA Site Inspection	DR133	9/2/1998	Aluminum	9.78E+03	0.76						
EPA Site Inspection	DR132	8/13/1998	Anthracene	4.40E-01	2.9	1.52E+01	220	1200	mg/kg OC	<1	<1
Boeing Site Characterization	R3	10/15/1997	Anthracene	3.60E-01	3.7	9.73E+00	220	1200	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Anthracene	2.00E-01	2.54	7.87E+00	220	1200	mg/kg OC	<1	<1
Boeing Site Characterization	R5	10/15/1997	Anthracene	1.80E-01	1.8	1.00E+01	220	1200	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	Anthracene	1.80E-01	1.9	9.47E+00	220	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	Anthracene	1.80E-01	2.7	6.67E+00	220	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Anthracene	1.80E-01	3.09	5.83E+00	220	1200	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Anthracene	1.70E-01	3.8	4.47E+00	220	1200	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	Anthracene	1.40E-01	1.9	7.37E+00	220	1200	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Anthracene	1.31E-01	1.55	8.42E+00	220	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Anthracene	1.30E-01	2.78	4.68E+00	220	1200	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Anthracene	1.30E-01	2.88	4.51E+00	220	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Anthracene	1.20E-01	2.19	5.48E+00	220	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Anthracene	1.20E-01	2.67	4.49E+00	220	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	Anthracene	1.20E-01	2.78	4.32E+00	220	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Anthracene	1.10E-01	1.47	7.48E+00	220	1200	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Anthracene	9.10E-02	2.63	3.46E+00	220	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Anthracene	9.00E-02	2.87	3.14E+00	220	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	Anthracene	9.00E-02	2.99	3.01E+00	220	1200	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Anthracene	7.50E-02	2.07	3.62E+00	220	1200	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Anthracene	7.20E-02 J	2.58	2.79E+00	220	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR152	8/27/1998	Anthracene	7.00E-02	2.37	2.95E+00	220	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR134	8/13/1998	Anthracene	7.00E-02	2.52	2.78E+00	220	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR162	8/27/1998	Anthracene	5.00E-02	1.9	2.63E+00	220	1200	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	Anthracene	4.80E-02	1.5	3.20E+00	220	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR133	9/2/1998	Anthracene	4.00E-02	0.76	5.26E+00	220	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR154	8/13/1998	Anthracene	4.00E-02	2.33	1.72E+00	220	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR164	8/19/1998	Anthracene	4.00E-02	2.58	1.55E+00	220	1200	mg/kg OC	<1	<1
Boeing Site Characterization	R7	10/15/1997	Anthracene	3.50E-02	1.4	2.50E+00	220	1200	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Anthracene	3.50E-02	1.84	1.90E+00	220	1200	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Anthracene	2.60E-02	1.75	1.49E+00	220	1200	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Anthracene	2.50E-02	1.84	1.36E+00	220	1200	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Anthracene	1.20E-02 J	2.57	4.67E-01	220	1200	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS02	4/28/2009	Anthracene	1.00E-02 J	3.53	2.83E-01	220	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	Antimony	8.00E+00 J	2.78		150	200	mg/kg DW	<1	<1

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
EPA Site Inspection	DR126	8/12/1998	Antimony	6.00E+00 J	3.09		150	200	mg/kg DW	<1	<1
EPA Site Inspection	DR164	8/19/1998	Antimony	5.00E+00 J	2.58		150	200	mg/kg DW	<1	<1
Boeing Site Characterization	R8	10/16/1997	Aroclor-1242	5.15E-02	1.55	3.32E+00					
EPA Site Inspection	DR129	8/27/1998	Aroclor-1242	2.60E-02	2.67	9.74E-01					
Boeing Site Characterization	R2	10/15/1997	Aroclor-1242	2.50E-02	1.9	1.32E+00					
Boeing Site Characterization	R1	10/15/1997	Aroclor-1242	2.40E-02	1.9	1.26E+00					
EPA Site Inspection	DR162	8/27/1998	Aroclor-1242	2.40E-02	1.9	1.26E+00					
Boeing Site Characterization	R4	10/15/1997	Aroclor-1242	2.30E-02	3.8	6.05E-01					
Boeing Site Characterization	R6	10/16/1997	Aroclor-1242	2.10E-02	1.5	1.40E+00					
Boeing Site Characterization	R5	10/15/1997	Aroclor-1242	1.80E-02 J	1.8	1.00E+00					
Boeing Site Characterization	R3	10/15/1997	Aroclor-1242	1.70E-02 J	3.7	4.59E-01					
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Aroclor-1248	7.90E-02	2.88	2.74E+00					
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Aroclor-1248	6.40E-02	2.63	2.43E+00					
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Aroclor-1248	5.20E-02	2.58	2.02E+00					
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Aroclor-1248	2.20E-02	2.54	8.66E-01					
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Aroclor-1248	1.80E-02	1.32	1.36E+00					
Boeing Site Characterization	R8	10/16/1997	Aroclor-1254	1.85E-01	1.55	1.19E+01					
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Aroclor-1254	1.70E-01	1.75	9.71E+00					
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Aroclor-1254	1.40E-01	2.88	4.86E+00					
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Aroclor-1254	1.10E-01	2.63	4.18E+00					
EPA Site Inspection	DR129	8/27/1998	Aroclor-1254	9.50E-02	2.67	3.56E+00					
EPA Site Inspection	DR127	8/12/1998	Aroclor-1254	9.20E-02	2.78	3.31E+00					
EPA Site Inspection	DR124	9/15/1998	Aroclor-1254	9.00E-02	2.78	3.24E+00					
EPA Site Inspection	DR128	8/12/1998	Aroclor-1254	8.70E-02	2.99	2.91E+00					
Boeing Site Characterization	R4	10/15/1997	Aroclor-1254	8.40E-02	3.8	2.21E+00					
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Aroclor-1254	8.20E-02	2.58	3.18E+00					
EPA Site Inspection	DR130	8/12/1998	Aroclor-1254	8.20E-02	2.87	2.86E+00					
Boeing Site Characterization	R1	10/15/1997	Aroclor-1254	7.90E-02	1.9	4.16E+00					
Boeing Site Characterization	R2	10/15/1997	Aroclor-1254	7.90E-02	1.9	4.16E+00					
EPA Site Inspection	DR126	8/12/1998	Aroclor-1254	7.90E-02	3.09	2.56E+00					
EPA Site Inspection	DR162	8/27/1998	Aroclor-1254	6.90E-02	1.9	3.63E+00					
EPA Site Inspection	DR152	8/27/1998	Aroclor-1254	6.70E-02	2.37	2.83E+00					
EPA Site Inspection	DR153	8/31/1998	Aroclor-1254	6.40E-02	2.19	2.92E+00					
EPA Site Inspection	DR132	8/13/1998	Aroclor-1254	6.40E-02	2.9	2.21E+00					
Boeing Site Characterization	R6	10/16/1997	Aroclor-1254	6.20E-02	1.5	4.13E+00					
EPA Site Inspection	DR166	8/13/1998	Aroclor-1254	6.00E-02	1.47	4.08E+00					
EPA Site Inspection	DR131	8/13/1998	Aroclor-1254	5.70E-02	1.47	3.88E+00					
EPA Site Inspection	DR154	8/13/1998	Aroclor-1254	5.70E-02	2.33	2.45E+00					
Boeing Site Characterization	R3	10/15/1997	Aroclor-1254	5.70E-02 J	3.7	1.54E+00					
EPA Site Inspection	DR134	8/13/1998	Aroclor-1254	5.60E-02	2.52	2.22E+00					
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Aroclor-1254	4.60E-02	3.05	1.51E+00					
EPA Site Inspection	DR155	8/13/1998	Aroclor-1254	4.30E-02	2.7	1.59E+00					

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Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
EPA Site Inspection	DR133	9/2/1998	Aroclor-1254	4.20E-02	0.76	5.53E+00					
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Aroclor-1254	4.20E-02	1.32	3.18E+00					
EPA Site Inspection	DR164	8/19/1998	Aroclor-1254	3.40E-02	2.58	1.32E+00					
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Aroclor-1254	3.20E-02	2.54	1.26E+00					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Aroclor-1254	2.70E-02	2.07	1.30E+00					
EPA Site Inspection	DR161	8/31/1998	Aroclor-1254	2.40E-02	2.87	8.36E-01					
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Aroclor-1254	1.90E-02	1.42	1.34E+00					
Boeing Site Characterization	R7	10/15/1997	Aroclor-1260	1.20E+00	1.4	8.57E+01					
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Aroclor-1260	3.50E-01	1.75	2.00E+01					
Boeing Site Characterization	R8	10/16/1997	Aroclor-1260	1.60E-01	1.55	1.03E+01					
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Aroclor-1260	1.20E-01	2.88	4.17E+00					
EPA Site Inspection	DR126	8/12/1998	Aroclor-1260	1.02E-01	3.09	3.30E+00					
EPA Site Inspection	DR129	8/27/1998	Aroclor-1260	9.60E-02	2.67	3.60E+00					
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Aroclor-1260	9.40E-02	2.63	3.57E+00					
EPA Site Inspection	DR127	8/12/1998	Aroclor-1260	8.70E-02	2.78	3.13E+00					
EPA Site Inspection	DR128	8/12/1998	Aroclor-1260	8.00E-02	2.99	2.68E+00					
EPA Site Inspection	DR130	8/12/1998	Aroclor-1260	7.50E-02	2.87	2.61E+00					
EPA Site Inspection	DR124	9/15/1998	Aroclor-1260	7.10E-02	2.78	2.55E+00					
Boeing Site Characterization	R6	10/16/1997	Aroclor-1260	6.60E-02	1.5	4.40E+00					
EPA Site Inspection	DR132	8/13/1998	Aroclor-1260	6.50E-02 J	2.9	2.24E+00					
Boeing Site Characterization	R4	10/15/1997	Aroclor-1260	6.50E-02	3.8	1.71E+00					
EPA Site Inspection	DR155	8/13/1998	Aroclor-1260	6.30E-02 J	2.7	2.33E+00					
Boeing Site Characterization	R3	10/15/1997	Aroclor-1260	6.30E-02	3.7	1.70E+00					
Boeing Site Characterization	R2	10/15/1997	Aroclor-1260	6.00E-02	1.9	3.16E+00					
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Aroclor-1260	5.90E-02	2.58	2.29E+00					
EPA Site Inspection	DR152	8/27/1998	Aroclor-1260	5.70E-02	2.37	2.41E+00					
Boeing Site Characterization	R1	10/15/1997	Aroclor-1260	5.40E-02	1.9	2.84E+00					
EPA Site Inspection	DR162	8/27/1998	Aroclor-1260	5.30E-02	1.9	2.79E+00					
EPA Site Inspection	DR134	8/13/1998	Aroclor-1260	5.20E-02 J	2.52	2.06E+00					
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Aroclor-1260	5.00E-02	3.05	1.64E+00					
EPA Site Inspection	DR153	8/31/1998	Aroclor-1260	4.90E-02	2.19	2.24E+00					
EPA Site Inspection	DR154	8/13/1998	Aroclor-1260	4.40E-02 J	2.33	1.89E+00					
EPA Site Inspection	DR131	8/13/1998	Aroclor-1260	4.00E-02 J	1.47	2.72E+00					
EPA Site Inspection	DR133	9/2/1998	Aroclor-1260	3.70E-02	0.76	4.87E+00					
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Aroclor-1260	3.70E-02 J	1.32	2.80E+00					
EPA Site Inspection	DR166	8/13/1998	Aroclor-1260	3.50E-02 J	1.47	2.38E+00					
EPA Site Inspection	DR164	8/19/1998	Aroclor-1260	3.00E-02 J	2.58	1.16E+00					
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Aroclor-1260	2.80E-02 J	2.54	1.10E+00					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Aroclor-1260	2.60E-02	2.07	1.26E+00					
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Aroclor-1260	1.90E-02	1.42	1.34E+00					
EPA Site Inspection	DR124	9/15/1998	Arsenic	3.18E+01	2.78		57	93	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS04	4/28/2009	Arsenic	2.60E+01	1.78		57	93	mg/kg DW	<1	<1

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Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Slope Sediment Characterization	T115-SS03	4/28/2009	Arsenic	2.30E+01	2.57		57	93	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Arsenic	2.07E+01	2.07		57	93	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Arsenic	2.00E+01	1.84		57	93	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Arsenic	2.00E+01	3.5		57	93	mg/kg DW	<1	<1
Boeing Site Characterization	R3	10/15/1997	Arsenic	1.74E+01	3.7		57	93	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Arsenic	1.67E+01	2.88		57	93	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Arsenic	1.60E+01	1.84		57	93	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Arsenic	1.57E+01	2.63		57	93	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Arsenic	1.55E+01	2.54		57	93	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Arsenic	1.48E+01	3.05		57	93	mg/kg DW	<1	<1
EPA Site Inspection	DR129	8/27/1998	Arsenic	1.40E+01	2.67		57	93	mg/kg DW	<1	<1
Boeing Site Characterization	R4	10/15/1997	Arsenic	1.38E+01	3.8		57	93	mg/kg DW	<1	<1
EPA Site Inspection	DR153	8/31/1998	Arsenic	1.37E+01	2.19		57	93	mg/kg DW	<1	<1
EPA Site Inspection	DR126	8/12/1998	Arsenic	1.34E+01	3.09		57	93	mg/kg DW	<1	<1
Boeing Site Characterization	R5	10/15/1997	Arsenic	1.33E+01	1.8		57	93	mg/kg DW	<1	<1
EPA Site Inspection	DR127	8/12/1998	Arsenic	1.31E+01	2.78		57	93	mg/kg DW	<1	<1
Boeing Site Characterization	R6	10/16/1997	Arsenic	1.30E+01	1.5		57	93	mg/kg DW	<1	<1
EPA Site Inspection	DR152	8/27/1998	Arsenic	1.30E+01	2.37		57	93	mg/kg DW	<1	<1
EPA Site Inspection	DR128	8/12/1998	Arsenic	1.30E+01	2.99		57	93	mg/kg DW	<1	<1
Boeing Site Characterization	R2	10/15/1997	Arsenic	1.28E+01	1.9		57	93	mg/kg DW	<1	<1
EPA Site Inspection	DR155	8/13/1998	Arsenic	1.27E+01	2.7		57	93	mg/kg DW	<1	<1
Boeing Site Characterization	R1	10/15/1997	Arsenic	1.22E+01	1.9		57	93	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Arsenic	1.21E+01	2.58		57	93	mg/kg DW	<1	<1
EPA Site Inspection	DR162	8/27/1998	Arsenic	1.16E+01	1.9		57	93	mg/kg DW	<1	<1
EPA Site Inspection	DR132	8/13/1998	Arsenic	1.13E+01	2.9		57	93	mg/kg DW	<1	<1
Boeing Site Characterization	R8	10/16/1997	Arsenic	1.13E+01	1.55		57	93	mg/kg DW	<1	<1
EPA Site Inspection	DR154	8/13/1998	Arsenic	1.09E+01	2.33		57	93	mg/kg DW	<1	<1
EPA Site Inspection	DR164	8/19/1998	Arsenic	1.07E+01	2.58		57	93	mg/kg DW	<1	<1
EPA Site Inspection	DR134	8/13/1998	Arsenic	1.06E+01	2.52		57	93	mg/kg DW	<1	<1
EPA Site Inspection	DR130	8/12/1998	Arsenic	1.02E+01	2.87		57	93	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Arsenic	1.00E+01	3.5		57	93	mg/kg DW	<1	<1
EPA Site Inspection	DR161	8/31/1998	Arsenic	8.60E+00	2.87		57	93	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Arsenic	8.30E+00	1.75		57	93	mg/kg DW	<1	<1
EPA Site Inspection	DR131	8/13/1998	Arsenic	8.10E+00	1.47		57	93	mg/kg DW	<1	<1
Boeing Site Characterization	R7	10/15/1997	Arsenic	7.90E+00	1.4		57	93	mg/kg DW	<1	<1
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Arsenic	7.60E+00	1.32		57	93	mg/kg DW	<1	<1
EPA Site Inspection	DR166	8/13/1998	Arsenic	6.90E+00	1.47		57	93	mg/kg DW	<1	<1
EPA Site Inspection	DR133	9/2/1998	Arsenic	6.80E+00	0.76		57	93	mg/kg DW	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Arsenic	4.20E+00	1.42		57	93	mg/kg DW	<1	<1
EPA Site Inspection	DR153	8/31/1998	Barium	9.30E+01	2.19						
EPA Site Inspection	DR161	8/31/1998	Barium	9.30E+01	2.87						
EPA Site Inspection	DR129	8/27/1998	Barium	9.10E+01	2.67						

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Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
EPA Site Inspection	DR124	9/15/1998	Barium	8.90E+01	2.78						
EPA Site Inspection	DR152	8/27/1998	Barium	8.80E+01	2.37						
EPA Site Inspection	DR127	8/12/1998	Barium	8.40E+01	2.78						
EPA Site Inspection	DR162	8/27/1998	Barium	8.20E+01	1.9						
EPA Site Inspection	DR128	8/12/1998	Barium	8.10E+01	2.99						
EPA Site Inspection	DR130	8/12/1998	Barium	8.00E+01	2.87						
EPA Site Inspection	DR132	8/13/1998	Barium	8.00E+01	2.9						
EPA Site Inspection	DR126	8/12/1998	Barium	8.00E+01	3.09						
EPA Site Inspection	DR155	8/13/1998	Barium	7.90E+01	2.7						
EPA Site Inspection	DR134	8/13/1998	Barium	7.80E+01	2.52						
EPA Site Inspection	DR164	8/19/1998	Barium	7.80E+01	2.58						
EPA Site Inspection	DR154	8/13/1998	Barium	7.40E+01	2.33						
EPA Site Inspection	DR166	8/13/1998	Barium	6.40E+01	1.47						
EPA Site Inspection	DR131	8/13/1998	Barium	4.40E+01	1.47						
EPA Site Inspection	DR133	9/2/1998	Barium	4.20E+01	0.76						
Boeing Site Characterization	R5	10/15/1997	Benzo(a)anthracene	7.10E-01	1.8	3.94E+01	110	270	mg/kg OC	<1	<1
Boeing Site Characterization	R3	10/15/1997	Benzo(a)anthracene	6.60E-01	3.7	1.78E+01	110	270	mg/kg OC	<1	<1
EPA Site Inspection	DR132	8/13/1998	Benzo(a)anthracene	6.00E-01	2.9	2.07E+01	110	270	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Benzo(a)anthracene	4.90E-01	3.09	1.59E+01	110	270	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	Benzo(a)anthracene	4.80E-01	2.78	1.73E+01	110	270	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Benzo(a)anthracene	4.10E-01	2.54	1.61E+01	110	270	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Benzo(a)anthracene	4.10E-01	2.78	1.47E+01	110	270	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Benzo(a)anthracene	3.80E-01	1.47	2.59E+01	110	270	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	Benzo(a)anthracene	3.50E-01	2.7	1.30E+01	110	270	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Benzo(a)anthracene	3.20E-01	2.19	1.46E+01	110	270	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Benzo(a)anthracene	3.10E-01	3.8	8.16E+00	110	270	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Benzo(a)anthracene	3.05E-01	1.55	1.97E+01	110	270	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Benzo(a)anthracene	3.00E-01	2.63	1.14E+01	110	270	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Benzo(a)anthracene	3.00E-01	2.88	1.04E+01	110	270	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	Benzo(a)anthracene	3.00E-01	2.99	1.00E+01	110	270	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Benzo(a)anthracene	3.00E-01	3.05	9.84E+00	110	270	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Benzo(a)anthracene	2.90E-01	2.67	1.09E+01	110	270	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	Benzo(a)anthracene	2.80E-01	1.9	1.47E+01	110	270	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Benzo(a)anthracene	2.60E-01	2.87	9.06E+00	110	270	mg/kg OC	<1	<1
EPA Site Inspection	DR134	8/13/1998	Benzo(a)anthracene	2.30E-01	2.52	9.13E+00	110	270	mg/kg OC	<1	<1
EPA Site Inspection	DR152	8/27/1998	Benzo(a)anthracene	2.20E-01	2.37	9.28E+00	110	270	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Benzo(a)anthracene	2.10E-01	2.58	8.14E+00	110	270	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	Benzo(a)anthracene	2.00E-01	1.9	1.05E+01	110	270	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Benzo(a)anthracene	2.00E-01	2.07	9.66E+00	110	270	mg/kg OC	<1	<1
EPA Site Inspection	DR154	8/13/1998	Benzo(a)anthracene	1.70E-01	2.33	7.30E+00	110	270	mg/kg OC	<1	<1
EPA Site Inspection	DR162	8/27/1998	Benzo(a)anthracene	1.50E-01	1.9	7.89E+00	110	270	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	Benzo(a)anthracene	1.30E-01	1.5	8.67E+00	110	270	mg/kg OC	<1	<1

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
EPA Site Inspection	DR133	9/2/1998	Benzo(a)anthracene	1.20E-01	0.76	1.58E+01	110	270	mg/kg OC	<1	<1
EPA Site Inspection	DR164	8/19/1998	Benzo(a)anthracene	1.20E-01	2.58	4.65E+00	110	270	mg/kg OC	<1	<1
Boeing Site Characterization	R7	10/15/1997	Benzo(a)anthracene	1.10E-01	1.4	7.86E+00	110	270	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Benzo(a)anthracene	1.00E-01	1.84	5.43E+00	110	270	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Benzo(a)anthracene	9.70E-02	1.84	5.27E+00	110	270	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Benzo(a)anthracene	8.30E-02	1.42	5.85E+00	110	270	mg/kg OC	<1	<1
EPA Site Inspection	DR166	8/13/1998	Benzo(a)anthracene	8.00E-02	1.47	5.44E+00	110	270	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Benzo(a)anthracene	8.00E-02	1.75	4.57E+00	110	270	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS02	4/28/2009	Benzo(a)anthracene	6.90E-02	3.53	1.95E+00	110	270	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Benzo(a)anthracene	5.60E-02 J	1.32	4.24E+00	110	270	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Benzo(a)anthracene	5.00E-02 J	2.57	1.95E+00	110	270	mg/kg OC	<1	<1
EPA Site Inspection	DR161	8/31/1998	Benzo(a)anthracene	4.00E-02	2.87	1.39E+00	110	270	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Benzo(a)anthracene	2.90E-02	3.5	8.29E-01	110	270	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS04	4/28/2009	Benzo(a)anthracene	2.80E-02	1.78	1.57E+00	110	270	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	Benzo(a)pyrene	7.70E-01	2.78	2.77E+01	99	210	mg/kg OC	<1	<1
Boeing Site Characterization	R5	10/15/1997	Benzo(a)pyrene	5.80E-01	1.8	3.22E+01	99	210	mg/kg OC	<1	<1
Boeing Site Characterization	R3	10/15/1997	Benzo(a)pyrene	5.80E-01	3.7	1.57E+01	99	210	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Benzo(a)pyrene	4.20E-01	3.09	1.36E+01	99	210	mg/kg OC	<1	<1
EPA Site Inspection	DR132	8/13/1998	Benzo(a)pyrene	4.10E-01	2.9	1.41E+01	99	210	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Benzo(a)pyrene	3.40E-01	1.47	2.31E+01	99	210	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Benzo(a)pyrene	3.30E-01	2.54	1.30E+01	99	210	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Benzo(a)pyrene	3.30E-01	2.78	1.19E+01	99	210	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Benzo(a)pyrene	3.10E-01	2.88	1.08E+01	99	210	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Benzo(a)pyrene	2.90E-01	2.07	1.40E+01	99	210	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Benzo(a)pyrene	2.90E-01	2.19	1.32E+01	99	210	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Benzo(a)pyrene	2.90E-01	2.67	1.09E+01	99	210	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	Benzo(a)pyrene	2.90E-01	2.99	9.70E+00	99	210	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	Benzo(a)pyrene	2.70E-01	2.7	1.00E+01	99	210	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Benzo(a)pyrene	2.70E-01	3.8	7.11E+00	99	210	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Benzo(a)pyrene	2.40E-01	3.05	7.87E+00	99	210	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	Benzo(a)pyrene	2.20E-01	1.9	1.16E+01	99	210	mg/kg OC	<1	<1
EPA Site Inspection	DR152	8/27/1998	Benzo(a)pyrene	2.20E-01	2.37	9.28E+00	99	210	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Benzo(a)pyrene	2.20E-01	2.87	7.67E+00	99	210	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Benzo(a)pyrene	2.10E-01	1.55	1.35E+01	99	210	mg/kg OC	<1	<1
EPA Site Inspection	DR134	8/13/1998	Benzo(a)pyrene	2.10E-01	2.52	8.33E+00	99	210	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Benzo(a)pyrene	2.10E-01	2.58	8.14E+00	99	210	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Benzo(a)pyrene	2.10E-01	2.63	7.98E+00	99	210	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	Benzo(a)pyrene	1.80E-01	1.9	9.47E+00	99	210	mg/kg OC	<1	<1
EPA Site Inspection	DR162	8/27/1998	Benzo(a)pyrene	1.50E-01	1.9	7.89E+00	99	210	mg/kg OC	<1	<1
EPA Site Inspection	DR154	8/13/1998	Benzo(a)pyrene	1.50E-01	2.33	6.44E+00	99	210	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	Benzo(a)pyrene	1.40E-01	1.5	9.33E+00	99	210	mg/kg OC	<1	<1
EPA Site Inspection	DR164	8/19/1998	Benzo(a)pyrene	1.20E-01	2.58	4.65E+00	99	210	mg/kg OC	<1	<1

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Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Boeing Site Characterization	R7	10/15/1997	Benzo(a)pyrene	1.10E-01	1.4	7.86E+00	99	210	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Benzo(a)pyrene	1.00E-01	1.84	5.43E+00	99	210	mg/kg OC	<1	<1
EPA Site Inspection	DR133	9/2/1998	Benzo(a)pyrene	9.00E-02	0.76	1.18E+01	99	210	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Benzo(a)pyrene	8.80E-02	1.75	5.03E+00	99	210	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Benzo(a)pyrene	8.60E-02	1.42	6.06E+00	99	210	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Benzo(a)pyrene	8.20E-02	1.84	4.46E+00	99	210	mg/kg OC	<1	<1
EPA Site Inspection	DR166	8/13/1998	Benzo(a)pyrene	8.00E-02	1.47	5.44E+00	99	210	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS02	4/28/2009	Benzo(a)pyrene	5.70E-02	3.53	1.61E+00	99	210	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Benzo(a)pyrene	5.00E-02 J	1.32	3.79E+00	99	210	mg/kg OC	<1	<1
EPA Site Inspection	DR161	8/31/1998	Benzo(a)pyrene	4.00E-02	2.87	1.39E+00	99	210	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Benzo(a)pyrene	3.80E-02 J	2.57	1.48E+00	99	210	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Benzo(a)pyrene	3.20E-02	3.5	9.14E-01	99	210	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS04	4/28/2009	Benzo(a)pyrene	2.30E-02	1.78	1.29E+00	99	210	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	Benzo(b)fluoranthene	1.00E+00	2.78	3.60E+01					
Boeing Site Characterization	R5	10/15/1997	Benzo(b)fluoranthene	7.80E-01	1.8	4.33E+01					
Boeing Site Characterization	R3	10/15/1997	Benzo(b)fluoranthene	6.30E-01	3.7	1.70E+01					
EPA Site Inspection	DR126	8/12/1998	Benzo(b)fluoranthene	6.00E-01	3.09	1.94E+01					
EPA Site Inspection	DR132	8/13/1998	Benzo(b)fluoranthene	5.40E-01	2.9	1.86E+01					
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Benzo(b)fluoranthene	5.00E-01	2.54	1.97E+01					
EPA Site Inspection	DR127	8/12/1998	Benzo(b)fluoranthene	4.80E-01	2.78	1.73E+01					
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Benzo(b)fluoranthene	4.50E-01	2.63	1.71E+01					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Benzo(b)fluoranthene	4.20E-01	2.07	2.03E+01					
EPA Site Inspection	DR128	8/12/1998	Benzo(b)fluoranthene	4.10E-01	2.99	1.37E+01					
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Benzo(b)fluoranthene	4.10E-01	3.05	1.34E+01					
EPA Site Inspection	DR153	8/31/1998	Benzo(b)fluoranthene	3.90E-01	2.19	1.78E+01					
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Benzo(b)fluoranthene	3.90E-01	2.88	1.35E+01					
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Benzo(b)fluoranthene	3.80E-01	2.58	1.47E+01					
EPA Site Inspection	DR155	8/13/1998	Benzo(b)fluoranthene	3.80E-01	2.7	1.41E+01					
EPA Site Inspection	DR131	8/13/1998	Benzo(b)fluoranthene	3.50E-01	1.47	2.38E+01					
EPA Site Inspection	DR129	8/27/1998	Benzo(b)fluoranthene	3.50E-01	2.67	1.31E+01					
EPA Site Inspection	DR130	8/12/1998	Benzo(b)fluoranthene	3.20E-01	2.87	1.11E+01					
Boeing Site Characterization	R2	10/15/1997	Benzo(b)fluoranthene	3.10E-01	1.9	1.63E+01					
Boeing Site Characterization	R4	10/15/1997	Benzo(b)fluoranthene	3.10E-01	3.8	8.16E+00					
EPA Site Inspection	DR152	8/27/1998	Benzo(b)fluoranthene	2.90E-01	2.37	1.22E+01					
Boeing Site Characterization	R8	10/16/1997	Benzo(b)fluoranthene	2.80E-01 J	1.55	1.81E+01					
EPA Site Inspection	DR134	8/13/1998	Benzo(b)fluoranthene	2.70E-01	2.52	1.07E+01					
Boeing Site Characterization	R1	10/15/1997	Benzo(b)fluoranthene	2.20E-01	1.9	1.16E+01					
EPA Site Inspection	DR154	8/13/1998	Benzo(b)fluoranthene	2.10E-01	2.33	9.01E+00					
Boeing Site Characterization	R6	10/16/1997	Benzo(b)fluoranthene	1.80E-01	1.5	1.20E+01					
EPA Site Inspection	DR162	8/27/1998	Benzo(b)fluoranthene	1.70E-01	1.9	8.95E+00					
EPA Site Inspection	DR164	8/19/1998	Benzo(b)fluoranthene	1.60E-01	2.58	6.20E+00					
Boeing Site Characterization	R7	10/15/1997	Benzo(b)fluoranthene	1.30E-01	1.4	9.29E+00					

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Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Benzo(b)fluoranthene	1.20E-01	1.75	6.86E+00					
Slope Sediment Characterization	T115-SS05	4/28/2009	Benzo(b)fluoranthene	1.20E-01	1.84	6.52E+00					
EPA Site Inspection	DR133	9/2/1998	Benzo(b)fluoranthene	1.10E-01	0.76	1.45E+01					
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Benzo(b)fluoranthene	1.10E-01	1.42	7.75E+00					
Slope Sediment Characterization	T115-SS05	4/28/2009	Benzo(b)fluoranthene	1.00E-01	1.84	5.43E+00					
EPA Site Inspection	DR166	8/13/1998	Benzo(b)fluoranthene	9.00E-02	1.47	6.12E+00					
Slope Sediment Characterization	T115-SS02	4/28/2009	Benzo(b)fluoranthene	8.60E-02	3.53	2.44E+00					
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Benzo(b)fluoranthene	8.00E-02	1.32	6.06E+00					
EPA Site Inspection	DR161	8/31/1998	Benzo(b)fluoranthene	5.00E-02	2.87	1.74E+00					
Slope Sediment Characterization	T115-SS03	4/28/2009	Benzo(b)fluoranthene	4.80E-02 J	2.57	1.87E+00					
Slope Sediment Characterization	T115-SS04	4/28/2009	Benzo(b)fluoranthene	3.40E-02	1.78	1.91E+00					
Slope Sediment Characterization	T115-SS01	4/28/2009	Benzo(b)fluoranthene	2.80E-02	3.5	8.00E-01					
EPA Site Inspection	DR124	9/15/1998	Benzo(g,h,i)perylene	6.00E-01	2.78	2.16E+01	31	78	mg/kg OC	<1	<1
Boeing Site Characterization	R3	10/15/1997	Benzo(g,h,i)perylene	4.60E-01	3.7	1.24E+01	31	78	mg/kg OC	<1	<1
Boeing Site Characterization	R5	10/15/1997	Benzo(g,h,i)perylene	3.00E-01	1.8	1.67E+01	31	78	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Benzo(g,h,i)perylene	2.60E-01	3.09	8.41E+00	31	78	mg/kg OC	<1	<1
EPA Site Inspection	DR132	8/13/1998	Benzo(g,h,i)perylene	2.40E-01	2.9	8.28E+00	31	78	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Benzo(g,h,i)perylene	2.10E-01	2.19	9.59E+00	31	78	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Benzo(g,h,i)perylene	2.10E-01	2.78	7.55E+00	31	78	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	Benzo(g,h,i)perylene	2.00E-01	2.99	6.69E+00	31	78	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Benzo(g,h,i)perylene	1.90E-01	1.47	1.29E+01	31	78	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Benzo(g,h,i)perylene	1.80E-01	3.8	4.74E+00	31	78	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	Benzo(g,h,i)perylene	1.70E-01	2.7	6.30E+00	31	78	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	Benzo(g,h,i)perylene	1.50E-01	1.9	7.89E+00	31	78	mg/kg OC	<1	<1
EPA Site Inspection	DR134	8/13/1998	Benzo(g,h,i)perylene	1.50E-01	2.52	5.95E+00	31	78	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Benzo(g,h,i)perylene	1.50E-01	2.67	5.62E+00	31	78	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Benzo(g,h,i)perylene	1.50E-01	2.87	5.23E+00	31	78	mg/kg OC	<1	<1
EPA Site Inspection	DR152	8/27/1998	Benzo(g,h,i)perylene	1.40E-01	2.37	5.91E+00	31	78	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	Benzo(g,h,i)perylene	1.20E-01	1.9	6.32E+00	31	78	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Benzo(g,h,i)perylene	1.10E-01	1.55	7.10E+00	31	78	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Benzo(g,h,i)perylene	1.10E-01	2.07	5.31E+00	31	78	mg/kg OC	<1	<1
EPA Site Inspection	DR154	8/13/1998	Benzo(g,h,i)perylene	1.10E-01	2.33	4.72E+00	31	78	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	Benzo(g,h,i)perylene	9.40E-02	1.5	6.27E+00	31	78	mg/kg OC	<1	<1
EPA Site Inspection	DR162	8/27/1998	Benzo(g,h,i)perylene	9.00E-02	1.9	4.74E+00	31	78	mg/kg OC	<1	<1
EPA Site Inspection	DR164	8/19/1998	Benzo(g,h,i)perylene	9.00E-02	2.58	3.49E+00	31	78	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Benzo(g,h,i)perylene	9.00E-02	2.88	3.13E+00	31	78	mg/kg OC	<1	<1
Boeing Site Characterization	R7	10/15/1997	Benzo(g,h,i)perylene	7.60E-02	1.4	5.43E+00	31	78	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Benzo(g,h,i)perylene	6.50E-02	2.63	2.47E+00	31	78	mg/kg OC	<1	<1
EPA Site Inspection	DR133	9/2/1998	Benzo(g,h,i)perylene	6.00E-02	0.76	7.89E+00	31	78	mg/kg OC	<1	<1
EPA Site Inspection	DR166	8/13/1998	Benzo(g,h,i)perylene	6.00E-02	1.47	4.08E+00	31	78	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Benzo(g,h,i)perylene	5.90E-02 J	2.54	2.32E+00	31	78	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Benzo(g,h,i)perylene	5.40E-02 J	2.58	2.09E+00	31	78	mg/kg OC	<1	<1

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Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Benzo(g,h,i)perylene	4.40E-02 J	1.42	3.10E+00	31	78	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Benzo(g,h,i)perylene	4.10E-02	1.75	2.34E+00	31	78	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Benzo(g,h,i)perylene	4.00E-02	1.84	2.17E+00	31	78	mg/kg OC	<1	<1
EPA Site Inspection	DR161	8/31/1998	Benzo(g,h,i)perylene	4.00E-02	2.87	1.39E+00	31	78	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Benzo(g,h,i)perylene	3.90E-02 J	1.32	2.95E+00	31	78	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Benzo(g,h,i)perylene	3.10E-02	1.84	1.68E+00	31	78	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS02	4/28/2009	Benzo(g,h,i)perylene	3.10E-02	3.53	8.78E-01	31	78	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Benzo(g,h,i)perylene	2.20E-02	3.5	6.29E-01	31	78	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Benzo(g,h,i)perylene	1.90E-02 J	2.57	7.39E-01	31	78	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS04	4/28/2009	Benzo(g,h,i)perylene	1.10E-02 J	1.78	6.18E-01	31	78	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	Benzo(k)fluoranthene	7.40E-01	2.78	2.66E+01					
Boeing Site Characterization	R5	10/15/1997	Benzo(k)fluoranthene	6.10E-01	1.8	3.39E+01					
Boeing Site Characterization	R3	10/15/1997	Benzo(k)fluoranthene	5.80E-01	3.7	1.57E+01					
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Benzo(k)fluoranthene	5.30E-01	2.54	2.09E+01					
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Benzo(k)fluoranthene	4.70E-01	3.05	1.54E+01					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Benzo(k)fluoranthene	4.50E-01	2.07	2.17E+01					
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Benzo(k)fluoranthene	4.40E-01	2.88	1.53E+01					
EPA Site Inspection	DR132	8/13/1998	Benzo(k)fluoranthene	4.30E-01	2.9	1.48E+01					
EPA Site Inspection	DR126	8/12/1998	Benzo(k)fluoranthene	3.70E-01	3.09	1.20E+01					
EPA Site Inspection	DR129	8/27/1998	Benzo(k)fluoranthene	3.30E-01	2.67	1.24E+01					
EPA Site Inspection	DR153	8/31/1998	Benzo(k)fluoranthene	3.10E-01	2.19	1.42E+01					
EPA Site Inspection	DR128	8/12/1998	Benzo(k)fluoranthene	3.10E-01	2.99	1.04E+01					
EPA Site Inspection	DR131	8/13/1998	Benzo(k)fluoranthene	3.00E-01	1.47	2.04E+01					
EPA Site Inspection	DR127	8/12/1998	Benzo(k)fluoranthene	3.00E-01	2.78	1.08E+01					
Boeing Site Characterization	R4	10/15/1997	Benzo(k)fluoranthene	2.90E-01	3.8	7.63E+00					
EPA Site Inspection	DR152	8/27/1998	Benzo(k)fluoranthene	2.60E-01	2.37	1.10E+01					
EPA Site Inspection	DR155	8/13/1998	Benzo(k)fluoranthene	2.60E-01	2.7	9.63E+00					
Boeing Site Characterization	R8	10/16/1997	Benzo(k)fluoranthene	2.50E-01	1.55	1.61E+01					
Boeing Site Characterization	R2	10/15/1997	Benzo(k)fluoranthene	2.50E-01	1.9	1.32E+01					
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Benzo(k)fluoranthene	2.40E-01	2.58	9.30E+00					
EPA Site Inspection	DR130	8/12/1998	Benzo(k)fluoranthene	2.40E-01	2.87	8.36E+00					
Boeing Site Characterization	R1	10/15/1997	Benzo(k)fluoranthene	2.30E-01	1.9	1.21E+01					
EPA Site Inspection	DR134	8/13/1998	Benzo(k)fluoranthene	2.20E-01	2.52	8.73E+00					
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Benzo(k)fluoranthene	2.20E-01	2.63	8.37E+00					
EPA Site Inspection	DR162	8/27/1998	Benzo(k)fluoranthene	1.80E-01	1.9	9.47E+00					
EPA Site Inspection	DR154	8/13/1998	Benzo(k)fluoranthene	1.70E-01	2.33	7.30E+00					
Slope Sediment Characterization	T115-SS05	4/28/2009	Benzo(k)fluoranthene	1.60E-01	1.84	8.70E+00					
Boeing Site Characterization	R6	10/16/1997	Benzo(k)fluoranthene	1.50E-01	1.5	1.00E+01					
Boeing Site Characterization	R7	10/15/1997	Benzo(k)fluoranthene	1.40E-01	1.4	1.00E+01					
Slope Sediment Characterization	T115-SS05	4/28/2009	Benzo(k)fluoranthene	1.30E-01	1.84	7.07E+00					
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Benzo(k)fluoranthene	1.20E-01	1.75	6.86E+00					
EPA Site Inspection	DR164	8/19/1998	Benzo(k)fluoranthene	1.20E-01	2.58	4.65E+00					

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Slope Sediment Characterization	T115-SS02	4/28/2009	Benzo(k)fluoranthene	1.10E-01	3.53	3.12E+00					
EPA Site Inspection	DR133	9/2/1998	Benzo(k)fluoranthene	1.00E-01	0.76	1.32E+01					
EPA Site Inspection	DR166	8/13/1998	Benzo(k)fluoranthene	8.00E-02	1.47	5.44E+00					
Slope Sediment Characterization	T115-SS03	4/28/2009	Benzo(k)fluoranthene	7.80E-02 J	2.57	3.04E+00					
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Benzo(k)fluoranthene	7.70E-02	1.42	5.42E+00					
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Benzo(k)fluoranthene	5.60E-02 J	1.32	4.24E+00					
Slope Sediment Characterization	T115-SS01	4/28/2009	Benzo(k)fluoranthene	4.90E-02	3.5	1.40E+00					
Slope Sediment Characterization	T115-SS04	4/28/2009	Benzo(k)fluoranthene	4.50E-02	1.78	2.53E+00					
EPA Site Inspection	DR161	8/31/1998	Benzo(k)fluoranthene	4.00E-02	2.87	1.39E+00					
EPA Site Inspection	DR124	9/15/1998	Benzofluoranthenes (total-calc'd)	1.74E+00	2.78	6.26E+01	230	450	mg/kg OC	<1	<1
Boeing Site Characterization	R5	10/15/1997	Benzofluoranthenes (total-calc'd)	1.39E+00	1.8	7.72E+01	230	450	mg/kg OC	<1	<1
Boeing Site Characterization	R3	10/15/1997	Benzofluoranthenes (total-calc'd)	1.21E+00	3.7	3.27E+01	230	450	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Benzofluoranthenes (total-calc'd)	1.03E+00	2.54	4.06E+01	230	450	mg/kg OC	<1	<1
EPA Site Inspection	DR132	8/13/1998	Benzofluoranthenes (total-calc'd)	9.70E-01	2.9	3.34E+01	230	450	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Benzofluoranthenes (total-calc'd)	9.70E-01	3.09	3.14E+01	230	450	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Benzofluoranthenes (total-calc'd)	8.80E-01	3.05	2.89E+01	230	450	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Benzofluoranthenes (total-calc'd)	8.70E-01	2.07	4.20E+01	230	450	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Benzofluoranthenes (total-calc'd)	8.30E-01	2.88	2.88E+01	230	450	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Benzofluoranthenes (total-calc'd)	7.80E-01	2.78	2.81E+01	230	450	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	Benzofluoranthenes (total-calc'd)	7.20E-01	2.99	2.41E+01	230	450	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Benzofluoranthenes (total-calc'd)	7.00E-01	2.19	3.20E+01	230	450	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Benzofluoranthenes (total-calc'd)	6.80E-01	2.67	2.55E+01	230	450	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Benzofluoranthenes (total-calc'd)	6.70E-01	2.63	2.55E+01	230	450	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Benzofluoranthenes (total-calc'd)	6.50E-01	1.47	4.42E+01	230	450	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	Benzofluoranthenes (total-calc'd)	6.40E-01	2.7	2.37E+01	230	450	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Benzofluoranthenes (total-calc'd)	6.20E-01	2.58	2.40E+01	230	450	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Benzofluoranthenes (total-calc'd)	6.00E-01	3.8	1.58E+01	230	450	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	Benzofluoranthenes (total-calc'd)	5.60E-01	1.9	2.95E+01	230	450	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Benzofluoranthenes (total-calc'd)	5.60E-01	2.87	1.95E+01	230	450	mg/kg OC	<1	<1
EPA Site Inspection	DR152	8/27/1998	Benzofluoranthenes (total-calc'd)	5.50E-01	2.37	2.32E+01	230	450	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Benzofluoranthenes (total-calc'd)	5.30E-01 J	1.55	3.42E+01	230	450	mg/kg OC	<1	<1
EPA Site Inspection	DR134	8/13/1998	Benzofluoranthenes (total-calc'd)	4.90E-01	2.52	1.94E+01	230	450	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	Benzofluoranthenes (total-calc'd)	4.50E-01	1.9	2.37E+01	230	450	mg/kg OC	<1	<1
EPA Site Inspection	DR154	8/13/1998	Benzofluoranthenes (total-calc'd)	3.80E-01	2.33	1.63E+01	230	450	mg/kg OC	<1	<1
EPA Site Inspection	DR162	8/27/1998	Benzofluoranthenes (total-calc'd)	3.50E-01	1.9	1.84E+01	230	450	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	Benzofluoranthenes (total-calc'd)	3.30E-01	1.5	2.20E+01	230	450	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Benzofluoranthenes (total-calc'd)	2.80E-01	1.84	1.52E+01	230	450	mg/kg OC	<1	<1
EPA Site Inspection	DR164	8/19/1998	Benzofluoranthenes (total-calc'd)	2.80E-01	2.58	1.09E+01	230	450	mg/kg OC	<1	<1
Boeing Site Characterization	R7	10/15/1997	Benzofluoranthenes (total-calc'd)	2.70E-01	1.4	1.93E+01	230	450	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Benzofluoranthenes (total-calc'd)	2.40E-01	1.75	1.37E+01	230	450	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Benzofluoranthenes (total-calc'd)	2.30E-01	1.84	1.25E+01	230	450	mg/kg OC	<1	<1
EPA Site Inspection	DR133	9/2/1998	Benzofluoranthenes (total-calc'd)	2.10E-01	0.76	2.76E+01	230	450	mg/kg OC	<1	<1

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Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Slope Sediment Characterization	T115-SS02	4/28/2009	Benzofluoranthenes (total-calc'd)	1.96E-01	3.53	5.55E+00	230	450	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Benzofluoranthenes (total-calc'd)	1.90E-01	1.42	1.34E+01	230	450	mg/kg OC	<1	<1
EPA Site Inspection	DR166	8/13/1998	Benzofluoranthenes (total-calc'd)	1.70E-01	1.47	1.16E+01	230	450	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Benzofluoranthenes (total-calc'd)	1.36E-01 J	1.32	1.03E+01	230	450	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Benzofluoranthenes (total-calc'd)	1.26E-01 J	2.57	4.90E+00	230	450	mg/kg OC	<1	<1
EPA Site Inspection	DR161	8/31/1998	Benzofluoranthenes (total-calc'd)	9.00E-02	2.87	3.14E+00	230	450	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS04	4/28/2009	Benzofluoranthenes (total-calc'd)	7.90E-02	1.78	4.44E+00	230	450	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Benzofluoranthenes (total-calc'd)	7.70E-02	3.5	2.20E+00	230	450	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Benzoic acid	7.10E-02	2.63	2.70E+00	0.65	0.65	mg/kg DW	<1	<1
EPA Site Inspection	DR134	8/13/1998	Beryllium	5.30E-01	2.52						
EPA Site Inspection	DR132	8/13/1998	Beryllium	5.30E-01	2.9						
EPA Site Inspection	DR155	8/13/1998	Beryllium	5.10E-01	2.7						
EPA Site Inspection	DR153	8/31/1998	Beryllium	4.90E-01	2.19						
EPA Site Inspection	DR164	8/19/1998	Beryllium	4.90E-01	2.58						
EPA Site Inspection	DR161	8/31/1998	Beryllium	4.90E-01	2.87						
EPA Site Inspection	DR154	8/13/1998	Beryllium	4.60E-01	2.33						
EPA Site Inspection	DR129	8/27/1998	Beryllium	4.60E-01	2.67						
EPA Site Inspection	DR152	8/27/1998	Beryllium	4.50E-01	2.37						
EPA Site Inspection	DR124	9/15/1998	Beryllium	4.50E-01	2.78						
EPA Site Inspection	DR166	8/13/1998	Beryllium	4.40E-01	1.47						
EPA Site Inspection	DR162	8/27/1998	Beryllium	4.20E-01	1.9						
EPA Site Inspection	DR127	8/12/1998	Beryllium	4.20E-01	2.78						
EPA Site Inspection	DR128	8/12/1998	Beryllium	4.20E-01	2.99						
EPA Site Inspection	DR126	8/12/1998	Beryllium	3.80E-01	3.09						
EPA Site Inspection	DR130	8/12/1998	Beryllium	3.30E-01	2.87						
EPA Site Inspection	DR133	9/2/1998	Beryllium	2.80E-01	0.76						
EPA Site Inspection	DR131	8/13/1998	Beryllium	2.50E-01	1.47						
Boeing Site Characterization	R3	10/15/1997	Bis(2-ethylhexyl)phthalate	3.50E+00	3.7	9.46E+01	47	78	mg/kg OC	2.0	1.2
EPA Site Inspection	DR155	8/13/1998	Bis(2-ethylhexyl)phthalate	2.50E+00	2.7	9.26E+01	47	78	mg/kg OC	2.0	1.2
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Bis(2-ethylhexyl)phthalate	1.70E+00	3.05	5.57E+01	47	78	mg/kg OC	1.2	<1
EPA Site Inspection	DR131	8/13/1998	Bis(2-ethylhexyl)phthalate	1.50E+00	1.47	1.02E+02	47	78	mg/kg OC	2.2	1.3
Boeing Site Characterization	R4	10/15/1997	Bis(2-ethylhexyl)phthalate	1.20E+00	3.8	3.16E+01	47	78	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	Bis(2-ethylhexyl)phthalate	9.40E-01	2.78	3.38E+01	47	78	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	Bis(2-ethylhexyl)phthalate	6.60E-01	2.99	2.21E+01	47	78	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Bis(2-ethylhexyl)phthalate	5.90E-01	3.09	1.91E+01	47	78	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Bis(2-ethylhexyl)phthalate	5.50E-01	2.67	2.06E+01	47	78	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Bis(2-ethylhexyl)phthalate	5.50E-01	2.78	1.98E+01	47	78	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Bis(2-ethylhexyl)phthalate	5.30E-01	2.07	2.56E+01	47	78	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Bis(2-ethylhexyl)phthalate	5.20E-01	1.84	2.83E+01	47	78	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Bis(2-ethylhexyl)phthalate	5.10E-01	2.19	2.33E+01	47	78	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Bis(2-ethylhexyl)phthalate	5.10E-01	2.87	1.78E+01	47	78	mg/kg OC	<1	<1
EPA Site Inspection	DR152	8/27/1998	Bis(2-ethylhexyl)phthalate	4.50E-01	2.37	1.90E+01	47	78	mg/kg OC	<1	<1

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Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Boeing Site Characterization	R5	10/15/1997	Bis(2-ethylhexyl)phthalate	4.40E-01	1.8	2.44E+01	47	78	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	Bis(2-ethylhexyl)phthalate	4.40E-01	1.9	2.32E+01	47	78	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	Bis(2-ethylhexyl)phthalate	4.30E-01	1.9	2.26E+01	47	78	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Bis(2-ethylhexyl)phthalate	4.30E-01	3.5	1.23E+01	47	78	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Bis(2-ethylhexyl)phthalate	4.00E-01	2.54	1.57E+01	47	78	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	Bis(2-ethylhexyl)phthalate	3.80E-01	1.5	2.53E+01	47	78	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Bis(2-ethylhexyl)phthalate	3.10E-01	2.58	1.20E+01	47	78	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Bis(2-ethylhexyl)phthalate	2.70E-01	1.55	1.74E+01	47	78	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Bis(2-ethylhexyl)phthalate	2.70E-01	1.84	1.47E+01	47	78	mg/kg OC	<1	<1
EPA Site Inspection	DR162	8/27/1998	Bis(2-ethylhexyl)phthalate	2.50E-01	1.9	1.32E+01	47	78	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Bis(2-ethylhexyl)phthalate	2.10E-01	1.32	1.59E+01	47	78	mg/kg OC	<1	<1
EPA Site Inspection	DR133	9/2/1998	Bis(2-ethylhexyl)phthalate	1.80E-01	0.76	2.37E+01	47	78	mg/kg OC	<1	<1
Boeing Site Characterization	R7	10/15/1997	Bis(2-ethylhexyl)phthalate	1.80E-01	1.4	1.29E+01	47	78	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Bis(2-ethylhexyl)phthalate	1.10E-01	1.42	7.75E+00	47	78	mg/kg OC	<1	<1
EPA Site Inspection	DR161	8/31/1998	Bis(2-ethylhexyl)phthalate	9.00E-02	2.87	3.14E+00	47	78	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS02	4/28/2009	Bis(2-ethylhexyl)phthalate	7.80E-02	3.53	2.21E+00	47	78	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Bis(2-ethylhexyl)phthalate	7.40E-02	1.75	4.23E+00	47	78	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Bis(2-ethylhexyl)phthalate	6.50E-02	2.57	2.53E+00	47	78	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS04	4/28/2009	Bis(2-ethylhexyl)phthalate	4.40E-02	1.78	2.47E+00	47	78	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Butyl benzyl phthalate	4.60E-01 J	1.47	3.13E+01	4.9	64	mg/kg OC	6.4	<1
EPA Site Inspection	DR126	8/12/1998	Butyl benzyl phthalate	4.60E-01	3.09	1.49E+01	4.9	64	mg/kg OC	3.0	<1
Boeing Site Characterization	R3	10/15/1997	Butyl benzyl phthalate	3.20E-01	3.7	8.65E+00	4.9	64	mg/kg OC	1.8	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Butyl benzyl phthalate	1.60E-01	1.84	8.70E+00	4.9	64	mg/kg OC	1.8	<1
EPA Site Inspection	DR124	9/15/1998	Butyl benzyl phthalate	1.00E-01	2.78	3.60E+00	4.9	64	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Butyl benzyl phthalate	9.30E-02	1.84	5.05E+00	4.9	64	mg/kg OC	1.0	<1
Boeing Site Characterization	R4	10/15/1997	Butyl benzyl phthalate	8.90E-02 J	3.8	2.34E+00	4.9	64	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Butyl benzyl phthalate	8.00E-02	2.07	3.86E+00	4.9	64	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Butyl benzyl phthalate	6.00E-02	2.67	2.25E+00	4.9	64	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Butyl benzyl phthalate	5.00E-02	2.19	2.28E+00	4.9	64	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Butyl benzyl phthalate	5.00E-02	2.87	1.74E+00	4.9	64	mg/kg OC	<1	<1
EPA Site Inspection	DR132	8/13/1998	Butyl benzyl phthalate	5.00E-02	2.9	1.72E+00	4.9	64	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	Butyl benzyl phthalate	5.00E-02	2.99	1.67E+00	4.9	64	mg/kg OC	<1	<1
Boeing Site Characterization	R5	10/15/1997	Butyl benzyl phthalate	4.80E-02	1.8	2.67E+00	4.9	64	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	Butyl benzyl phthalate	4.60E-02 J	1.5	3.07E+00	4.9	64	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	Butyl benzyl phthalate	4.20E-02 J	1.9	2.21E+00	4.9	64	mg/kg OC	<1	<1
EPA Site Inspection	DR152	8/27/1998	Butyl benzyl phthalate	4.00E-02	2.37	1.69E+00	4.9	64	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	Butyl benzyl phthalate	4.00E-02	2.7	1.48E+00	4.9	64	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Butyl benzyl phthalate	4.00E-02	2.78	1.44E+00	4.9	64	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Butyl benzyl phthalate	3.35E-02 J	1.55	2.16E+00	4.9	64	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	Butyl benzyl phthalate	3.00E-02	1.9	1.58E+00	4.9	64	mg/kg OC	<1	<1
EPA Site Inspection	DR162	8/27/1998	Butyl benzyl phthalate	3.00E-02	1.9	1.58E+00	4.9	64	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Butyl benzyl phthalate	2.80E-02 J	2.88	9.72E-01	4.9	64	mg/kg OC	<1	<1

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Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Butyl benzyl phthalate	2.40E-02	1.32	1.82E+00	4.9	64	mg/kg OC	<1	<1
Boeing Site Characterization	R7	10/15/1997	Butyl benzyl phthalate	2.20E-02	1.4	1.57E+00	4.9	64	mg/kg OC	<1	<1
EPA Site Inspection	DR166	8/13/1998	Butyl benzyl phthalate	2.00E-02	1.47	1.36E+00	4.9	64	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Butyl benzyl phthalate	1.20E-02	2.58	4.65E-01	4.9	64	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Butyl benzyl phthalate	1.20E-02	2.63	4.56E-01	4.9	64	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Butyl benzyl phthalate	8.60E-03	1.42	6.06E-01	4.9	64	mg/kg OC	<1	<1
Boeing Site Characterization	R3	10/15/1997	Cadmium	9.00E-01	3.7		5.1	6.7	mg/kg DW	<1	<1
Boeing Site Characterization	R7	10/15/1997	Cadmium	8.00E-01	1.4		5.1	6.7	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Cadmium	8.00E-01	2.88		5.1	6.7	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Cadmium	7.00E-01	3.05		5.1	6.7	mg/kg DW	<1	<1
EPA Site Inspection	DR124	9/15/1998	Cadmium	6.50E-01	2.78		5.1	6.7	mg/kg DW	<1	<1
EPA Site Inspection	DR153	8/31/1998	Cadmium	6.20E-01	2.19		5.1	6.7	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Cadmium	6.00E-01	2.54		5.1	6.7	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Cadmium	6.00E-01	2.58		5.1	6.7	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Cadmium	5.00E-01	2.07		5.1	6.7	mg/kg DW	<1	<1
EPA Site Inspection	DR152	8/27/1998	Cadmium	5.00E-01	2.37		5.1	6.7	mg/kg DW	<1	<1
EPA Site Inspection	DR129	8/27/1998	Cadmium	5.00E-01	2.67		5.1	6.7	mg/kg DW	<1	<1
EPA Site Inspection	DR132	8/13/1998	Cadmium	5.00E-01	2.9		5.1	6.7	mg/kg DW	<1	<1
Boeing Site Characterization	R4	10/15/1997	Cadmium	5.00E-01	3.8		5.1	6.7	mg/kg DW	<1	<1
EPA Site Inspection	DR131	8/13/1998	Cadmium	4.60E-01	1.47		5.1	6.7	mg/kg DW	<1	<1
EPA Site Inspection	DR128	8/12/1998	Cadmium	4.40E-01	2.99		5.1	6.7	mg/kg DW	<1	<1
EPA Site Inspection	DR134	8/13/1998	Cadmium	4.10E-01	2.52		5.1	6.7	mg/kg DW	<1	<1
EPA Site Inspection	DR127	8/12/1998	Cadmium	4.10E-01	2.78		5.1	6.7	mg/kg DW	<1	<1
EPA Site Inspection	DR126	8/12/1998	Cadmium	4.10E-01	3.09		5.1	6.7	mg/kg DW	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Cadmium	4.00E-01	1.42		5.1	6.7	mg/kg DW	<1	<1
Boeing Site Characterization	R8	10/16/1997	Cadmium	4.00E-01	1.55		5.1	6.7	mg/kg DW	<1	<1
EPA Site Inspection	DR162	8/27/1998	Cadmium	4.00E-01	1.9		5.1	6.7	mg/kg DW	<1	<1
EPA Site Inspection	DR164	8/19/1998	Cadmium	4.00E-01	2.58		5.1	6.7	mg/kg DW	<1	<1
EPA Site Inspection	DR166	8/13/1998	Cadmium	3.90E-01	1.47		5.1	6.7	mg/kg DW	<1	<1
EPA Site Inspection	DR154	8/13/1998	Cadmium	3.70E-01	2.33		5.1	6.7	mg/kg DW	<1	<1
EPA Site Inspection	DR155	8/13/1998	Cadmium	3.30E-01	2.7		5.1	6.7	mg/kg DW	<1	<1
EPA Site Inspection	DR130	8/12/1998	Cadmium	3.00E-01	2.87		5.1	6.7	mg/kg DW	<1	<1
EPA Site Inspection	DR161	8/31/1998	Cadmium	2.70E-01	2.87		5.1	6.7	mg/kg DW	<1	<1
Boeing Site Characterization	R3	10/15/1997	Carbazole	2.40E-01	3.7	6.49E+00					
EPA Site Inspection	DR132	8/13/1998	Carbazole	1.50E-01	2.9	5.17E+00					
Boeing Site Characterization	R1	10/15/1997	Carbazole	9.70E-02	1.9	5.11E+00					
Boeing Site Characterization	R5	10/15/1997	Carbazole	8.60E-02	1.8	4.78E+00					
EPA Site Inspection	DR124	9/15/1998	Carbazole	8.00E-02	2.78	2.88E+00					
Boeing Site Characterization	R2	10/15/1997	Carbazole	7.10E-02 J	1.9	3.74E+00					
EPA Site Inspection	DR131	8/13/1998	Carbazole	7.00E-02	1.47	4.76E+00					
Boeing Site Characterization	R4	10/15/1997	Carbazole	6.10E-02 J	3.8	1.61E+00					
EPA Site Inspection	DR155	8/13/1998	Carbazole	6.00E-02	2.7	2.22E+00					

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Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Boeing Site Characterization	R8	10/16/1997	Carbazole	5.40E-02 J	1.55	3.48E+00					
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Carbazole	5.10E-02 J	2.54	2.01E+00					
EPA Site Inspection	DR153	8/31/1998	Carbazole	5.00E-02	2.19	2.28E+00					
EPA Site Inspection	DR126	8/12/1998	Carbazole	5.00E-02	3.09	1.62E+00					
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Carbazole	4.20E-02 J	2.88	1.46E+00					
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Carbazole	4.00E-02	2.07	1.93E+00					
EPA Site Inspection	DR129	8/27/1998	Carbazole	4.00E-02	2.67	1.50E+00					
EPA Site Inspection	DR127	8/12/1998	Carbazole	4.00E-02	2.78	1.44E+00					
EPA Site Inspection	DR130	8/12/1998	Carbazole	4.00E-02	2.87	1.39E+00					
Boeing Site Characterization	R6	10/16/1997	Carbazole	3.80E-02 J	1.5	2.53E+00					
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Carbazole	3.60E-02 J	2.63	1.37E+00					
EPA Site Inspection	DR152	8/27/1998	Carbazole	3.00E-02	2.37	1.27E+00					
EPA Site Inspection	DR134	8/13/1998	Carbazole	3.00E-02	2.52	1.19E+00					
EPA Site Inspection	DR128	8/12/1998	Carbazole	3.00E-02	2.99	1.00E+00					
Boeing Site Characterization	R7	10/15/1997	Carbazole	2.40E-02	1.4	1.71E+00					
EPA Site Inspection	DR154	8/13/1998	Carbon disulfide	3.20E-03 J	2.33	1.37E-01					
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Chromium	8.50E+01	2.63		260	270	mg/kg DW	<1	<1
Boeing Site Characterization	R3	10/15/1997	Chromium	4.57E+01	3.7		260	270	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Chromium	4.47E+01	1.84		260	270	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Chromium	4.35E+01	2.07		260	270	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Chromium	4.20E+01	1.84		260	270	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Chromium	3.97E+01	3.5		260	270	mg/kg DW	<1	<1
EPA Site Inspection	DR153	8/31/1998	Chromium	3.90E+01	2.19		260	270	mg/kg DW	<1	<1
EPA Site Inspection	DR124	9/15/1998	Chromium	3.90E+01	2.78		260	270	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Chromium	3.90E+01	2.88		260	270	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Chromium	3.83E+01	3.05		260	270	mg/kg DW	<1	<1
EPA Site Inspection	DR129	8/27/1998	Chromium	3.70E+01	2.67		260	270	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Chromium	3.60E+01	2.58		260	270	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Chromium	3.55E+01	2.57		260	270	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Chromium	3.50E+01	2.54		260	270	mg/kg DW	<1	<1
EPA Site Inspection	DR161	8/31/1998	Chromium	3.50E+01	2.87		260	270	mg/kg DW	<1	<1
EPA Site Inspection	DR152	8/27/1998	Chromium	3.40E+01	2.37		260	270	mg/kg DW	<1	<1
EPA Site Inspection	DR132	8/13/1998	Chromium	3.30E+01	2.9		260	270	mg/kg DW	<1	<1
Boeing Site Characterization	R4	10/15/1997	Chromium	3.30E+01	3.8		260	270	mg/kg DW	<1	<1
Boeing Site Characterization	R5	10/15/1997	Chromium	3.20E+01	1.8		260	270	mg/kg DW	<1	<1
Boeing Site Characterization	R1	10/15/1997	Chromium	3.20E+01	1.9		260	270	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS04	4/28/2009	Chromium	3.14E+01	1.78		260	270	mg/kg DW	<1	<1
EPA Site Inspection	DR131	8/13/1998	Chromium	3.10E+01	1.47		260	270	mg/kg DW	<1	<1
EPA Site Inspection	DR155	8/13/1998	Chromium	3.10E+01	2.7		260	270	mg/kg DW	<1	<1
EPA Site Inspection	DR127	8/12/1998	Chromium	3.10E+01	2.78		260	270	mg/kg DW	<1	<1
Boeing Site Characterization	R2	10/15/1997	Chromium	3.00E+01	1.9		260	270	mg/kg DW	<1	<1
EPA Site Inspection	DR134	8/13/1998	Chromium	3.00E+01	2.52		260	270	mg/kg DW	<1	<1

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Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
EPA Site Inspection	DR128	8/12/1998	Chromium	3.00E+01	2.99		260	270	mg/kg DW	<1	<1
EPA Site Inspection	DR126	8/12/1998	Chromium	3.00E+01	3.09		260	270	mg/kg DW	<1	<1
EPA Site Inspection	DR154	8/13/1998	Chromium	2.90E+01	2.33		260	270	mg/kg DW	<1	<1
Boeing Site Characterization	R6	10/16/1997	Chromium	2.80E+01	1.5		260	270	mg/kg DW	<1	<1
EPA Site Inspection	DR164	8/19/1998	Chromium	2.80E+01	2.58		260	270	mg/kg DW	<1	<1
EPA Site Inspection	DR130	8/12/1998	Chromium	2.80E+01	2.87		260	270	mg/kg DW	<1	<1
EPA Site Inspection	DR162	8/27/1998	Chromium	2.70E+01	1.9		260	270	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Chromium	2.55E+01	3.5		260	270	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Chromium	2.49E+01	1.75		260	270	mg/kg DW	<1	<1
Boeing Site Characterization	R8	10/16/1997	Chromium	2.40E+01	1.55		260	270	mg/kg DW	<1	<1
Boeing Site Characterization	R7	10/15/1997	Chromium	2.30E+01	1.4		260	270	mg/kg DW	<1	<1
EPA Site Inspection	DR166	8/13/1998	Chromium	2.10E+01	1.47		260	270	mg/kg DW	<1	<1
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Chromium	1.96E+01	1.32		260	270	mg/kg DW	<1	<1
EPA Site Inspection	DR133	9/2/1998	Chromium	1.70E+01	0.76		260	270	mg/kg DW	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Chromium	1.32E+01	1.42		260	270	mg/kg DW	<1	<1
Boeing Site Characterization	R3	10/15/1997	Chrysene	9.70E-01	3.7	2.62E+01	100	460	mg/kg OC	<1	<1
Boeing Site Characterization	R5	10/15/1997	Chrysene	8.70E-01	1.8	4.83E+01	100	460	mg/kg OC	<1	<1
EPA Site Inspection	DR132	8/13/1998	Chrysene	8.30E-01	2.9	2.86E+01	100	460	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	Chrysene	7.90E-01	2.78	2.84E+01	100	460	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Chrysene	7.20E-01	3.09	2.33E+01	100	460	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Chrysene	6.10E-01	2.78	2.19E+01	100	460	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Chrysene	6.00E-01	2.54	2.36E+01	110	460	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Chrysene	5.50E-01	3.05	1.80E+01	110	460	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	Chrysene	5.20E-01	2.7	1.93E+01	100	460	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Chrysene	5.00E-01	2.19	2.28E+01	100	460	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	Chrysene	5.00E-01	2.99	1.67E+01	100	460	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Chrysene	4.90E-01	2.88	1.70E+01	110	460	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Chrysene	4.70E-01	2.67	1.76E+01	100	460	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Chrysene	4.60E-01	1.47	3.13E+01	100	460	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Chrysene	4.60E-01	3.8	1.21E+01	100	460	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Chrysene	4.40E-01	2.87	1.53E+01	100	460	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Chrysene	4.00E-01	2.07	1.93E+01	110	460	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	Chrysene	3.90E-01	1.9	2.05E+01	100	460	mg/kg OC	<1	<1
EPA Site Inspection	DR152	8/27/1998	Chrysene	3.50E-01	2.37	1.48E+01	100	460	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Chrysene	3.45E-01	1.55	2.23E+01	100	460	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Chrysene	3.40E-01	2.58	1.32E+01	110	460	mg/kg OC	<1	<1
EPA Site Inspection	DR134	8/13/1998	Chrysene	3.30E-01	2.52	1.31E+01	100	460	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Chrysene	3.30E-01	2.63	1.25E+01	110	460	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	Chrysene	3.00E-01	1.9	1.58E+01	100	460	mg/kg OC	<1	<1
EPA Site Inspection	DR154	8/13/1998	Chrysene	2.30E-01	2.33	9.87E+00	100	460	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Chrysene	2.20E-01	1.75	1.26E+01	110	460	mg/kg OC	<1	<1
EPA Site Inspection	DR162	8/27/1998	Chrysene	2.20E-01	1.9	1.16E+01	100	460	mg/kg OC	<1	<1

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Boeing Site Characterization	R6	10/16/1997	Chrysene	2.10E-01	1.5	1.40E+01	100	460	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Chrysene	1.80E-01	1.84	9.78E+00	100	460	mg/kg OC	<1	<1
EPA Site Inspection	DR133	9/2/1998	Chrysene	1.70E-01	0.76	2.24E+01	100	460	mg/kg OC	<1	<1
Boeing Site Characterization	R7	10/15/1997	Chrysene	1.70E-01	1.4	1.21E+01	100	460	mg/kg OC	<1	<1
EPA Site Inspection	DR164	8/19/1998	Chrysene	1.70E-01	2.58	6.59E+00	100	460	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Chrysene	1.60E-01	1.42	1.13E+01	100	460	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Chrysene	1.60E-01	1.84	8.70E+00	100	460	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS02	4/28/2009	Chrysene	1.30E-01	3.53	3.68E+00	100	460	mg/kg OC	<1	<1
EPA Site Inspection	DR166	8/13/1998	Chrysene	1.00E-01	1.47	6.80E+00	100	460	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Chrysene	1.00E-01 J	2.57	3.89E+00	100	460	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Chrysene	8.90E-02	1.32	6.74E+00	100	460	mg/kg OC	<1	<1
EPA Site Inspection	DR161	8/31/1998	Chrysene	6.00E-02	2.87	2.09E+00	100	460	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS04	4/28/2009	Chrysene	5.60E-02	1.78	3.15E+00	100	460	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Chrysene	4.90E-02	3.5	1.40E+00	100	460	mg/kg OC	<1	<1
EPA Site Inspection	DR161	8/31/1998	Cobalt	1.30E+01	2.87						
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Cobalt	1.20E+01	2.63						
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Cobalt	1.10E+01	2.07						
EPA Site Inspection	DR153	8/31/1998	Cobalt	1.10E+01	2.19						
EPA Site Inspection	DR152	8/27/1998	Cobalt	1.10E+01	2.37						
EPA Site Inspection	DR164	8/19/1998	Cobalt	1.10E+01	2.58						
EPA Site Inspection	DR129	8/27/1998	Cobalt	1.10E+01	2.67						
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Cobalt	1.09E+01	2.88						
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Cobalt	1.03E+01	2.58						
EPA Site Inspection	DR162	8/27/1998	Cobalt	1.00E+01	1.9						
EPA Site Inspection	DR124	9/15/1998	Cobalt	1.00E+01	2.78						
EPA Site Inspection	DR127	8/12/1998	Cobalt	1.00E+01	2.78						
EPA Site Inspection	DR130	8/12/1998	Cobalt	1.00E+01	2.87						
EPA Site Inspection	DR128	8/12/1998	Cobalt	1.00E+01	2.99						
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Cobalt	9.80E+00	2.54						
EPA Site Inspection	DR154	8/13/1998	Cobalt	9.00E+00	2.33						
EPA Site Inspection	DR134	8/13/1998	Cobalt	9.00E+00	2.52						
EPA Site Inspection	DR155	8/13/1998	Cobalt	9.00E+00	2.7						
EPA Site Inspection	DR132	8/13/1998	Cobalt	9.00E+00	2.9						
EPA Site Inspection	DR126	8/12/1998	Cobalt	9.00E+00	3.09						
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Cobalt	8.20E+00	3.05						
EPA Site Inspection	DR133	9/2/1998	Cobalt	7.00E+00	0.76						
EPA Site Inspection	DR131	8/13/1998	Cobalt	7.00E+00	1.47						
EPA Site Inspection	DR166	8/13/1998	Cobalt	7.00E+00	1.47						
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Cobalt	5.40E+00	1.32						
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Cobalt	5.20E+00	1.75						
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Cobalt	4.10E+00	1.42						
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Copper	1.71E+02	2.63		390	390	mg/kg DW	<1	<1

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
EPA Site Inspection	DR124	9/15/1998	Copper	1.19E+02	2.78		390	390	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Copper	1.14E+02	1.84		390	390	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Copper	1.08E+02	2.88		390	390	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Copper	1.02E+02 J	2.07		390	390	mg/kg DW	<1	<1
EPA Site Inspection	DR126	8/12/1998	Copper	8.90E+01	3.09		390	390	mg/kg DW	<1	<1
Boeing Site Characterization	R7	10/15/1997	Copper	8.80E+01	1.4		390	390	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Copper	8.74E+01	2.58		390	390	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS04	4/28/2009	Copper	8.71E+01	1.78		390	390	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Copper	8.55E+01	2.54		390	390	mg/kg DW	<1	<1
EPA Site Inspection	DR127	8/12/1998	Copper	8.50E+01	2.78		390	390	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Copper	8.42E+01	3.05		390	390	mg/kg DW	<1	<1
EPA Site Inspection	DR153	8/31/1998	Copper	8.40E+01	2.19		390	390	mg/kg DW	<1	<1
EPA Site Inspection	DR128	8/12/1998	Copper	8.10E+01	2.99		390	390	mg/kg DW	<1	<1
Boeing Site Characterization	R3	10/15/1997	Copper	7.80E+01	3.7		390	390	mg/kg DW	<1	<1
EPA Site Inspection	DR129	8/27/1998	Copper	7.50E+01	2.67		390	390	mg/kg DW	<1	<1
EPA Site Inspection	DR152	8/27/1998	Copper	7.30E+01	2.37		390	390	mg/kg DW	<1	<1
Boeing Site Characterization	R4	10/15/1997	Copper	6.80E+01	3.8		390	390	mg/kg DW	<1	<1
EPA Site Inspection	DR130	8/12/1998	Copper	6.70E+01	2.87		390	390	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Copper	6.57E+01	1.84		390	390	mg/kg DW	<1	<1
Boeing Site Characterization	R1	10/15/1997	Copper	6.20E+01	1.9		390	390	mg/kg DW	<1	<1
EPA Site Inspection	DR132	8/13/1998	Copper	6.10E+01	2.9		390	390	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Copper	6.02E+01	2.57		390	390	mg/kg DW	<1	<1
Boeing Site Characterization	R5	10/15/1997	Copper	5.90E+01	1.8		390	390	mg/kg DW	<1	<1
Boeing Site Characterization	R2	10/15/1997	Copper	5.80E+01	1.9		390	390	mg/kg DW	<1	<1
EPA Site Inspection	DR154	8/13/1998	Copper	5.70E+01	2.33		390	390	mg/kg DW	<1	<1
EPA Site Inspection	DR155	8/13/1998	Copper	5.70E+01	2.7		390	390	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Copper	5.67E+01	3.5		390	390	mg/kg DW	<1	<1
EPA Site Inspection	DR164	8/19/1998	Copper	5.60E+01	2.58		390	390	mg/kg DW	<1	<1
EPA Site Inspection	DR162	8/27/1998	Copper	5.50E+01	1.9		390	390	mg/kg DW	<1	<1
EPA Site Inspection	DR134	8/13/1998	Copper	5.20E+01	2.52		390	390	mg/kg DW	<1	<1
Boeing Site Characterization	R6	10/16/1997	Copper	5.00E+01	1.5		390	390	mg/kg DW	<1	<1
Boeing Site Characterization	R8	10/16/1997	Copper	4.90E+01	1.55		390	390	mg/kg DW	<1	<1
EPA Site Inspection	DR161	8/31/1998	Copper	4.80E+01	2.87		390	390	mg/kg DW	<1	<1
EPA Site Inspection	DR131	8/13/1998	Copper	4.40E+01	1.47		390	390	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Copper	4.18E+01	1.75		390	390	mg/kg DW	<1	<1
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Copper	3.55E+01	1.32		390	390	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Copper	3.48E+01	3.5		390	390	mg/kg DW	<1	<1
EPA Site Inspection	DR166	8/13/1998	Copper	3.30E+01	1.47		390	390	mg/kg DW	<1	<1
EPA Site Inspection	DR133	9/2/1998	Copper	3.00E+01	0.76		390	390	mg/kg DW	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Copper	1.90E+01	1.42		390	390	mg/kg DW	<1	<1
Boeing Site Characterization	R3	10/15/1997	Dibenzo(a,h)anthracene	1.70E-01	3.7	4.59E+00	12	33	mg/kg OC	<1	<1
Boeing Site Characterization	R5	10/15/1997	Dibenzo(a,h)anthracene	1.50E-01	1.8	8.33E+00	12	33	mg/kg OC	<1	<1

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
EPA Site Inspection	DR124	9/15/1998	Dibenzo(a,h)anthracene	1.40E-01	2.78	5.04E+00	12	33	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Dibenzo(a,h)anthracene	7.30E-02	3.8	1.92E+00	12	33	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Dibenzo(a,h)anthracene	7.00E-02	1.47	4.76E+00	12	33	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Dibenzo(a,h)anthracene	7.00E-02	3.09	2.27E+00	12	33	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Dibenzo(a,h)anthracene	6.00E-02	2.19	2.74E+00	12	33	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Dibenzo(a,h)anthracene	6.00E-02	2.78	2.16E+00	12	33	mg/kg OC	<1	<1
EPA Site Inspection	DR132	8/13/1998	Dibenzo(a,h)anthracene	6.00E-02	2.9	2.07E+00	12	33	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	Dibenzo(a,h)anthracene	5.00E-02	1.9	2.63E+00	12	33	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	Dibenzo(a,h)anthracene	5.00E-02	2.7	1.85E+00	12	33	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	Dibenzo(a,h)anthracene	5.00E-02	2.99	1.67E+00	12	33	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Dibenzo(a,h)anthracene	4.50E-02	2.07	2.17E+00	12	33	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Dibenzo(a,h)anthracene	4.45E-02 J	1.55	2.87E+00	12	33	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	Dibenzo(a,h)anthracene	4.30E-02	1.9	2.26E+00	12	33	mg/kg OC	<1	<1
EPA Site Inspection	DR134	8/13/1998	Dibenzo(a,h)anthracene	4.00E-02	2.52	1.59E+00	12	33	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Dibenzo(a,h)anthracene	4.00E-02	2.87	1.39E+00	12	33	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	Dibenzo(a,h)anthracene	3.70E-02	1.5	2.47E+00	12	33	mg/kg OC	<1	<1
Boeing Site Characterization	R7	10/15/1997	Dibenzo(a,h)anthracene	3.20E-02	1.4	2.29E+00	12	33	mg/kg OC	<1	<1
EPA Site Inspection	DR154	8/13/1998	Dibenzo(a,h)anthracene	3.00E-02	2.33	1.29E+00	12	33	mg/kg OC	<1	<1
EPA Site Inspection	DR152	8/27/1998	Dibenzo(a,h)anthracene	3.00E-02	2.37	1.27E+00	12	33	mg/kg OC	<1	<1
EPA Site Inspection	DR162	8/27/1998	Dibenzo(a,h)anthracene	2.00E-02	1.9	1.05E+00	12	33	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS02	4/28/2009	Dibenzo(a,h)anthracene	1.20E-02 J	3.53	3.40E-01	12	33	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Dibenzo(a,h)anthracene	1.10E-02 J	1.84	5.98E-01	12	33	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Dibenzo(a,h)anthracene	1.00E-02	1.32	7.58E-01	12	33	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Dibenzo(a,h)anthracene	8.60E-03	1.42	6.06E-01	12	33	mg/kg OC	<1	<1
Boeing Site Characterization	R3	10/15/1997	Dibenzofuran	1.60E-01	3.7	4.32E+00	15	58	mg/kg OC	<1	<1
EPA Site Inspection	DR132	8/13/1998	Dibenzofuran	1.40E-01	2.9	4.83E+00	15	58	mg/kg OC	<1	<1
Boeing Site Characterization	R5	10/15/1997	Dibenzofuran	1.20E-01	1.8	6.67E+00	15	58	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	Dibenzofuran	1.00E-01	1.9	5.26E+00	15	58	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Dibenzofuran	7.00E-02	1.47	4.76E+00	15	58	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Dibenzofuran	6.50E-02	3.8	1.71E+00	15	58	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Dibenzofuran	6.00E-02	3.09	1.94E+00	15	58	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Dibenzofuran	5.00E-02	2.67	1.87E+00	15	58	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Dibenzofuran	5.00E-02	2.87	1.74E+00	15	58	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Dibenzofuran	4.00E-02	2.19	1.83E+00	15	58	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	Dibenzofuran	4.00E-02	2.7	1.48E+00	15	58	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	Dibenzofuran	4.00E-02	2.99	1.34E+00	15	58	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Dibenzofuran	3.25E-02	1.55	2.10E+00	15	58	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	Dibenzofuran	3.00E-02	1.9	1.58E+00	15	58	mg/kg OC	<1	<1
EPA Site Inspection	DR134	8/13/1998	Dibenzofuran	3.00E-02	2.52	1.19E+00	15	58	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Dibenzofuran	3.00E-02	2.78	1.08E+00	15	58	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	Dibenzofuran	2.90E-02	1.5	1.93E+00	15	58	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	Dibenzofuran	2.00E-02	2.78	7.19E-01	15	58	mg/kg OC	<1	<1

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Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
EPA Site Inspection	DR154	8/13/1998	Dibutyltin as ion	2.50E-02	2.33	1.07E+00					
EPA Site Inspection	DR152	8/27/1998	Dibutyltin as ion	2.40E-02 J	2.37	1.01E+00					
EPA Site Inspection	DR133	9/2/1998	Dibutyltin as ion	6.00E-03 J	0.76	7.89E-01					
Boeing Site Characterization	R3	10/15/1997	Dimethyl phthalate	1.60E-01	3.7	4.32E+00	53	53	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Dimethyl phthalate	7.00E-02	1.47	4.76E+00	53	53	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Dimethyl phthalate	4.80E-02	3.8	1.26E+00	53	53	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Dimethyl phthalate	2.00E-02	2.67	7.49E-01	53	53	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	Dimethyl phthalate	2.00E-02	2.7	7.41E-01	53	53	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Dimethyl phthalate	2.00E-02	2.87	6.97E-01	53	53	mg/kg OC	<1	<1
EPA Site Inspection	DR132	8/13/1998	Dimethyl phthalate	2.00E-02	2.9	6.90E-01	53	53	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Dimethyl phthalate	2.00E-02	3.09	6.47E-01	53	53	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Dimethyl phthalate	1.80E-02	3.5	5.14E-01	53	53	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Dimethyl phthalate	1.00E-02 J	2.57	3.89E-01	53	53	mg/kg OC	<1	<1
Boeing Site Characterization	R3	10/15/1997	Di-n-butyl phthalate	7.60E-02	3.7	2.05E+00	220	1700	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Di-n-butyl phthalate	5.00E-02	1.47	3.40E+00	220	1700	mg/kg OC	<1	<1
EPA Site Inspection	DR132	8/13/1998	Di-n-butyl phthalate	3.00E-02	2.9	1.03E+00	220	1700	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Di-n-butyl phthalate	2.10E-02	3.8	5.53E-01	220	1700	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Di-n-butyl phthalate	2.00E-02	2.67	7.49E-01	220	1700	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	Di-n-butyl phthalate	2.00E-02	2.78	7.19E-01	220	1700	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Di-n-butyl phthalate	2.00E-02	2.78	7.19E-01	220	1700	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Di-n-butyl phthalate	2.00E-02	3.09	6.47E-01	220	1700	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Di-n-octyl phthalate	1.00E+00	3.05	3.28E+01	58	4500	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Di-n-octyl phthalate	1.90E-01	1.47	1.29E+01	58	4500	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Di-n-octyl phthalate	4.00E-02 J	3.8	1.05E+00	58	4500	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Di-n-octyl phthalate	3.10E-02	3.5	8.86E-01	58	4500	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Di-n-octyl phthalate	2.00E-02	2.67		58	4500	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Dioxin/furan TEQ - Mammal - Half DL	4.66E-05 J	2.07						
Slope Sediment Characterization	T115-SS04	4/28/2009	Dioxin/furan TEQ - Mammal - Half DL	2.34E-05	1.78						
Slope Sediment Characterization	T115-SS03	4/28/2009	Dioxin/furan TEQ - Mammal - Half DL	1.96E-05	2.57						
Slope Sediment Characterization	T115-SS02	4/28/2009	Dioxin/furan TEQ - Mammal - Half DL	1.56E-05	3.53						
Slope Sediment Characterization	T115-SS05	4/28/2009	Dioxin/furan TEQ - Mammal - Half DL	5.49E-06	1.84						
Slope Sediment Characterization	T115-SS05	4/28/2009	Dioxin/furan TEQ - Mammal - Half DL	4.99E-06	1.84						
Slope Sediment Characterization	T115-SS01	4/28/2009	Dioxin/furan TEQ - Mammal - Half DL	3.99E-06	3.5						
Boeing Site Characterization	R5	10/15/1997	Fluoranthene	2.90E+00	1.8	1.61E+02	160	1200	mg/kg OC	1.0	<1
EPA Site Inspection	DR132	8/13/1998	Fluoranthene	2.60E+00	2.9	8.97E+01	160	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Fluoranthene	1.30E+00	3.09	4.21E+01	160	1200	mg/kg OC	<1	<1

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Fluoranthene	1.10E+00	2.54	4.33E+01	160	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	Fluoranthene	1.10E+00	2.78	3.96E+01	160	1200	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Fluoranthene	1.10E+00	3.05	3.61E+01	160	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	Fluoranthene	1.00E+00	2.7	3.70E+01	160	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Fluoranthene	1.00E+00	2.78	3.60E+01	160	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Fluoranthene	9.90E-01	2.87	3.45E+01	160	1200	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Fluoranthene	9.30E-01	3.8	2.45E+01	160	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Fluoranthene	9.20E-01	1.47	6.26E+01	160	1200	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	Fluoranthene	9.10E-01	1.9	4.79E+01	160	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Fluoranthene	8.50E-01	2.19	3.88E+01	160	1200	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Fluoranthene	8.10E-01	1.55	5.23E+01	160	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Fluoranthene	7.40E-01	2.67	2.77E+01	160	1200	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Fluoranthene	7.20E-01	2.88	2.50E+01	160	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	Fluoranthene	7.10E-01	2.99	2.37E+01	160	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR134	8/13/1998	Fluoranthene	6.90E-01	2.52	2.74E+01	160	1200	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	Fluoranthene	5.50E-01	1.9	2.89E+01	160	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR152	8/27/1998	Fluoranthene	5.30E-01	2.37	2.24E+01	160	1200	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Fluoranthene	5.20E-01	2.07	2.51E+01	160	1200	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Fluoranthene	5.20E-01	2.63	1.98E+01	160	1200	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Fluoranthene	4.70E-01	2.58	1.82E+01	160	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR154	8/13/1998	Fluoranthene	4.30E-01	2.33	1.85E+01	160	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR133	9/2/1998	Fluoranthene	3.70E-01	0.76	4.87E+01	160	1200	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	Fluoranthene	3.70E-01	1.5	2.47E+01	160	1200	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Fluoranthene	3.60E-01	1.84	1.96E+01	160	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR162	8/27/1998	Fluoranthene	3.50E-01	1.9	1.84E+01	160	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR164	8/19/1998	Fluoranthene	3.40E-01	2.58	1.32E+01	160	1200	mg/kg OC	<1	<1
Boeing Site Characterization	R7	10/15/1997	Fluoranthene	3.30E-01	1.4	2.36E+01	160	1200	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Fluoranthene	2.90E-01	1.84	1.58E+01					
EPA Site Inspection	DR166	8/13/1998	Fluoranthene	2.30E-01	1.47	1.56E+01	160	1200	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Fluoranthene	2.30E-01	1.75	1.31E+01	160	1200	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Fluoranthene	2.00E-01	1.32	1.52E+01	160	1200	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Fluoranthene	1.80E-01	1.42	1.27E+01	160	1200	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS04	4/28/2009	Fluoranthene	1.00E-01	1.78	5.62E+00	160	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR161	8/31/1998	Fluoranthene	1.00E-01	2.87	3.48E+00	160	1200	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS02	4/28/2009	Fluoranthene	9.60E-02	3.53	2.72E+00	160	1200	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Fluoranthene	8.10E-02	3.5	2.31E+00	160	1200	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Fluoranthene	7.20E-02 J	2.57	2.80E+00	160	1200	mg/kg OC	<1	<1
EPA Site Inspection	DR132	8/13/1998	Fluorene	3.10E-01	2.9	1.07E+01	23	79	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	Fluorene	1.60E-01	1.9	8.42E+00	23	79	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Fluorene	9.35E-02	1.55	6.03E+00	23	79	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Fluorene	9.00E-02	1.47	6.12E+00	23	79	mg/kg OC	<1	<1
EPA Site Inspection	DR134	8/13/1998	Fluorene	8.00E-02	2.52	3.17E+00	23	79	mg/kg OC	<1	<1

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Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
EPA Site Inspection	DR126	8/12/1998	Fluorene	8.00E-02	3.09	2.59E+00	23	79	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Fluorene	7.40E-02	3.8	1.95E+00	23	79	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Fluorene	7.00E-02	2.67	2.62E+00	23	79	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Fluorene	7.00E-02	2.87	2.44E+00	23	79	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Fluorene	6.00E-02	2.19	2.74E+00	23	79	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Fluorene	6.00E-02	2.78	2.16E+00	23	79	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	Fluorene	6.00E-02	2.99	2.01E+00	23	79	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Fluorene	5.80E-02 J	2.54	2.28E+00	23	79	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	Fluorene	5.00E-02	2.7	1.85E+00	23	79	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	Fluorene	4.00E-02	2.78	1.44E+00	23	79	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	Fluorene	3.70E-02	1.9	1.95E+00	23	79	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Fluorene	3.70E-02 J	2.88	1.28E+00	23	79	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	Fluorene	3.30E-02	1.5	2.20E+00	23	79	mg/kg OC	<1	<1
EPA Site Inspection	DR162	8/27/1998	Fluorene	3.00E-02	1.9	1.58E+00	23	79	mg/kg OC	<1	<1
EPA Site Inspection	DR152	8/27/1998	Fluorene	3.00E-02	2.37	1.27E+00	23	79	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Fluorene	2.90E-02 J	2.63	1.10E+00	23	79	mg/kg OC	<1	<1
Boeing Site Characterization	R7	10/15/1997	Fluorene	2.00E-02	1.4	1.43E+00	23	79	mg/kg OC	<1	<1
EPA Site Inspection	DR164	8/19/1998	Fluorene	2.00E-02	2.58	7.75E-01	23	79	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Fluorene	1.30E-02 J	1.84	7.07E-01	23	79	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Fluorene	1.00E-02 J	1.84	5.43E-01	23	79	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Hexachlorobenzene	9.50E-02 J	2.58	3.68E+00	0.38	2.3	mg/kg OC	9.7	1.6
Boeing Site Characterization	R3	10/15/1997	Hexachlorobenzene	2.80E-03	3.7	7.57E-02	0.38	2.3	mg/kg OC	<1	<1
Boeing Site Characterization	R5	10/15/1997	Hexachlorobenzene	1.90E-03	1.8	1.06E-01	0.38	2.3	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Hexachlorobenzene	1.40E-03 J	3.8	3.68E-02	0.38	2.3	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Hexachlorobenzene	1.25E-03 J	1.55	8.06E-02	0.38	2.3	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	Hexachlorobenzene	8.00E-04 J	1.9	4.21E-02	0.38	2.3	mg/kg OC	<1	<1
Boeing Site Characterization	R7	10/15/1997	Hexachlorobenzene	7.00E-04 J	1.4	5.00E-02	0.38	2.3	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	Hexachlorobenzene	5.00E-04 J	1.5	3.33E-02	0.38	2.3	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	Indeno(1,2,3-cd)pyrene	6.80E-01	2.78	2.45E+01	34	88	mg/kg OC	<1	<1
Boeing Site Characterization	R5	10/15/1997	Indeno(1,2,3-cd)pyrene	3.10E-01	1.8	1.72E+01	34	88	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Indeno(1,2,3-cd)pyrene	3.10E-01	2.07	1.50E+01	34	88	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Indeno(1,2,3-cd)pyrene	2.90E-01	3.09	9.39E+00	34	88	mg/kg OC	<1	<1
EPA Site Inspection	DR132	8/13/1998	Indeno(1,2,3-cd)pyrene	2.70E-01	2.9	9.31E+00	34	88	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Indeno(1,2,3-cd)pyrene	2.40E-01	2.78	8.63E+00	34	88	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Indeno(1,2,3-cd)pyrene	2.20E-01	2.19	1.00E+01	34	88	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Indeno(1,2,3-cd)pyrene	2.10E-01	1.47	1.43E+01	34	88	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	Indeno(1,2,3-cd)pyrene	2.10E-01	2.99	7.02E+00	34	88	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Indeno(1,2,3-cd)pyrene	1.70E-01	3.8	4.47E+00	34	88	mg/kg OC	<1	<1
EPA Site Inspection	DR134	8/13/1998	Indeno(1,2,3-cd)pyrene	1.60E-01	2.52	6.35E+00	34	88	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Indeno(1,2,3-cd)pyrene	1.60E-01	2.67	5.99E+00	34	88	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	Indeno(1,2,3-cd)pyrene	1.60E-01	2.7	5.93E+00	34	88	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Indeno(1,2,3-cd)pyrene	1.60E-01	2.87	5.57E+00	34	88	mg/kg OC	<1	<1

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Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Boeing Site Characterization	R2	10/15/1997	Indeno(1,2,3-cd)pyrene	1.50E-01	1.9	7.89E+00	34	88	mg/kg OC	<1	<1
EPA Site Inspection	DR152	8/27/1998	Indeno(1,2,3-cd)pyrene	1.40E-01	2.37	5.91E+00	34	88	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Indeno(1,2,3-cd)pyrene	1.20E-01	1.55	7.74E+00	34	88	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	Indeno(1,2,3-cd)pyrene	1.20E-01	1.9	6.32E+00	34	88	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Indeno(1,2,3-cd)pyrene	1.20E-01	2.63	4.56E+00	34	88	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Indeno(1,2,3-cd)pyrene	1.20E-01	2.88	4.17E+00	34	88	mg/kg OC	<1	<1
EPA Site Inspection	DR154	8/13/1998	Indeno(1,2,3-cd)pyrene	1.10E-01	2.33	4.72E+00	34	88	mg/kg OC	<1	<1
EPA Site Inspection	DR164	8/19/1998	Indeno(1,2,3-cd)pyrene	1.10E-01	2.58	4.26E+00	34	88	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	Indeno(1,2,3-cd)pyrene	9.60E-02	1.5	6.40E+00	34	88	mg/kg OC	<1	<1
EPA Site Inspection	DR162	8/27/1998	Indeno(1,2,3-cd)pyrene	9.00E-02	1.9	4.74E+00	34	88	mg/kg OC	<1	<1
Boeing Site Characterization	R7	10/15/1997	Indeno(1,2,3-cd)pyrene	7.80E-02	1.4	5.57E+00	34	88	mg/kg OC	<1	<1
EPA Site Inspection	DR133	9/2/1998	Indeno(1,2,3-cd)pyrene	7.00E-02	0.76	9.21E+00	34	88	mg/kg OC	<1	<1
EPA Site Inspection	DR166	8/13/1998	Indeno(1,2,3-cd)pyrene	6.00E-02	1.47	4.08E+00	34	88	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Indeno(1,2,3-cd)pyrene	4.60E-02 J	1.42	3.24E+00	34	88	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Indeno(1,2,3-cd)pyrene	4.00E-02	1.75	2.29E+00	34	88	mg/kg OC	<1	<1
EPA Site Inspection	DR161	8/31/1998	Indeno(1,2,3-cd)pyrene	4.00E-02	2.87	1.39E+00	34	88	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Indeno(1,2,3-cd)pyrene	3.60E-02	1.84	1.96E+00	34	88	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS02	4/28/2009	Indeno(1,2,3-cd)pyrene	3.00E-02	3.53	8.50E-01	34	88	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Indeno(1,2,3-cd)pyrene	2.80E-02	1.84	1.52E+00	34	88	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Indeno(1,2,3-cd)pyrene	1.90E-02 J	2.57	7.39E-01	34	88	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Indeno(1,2,3-cd)pyrene	1.70E-02	2.54	6.69E-01	34	88	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Indeno(1,2,3-cd)pyrene	1.60E-02 J	3.5	4.57E-01	34	88	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Indeno(1,2,3-cd)pyrene	1.40E-02	2.58	5.43E-01	34	88	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS04	4/28/2009	Indeno(1,2,3-cd)pyrene	1.10E-02 J	1.78	6.18E-01	34	88	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Iron	3.61E+04 J	2.19	1.65E+06					
EPA Site Inspection	DR129	8/27/1998	Iron	3.49E+04	2.67	1.31E+06					
EPA Site Inspection	DR152	8/27/1998	Iron	3.36E+04	2.37	1.42E+06					
EPA Site Inspection	DR161	8/31/1998	Iron	3.33E+04 J	2.87	1.16E+06					
EPA Site Inspection	DR127	8/12/1998	Iron	3.12E+04 J	2.78	1.12E+06					
EPA Site Inspection	DR128	8/12/1998	Iron	3.07E+04 J	2.99	1.03E+06					
EPA Site Inspection	DR124	9/15/1998	Iron	3.05E+04	2.78	1.10E+06					
EPA Site Inspection	DR132	8/13/1998	Iron	3.05E+04 J	2.9	1.05E+06					
EPA Site Inspection	DR154	8/13/1998	Iron	3.00E+04 J	2.33	1.29E+06					
EPA Site Inspection	DR126	8/12/1998	Iron	2.92E+04 J	3.09	9.45E+05					
EPA Site Inspection	DR162	8/27/1998	Iron	2.90E+04	1.9	1.53E+06					
EPA Site Inspection	DR164	8/19/1998	Iron	2.90E+04 J	2.58	1.12E+06					
EPA Site Inspection	DR130	8/12/1998	Iron	2.90E+04 J	2.87	1.01E+06					
EPA Site Inspection	DR155	8/13/1998	Iron	2.87E+04 J	2.7	1.06E+06					
EPA Site Inspection	DR134	8/13/1998	Iron	2.75E+04 J	2.52	1.09E+06					
EPA Site Inspection	DR131	8/13/1998	Iron	2.06E+04 J	1.47	1.40E+06					
EPA Site Inspection	DR166	8/13/1998	Iron	1.91E+04 J	1.47	1.30E+06					
EPA Site Inspection	DR133	9/2/1998	Iron	1.81E+04	0.76	2.38E+06					

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Boeing Site Characterization	R7	10/15/1997	Lead	1.33E+02	1.4		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR131	8/13/1998	Lead	1.29E+02	1.47		450	530	mg/kg DW	<1	<1
Boeing Site Characterization	R3	10/15/1997	Lead	9.80E+01	3.7		450	530	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Lead	8.40E+01	3.05		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR124	9/15/1998	Lead	8.32E+01	2.78		450	530	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Lead	6.00E+01	2.07		450	530	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Lead	5.80E+01	2.88		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR155	8/13/1998	Lead	5.45E+01	2.7		450	530	mg/kg DW	<1	<1
Boeing Site Characterization	R4	10/15/1997	Lead	5.40E+01	3.8		450	530	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Lead	5.30E+01 J	3.5		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR132	8/13/1998	Lead	5.23E+01	2.9		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR153	8/31/1998	Lead	5.02E+01	2.19		450	530	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Lead	5.00E+01	2.54		450	530	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Lead	5.00E+01	2.63		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR127	8/12/1998	Lead	4.72E+01	2.78		450	530	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Lead	4.70E+01	2.58		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR129	8/27/1998	Lead	4.66E+01	2.67		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR126	8/12/1998	Lead	4.60E+01	3.09		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR128	8/12/1998	Lead	4.45E+01	2.99		450	530	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Lead	4.40E+01	1.75		450	530	mg/kg DW	<1	<1
Boeing Site Characterization	R8	10/16/1997	Lead	4.35E+01	1.55		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR134	8/13/1998	Lead	4.11E+01	2.52		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR154	8/13/1998	Lead	3.90E+01	2.33		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR152	8/27/1998	Lead	3.81E+01	2.37		450	530	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Lead	3.80E+01 J	3.5		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR133	9/2/1998	Lead	3.76E+01	0.76		450	530	mg/kg DW	<1	<1
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Lead	3.40E+01	1.32		450	530	mg/kg DW	<1	<1
Boeing Site Characterization	R1	10/15/1997	Lead	3.40E+01	1.9		450	530	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Lead	3.40E+01 J	2.57		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR130	8/12/1998	Lead	3.39E+01	2.87		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR166	8/13/1998	Lead	3.29E+01	1.47		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR162	8/27/1998	Lead	3.25E+01	1.9		450	530	mg/kg DW	<1	<1
Boeing Site Characterization	R5	10/15/1997	Lead	3.20E+01	1.8		450	530	mg/kg DW	<1	<1
Boeing Site Characterization	R2	10/15/1997	Lead	3.10E+01	1.9		450	530	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Lead	3.00E+01 J	1.84		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR164	8/19/1998	Lead	2.42E+01	2.58		450	530	mg/kg DW	<1	<1
Boeing Site Characterization	R6	10/16/1997	Lead	2.40E+01	1.5		450	530	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS04	4/28/2009	Lead	2.30E+01 J	1.78		450	530	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Lead	2.00E+01 J	1.84		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR161	8/31/1998	Lead	1.69E+01	2.87		450	530	mg/kg DW	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Lead	1.60E+01	1.42		450	530	mg/kg DW	<1	<1
EPA Site Inspection	DR124	9/15/1998	Magnesium	1.72E+04	2.78						

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Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
EPA Site Inspection	DR153	8/31/1998	Magnesium	9.94E+03	2.19						
EPA Site Inspection	DR161	8/31/1998	Magnesium	9.21E+03	2.87						
EPA Site Inspection	DR152	8/27/1998	Magnesium	9.18E+03	2.37						
EPA Site Inspection	DR129	8/27/1998	Magnesium	9.17E+03	2.67						
EPA Site Inspection	DR164	8/19/1998	Magnesium	9.14E+03	2.58						
EPA Site Inspection	DR127	8/12/1998	Magnesium	8.85E+03	2.78						
EPA Site Inspection	DR128	8/12/1998	Magnesium	8.82E+03	2.99						
EPA Site Inspection	DR126	8/12/1998	Magnesium	8.59E+03	3.09						
EPA Site Inspection	DR130	8/12/1998	Magnesium	8.15E+03	2.87						
EPA Site Inspection	DR132	8/13/1998	Magnesium	8.06E+03	2.9						
EPA Site Inspection	DR162	8/27/1998	Magnesium	7.66E+03	1.9						
EPA Site Inspection	DR155	8/13/1998	Magnesium	7.38E+03	2.7						
EPA Site Inspection	DR154	8/13/1998	Magnesium	7.25E+03	2.33						
EPA Site Inspection	DR134	8/13/1998	Magnesium	7.17E+03	2.52						
EPA Site Inspection	DR131	8/13/1998	Magnesium	6.19E+03	1.47						
EPA Site Inspection	DR166	8/13/1998	Magnesium	5.48E+03	1.47						
EPA Site Inspection	DR133	9/2/1998	Magnesium	4.10E+03	0.76						
EPA Site Inspection	DR161	8/31/1998	Manganese	5.21E+02	2.87						
EPA Site Inspection	DR153	8/31/1998	Manganese	3.65E+02	2.19						
EPA Site Inspection	DR124	9/15/1998	Manganese	3.64E+02	2.78						
EPA Site Inspection	DR164	8/19/1998	Manganese	3.60E+02	2.58						
EPA Site Inspection	DR152	8/27/1998	Manganese	3.54E+02	2.37						
EPA Site Inspection	DR129	8/27/1998	Manganese	3.54E+02	2.67						
EPA Site Inspection	DR134	8/13/1998	Manganese	3.50E+02	2.52						
EPA Site Inspection	DR155	8/13/1998	Manganese	3.40E+02	2.7						
EPA Site Inspection	DR127	8/12/1998	Manganese	3.36E+02	2.78						
EPA Site Inspection	DR162	8/27/1998	Manganese	3.32E+02	1.9						
EPA Site Inspection	DR132	8/13/1998	Manganese	3.30E+02	2.9						
EPA Site Inspection	DR154	8/13/1998	Manganese	3.28E+02	2.33						
EPA Site Inspection	DR128	8/12/1998	Manganese	3.20E+02	2.99						
EPA Site Inspection	DR126	8/12/1998	Manganese	3.11E+02	3.09						
EPA Site Inspection	DR130	8/12/1998	Manganese	3.10E+02	2.87						
EPA Site Inspection	DR131	8/13/1998	Manganese	2.39E+02	1.47						
EPA Site Inspection	DR166	8/13/1998	Manganese	2.15E+02	1.47						
EPA Site Inspection	DR133	9/2/1998	Manganese	1.76E+02	0.76						
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Mercury	4.00E-01	2.63		0.41	0.59	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Mercury	4.00E-01	2.88		0.41	0.59	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Mercury	3.00E-01	2.54		0.41	0.59	mg/kg DW	<1	<1
EPA Site Inspection	DR152	8/27/1998	Mercury	2.50E-01	2.37		0.41	0.59	mg/kg DW	<1	<1
EPA Site Inspection	DR126	8/12/1998	Mercury	2.40E-01	3.09		0.41	0.59	mg/kg DW	<1	<1
EPA Site Inspection	DR153	8/31/1998	Mercury	2.20E-01	2.19		0.41	0.59	mg/kg DW	<1	<1
EPA Site Inspection	DR128	8/12/1998	Mercury	2.20E-01	2.99		0.41	0.59	mg/kg DW	<1	<1

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Mercury	2.00E-01	2.58		0.41	0.59	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Mercury	1.90E-01	2.07		0.41	0.59	mg/kg DW	<1	<1
EPA Site Inspection	DR129	8/27/1998	Mercury	1.90E-01	2.67		0.41	0.59	mg/kg DW	<1	<1
EPA Site Inspection	DR127	8/12/1998	Mercury	1.90E-01	2.78		0.41	0.59	mg/kg DW	<1	<1
EPA Site Inspection	DR130	8/12/1998	Mercury	1.80E-01	2.87		0.41	0.59	mg/kg DW	<1	<1
EPA Site Inspection	DR154	8/13/1998	Mercury	1.70E-01	2.33		0.41	0.59	mg/kg DW	<1	<1
EPA Site Inspection	DR155	8/13/1998	Mercury	1.70E-01	2.7		0.41	0.59	mg/kg DW	<1	<1
EPA Site Inspection	DR132	8/13/1998	Mercury	1.70E-01	2.9		0.41	0.59	mg/kg DW	<1	<1
Boeing Site Characterization	R8	10/16/1997	Mercury	1.60E-01	1.55		0.41	0.59	mg/kg DW	<1	<1
EPA Site Inspection	DR134	8/13/1998	Mercury	1.60E-01	2.52		0.41	0.59	mg/kg DW	<1	<1
Boeing Site Characterization	R7	10/15/1997	Mercury	1.40E-01	1.4		0.41	0.59	mg/kg DW	<1	<1
EPA Site Inspection	DR164	8/19/1998	Mercury	1.40E-01	2.58		0.41	0.59	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Mercury	1.40E-01	3.05		0.41	0.59	mg/kg DW	<1	<1
Boeing Site Characterization	R2	10/15/1997	Mercury	1.30E-01	1.9		0.41	0.59	mg/kg DW	<1	<1
EPA Site Inspection	DR162	8/27/1998	Mercury	1.30E-01	1.9		0.41	0.59	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Mercury	1.30E-01	2.57		0.41	0.59	mg/kg DW	<1	<1
EPA Site Inspection	DR161	8/31/1998	Mercury	1.30E-01	2.87		0.41	0.59	mg/kg DW	<1	<1
Boeing Site Characterization	R3	10/15/1997	Mercury	1.23E-01	3.7		0.41	0.59	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Mercury	1.20E-01	1.75		0.41	0.59	mg/kg DW	<1	<1
Boeing Site Characterization	R5	10/15/1997	Mercury	1.20E-01	1.8		0.41	0.59	mg/kg DW	<1	<1
Boeing Site Characterization	R4	10/15/1997	Mercury	1.20E-01	3.8		0.41	0.59	mg/kg DW	<1	<1
EPA Site Inspection	DR166	8/13/1998	Mercury	1.10E-01	1.47		0.41	0.59	mg/kg DW	<1	<1
Boeing Site Characterization	R6	10/16/1997	Mercury	1.10E-01	1.5		0.41	0.59	mg/kg DW	<1	<1
Boeing Site Characterization	R1	10/15/1997	Mercury	1.00E-01	1.9		0.41	0.59	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Mercury	1.00E-01	3.5		0.41	0.59	mg/kg DW	<1	<1
EPA Site Inspection	DR131	8/13/1998	Mercury	9.00E-02	1.47		0.41	0.59	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS04	4/28/2009	Mercury	7.00E-02	1.78		0.41	0.59	mg/kg DW	<1	<1
EPA Site Inspection	DR133	9/2/1998	Mercury	5.00E-02	0.76		0.41	0.59	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Mercury	3.00E-02	1.84		0.41	0.59	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Mercury	3.00E-02	1.84		0.41	0.59	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Mercury	3.00E-02	3.5		0.41	0.59	mg/kg DW	<1	<1
EPA Site Inspection	DR154	8/13/1998	Methyl ethyl ketone	3.45E-02	2.33						
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Molybdenum	6.00E+00	2.63						
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Molybdenum	3.10E+00	2.07						
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Molybdenum	2.60E+00	3.05						
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Molybdenum	2.00E+00	2.54						
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Molybdenum	2.00E+00	2.58						
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Molybdenum	2.00E+00	2.88						
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Molybdenum	1.20E+00	1.75						
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Molybdenum	1.00E+00	1.32						
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Molybdenum	3.00E-01	1.42						
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Naphthalene	1.20E-01	2.88	4.17E+00	99	170	mg/kg OC	<1	<1

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Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Boeing Site Characterization	R3	10/15/1997	Naphthalene	1.20E-01	3.7	3.24E+00	99	170	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Naphthalene	4.60E-02	3.8	1.21E+00	99	170	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Naphthalene	3.00E-02	2.67	1.12E+00	99	170	mg/kg OC	<1	<1
Boeing Site Characterization	R5	10/15/1997	Naphthalene	2.60E-02	1.8	1.44E+00	99	170	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Naphthalene	2.00E-02	1.47	1.36E+00	99	170	mg/kg OC	<1	<1
EPA Site Inspection	DR134	8/13/1998	Naphthalene	2.00E-02	2.52	7.94E-01	99	170	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Naphthalene	2.00E-02	3.09	6.47E-01	99	170	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Naphthalene	1.60E-02	1.55	1.03E+00	99	170	mg/kg OC	<1	<1
EPA Site Inspection	DR154	8/13/1998	n-Butyltin	1.70E-02 J	2.33	7.30E-01					
EPA Site Inspection	DR152	8/27/1998	n-Butyltin	1.00E-02 J	2.37	4.22E-01					
EPA Site Inspection	DR166	8/13/1998	n-Butyltin	6.00E-03 J	1.47	4.08E-01					
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Nickel	4.40E+01	2.63						
Boeing Site Characterization	R3	10/15/1997	Nickel	4.23E+01	3.7						
Slope Sediment Characterization	T115-SS05	4/28/2009	Nickel	3.30E+01	1.84						
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Nickel	3.30E+01	2.07						
Boeing Site Characterization	R4	10/15/1997	Nickel	3.20E+01	3.8						
EPA Site Inspection	DR131	8/13/1998	Nickel	3.18E+01	1.47						
Slope Sediment Characterization	T115-SS01	4/28/2009	Nickel	3.10E+01	3.5						
EPA Site Inspection	DR124	9/15/1998	Nickel	3.06E+01	2.78						
Slope Sediment Characterization	T115-SS05	4/28/2009	Nickel	3.00E+01	1.84						
Slope Sediment Characterization	T115-SS04	4/28/2009	Nickel	2.90E+01	1.78						
Boeing Site Characterization	R2	10/15/1997	Nickel	2.90E+01	1.9						
Slope Sediment Characterization	T115-SS03	4/28/2009	Nickel	2.90E+01	2.57						
Boeing Site Characterization	R6	10/16/1997	Nickel	2.80E+01	1.5						
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Nickel	2.80E+01	3.05						
Slope Sediment Characterization	T115-SS01	4/28/2009	Nickel	2.70E+01	3.5						
EPA Site Inspection	DR161	8/31/1998	Nickel	2.59E+01	2.87						
EPA Site Inspection	DR152	8/27/1998	Nickel	2.55E+01	2.37						
EPA Site Inspection	DR164	8/19/1998	Nickel	2.51E+01	2.58						
EPA Site Inspection	DR129	8/27/1998	Nickel	2.47E+01	2.67						
EPA Site Inspection	DR153	8/31/1998	Nickel	2.45E+01	2.19						
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Nickel	2.40E+01	2.58						
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Nickel	2.40E+01	2.88						
EPA Site Inspection	DR162	8/27/1998	Nickel	2.29E+01	1.9						
EPA Site Inspection	DR132	8/13/1998	Nickel	2.28E+01	2.9						
EPA Site Inspection	DR134	8/13/1998	Nickel	2.20E+01	2.52						
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Nickel	2.20E+01	2.54						
Boeing Site Characterization	R8	10/16/1997	Nickel	2.15E+01	1.55						
EPA Site Inspection	DR154	8/13/1998	Nickel	2.09E+01	2.33						
EPA Site Inspection	DR127	8/12/1998	Nickel	2.02E+01	2.78						
EPA Site Inspection	DR155	8/13/1998	Nickel	2.00E+01	2.7						
EPA Site Inspection	DR166	8/13/1998	Nickel	1.97E+01	1.47						

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Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
EPA Site Inspection	DR128	8/12/1998	Nickel	1.92E+01	2.99						
EPA Site Inspection	DR126	8/12/1998	Nickel	1.92E+01	3.09						
Boeing Site Characterization	R7	10/15/1997	Nickel	1.70E+01	1.4						
EPA Site Inspection	DR130	8/12/1998	Nickel	1.63E+01	2.87						
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Nickel	1.32E+01	1.32						
EPA Site Inspection	DR133	9/2/1998	Nickel	1.26E+01	0.76						
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Nickel	1.20E+01	1.75						
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Nickel	1.05E+01	1.42						
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	OCDD	1.56E-02	2.07						
EPA Site Inspection	DR154	8/13/1998	OCDD	4.00E-06	2.33						
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	OCDF	1.03E-03	2.07						
EPA Site Inspection	DR154	8/13/1998	OCDF	2.30E-07	2.33						
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	PCB TEQ - Mammal - Half DL	5.08E-06 J	2.54						
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	PCBs (total calc'd)	5.20E-01	1.75	2.97E+01	12	65	mg/kg OC	2.5	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	PCBs (total calc'd)	3.40E-01	2.88	1.18E+01	12	65	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	PCBs (total calc'd)	2.70E-01	2.63	1.03E+01	12	65	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	PCBs (total calc'd)	1.93E-01	2.58	7.48E+00	12	65	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	PCBs (total calc'd)	9.70E-02 J	1.32	7.35E+00	12	65	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	PCBs (total calc'd)	9.60E-02	3.05	3.15E+00	12	65	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	PCBs (total calc'd)	8.20E-02 J	2.54	3.23E+00	12	65	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	PCBs (total calc'd)	5.30E-02	2.07	2.56E+00	12	65	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	PCBs (total calc'd)	3.80E-02	1.42	2.68E+00	12	65	mg/kg OC	<1	<1
Boeing Site Characterization	R7	10/15/1997	PCBs (total-calc'd)	1.20E+00	1.4	8.57E+01	12	65	mg/kg OC	7.1	1.3
Boeing Site Characterization	R8	10/16/1997	PCBs (total-calc'd)	3.97E-01	1.55	2.56E+01	12	65	mg/kg OC	2.1	<1
NOAA Site Characterization	WST351	10/6/1997	PCBs (total-calc'd)	2.60E-01	2.12	1.23E+01	12	65	mg/kg OC	1.0	<1
EPA Site Inspection	DR129	8/27/1998	PCBs (total-calc'd)	2.17E-01	2.67	8.13E+00	12	65	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	PCBs (total-calc'd)	1.81E-01	3.09	5.86E+00	12	65	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	PCBs (total-calc'd)	1.79E-01	2.78	6.44E+00	12	65	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	PCBs (total-calc'd)	1.72E-01	3.8	4.53E+00	12	65	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	PCBs (total-calc'd)	1.67E-01	2.99	5.59E+00	12	65	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	PCBs (total-calc'd)	1.64E-01	1.9	8.63E+00	12	65	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	PCBs (total-calc'd)	1.61E-01	2.78	5.79E+00	12	65	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	PCBs (total-calc'd)	1.57E-01	1.9	8.26E+00	12	65	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	PCBs (total-calc'd)	1.57E-01	2.87	5.47E+00	12	65	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	PCBs (total-calc'd)	1.49E-01	1.5	9.93E+00	12	65	mg/kg OC	<1	<1
EPA Site Inspection	DR162	8/27/1998	PCBs (total-calc'd)	1.46E-01	1.9	7.68E+00	12	65	mg/kg OC	<1	<1
NOAA Site Characterization	WST350	10/22/1997	PCBs (total-calc'd)	1.40E-01	2.25	6.22E+00	12	65	mg/kg OC	<1	<1
NOAA Site Characterization	WST357	10/10/1997	PCBs (total-calc'd)	1.40E-01	2.29	6.11E+00	12	65	mg/kg OC	<1	<1
Boeing Site Characterization	R3	10/15/1997	PCBs (total-calc'd)	1.37E-01 J	3.7	3.70E+00	12	65	mg/kg OC	<1	<1
EPA Site Inspection	DR132	8/13/1998	PCBs (total-calc'd)	1.29E-01 J	2.9	4.45E+00	12	65	mg/kg OC	<1	<1
EPA Site Inspection	DR152	8/27/1998	PCBs (total-calc'd)	1.24E-01	2.37	5.23E+00	12	65	mg/kg OC	<1	<1
NOAA Site Characterization	CH0032	10/16/1997	PCBs (total-calc'd)	1.20E-01	2.3	5.22E+00	12	65	mg/kg OC	<1	<1

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
NOAA Site Characterization	WST356	10/10/1997	PCBs (total-calc'd)	1.20E-01	2.32	5.17E+00	12	65	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	PCBs (total-calc'd)	1.13E-01	2.19	5.16E+00	12	65	mg/kg OC	<1	<1
NOAA Site Characterization	WST348	10/16/1997	PCBs (total-calc'd)	1.10E-01	2.19	5.02E+00	12	65	mg/kg OC	<1	<1
EPA Site Inspection	DR134	8/13/1998	PCBs (total-calc'd)	1.08E-01 J	2.52	4.29E+00	12	65	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	PCBs (total-calc'd)	1.06E-01 J	2.7	3.93E+00	12	65	mg/kg OC	<1	<1
EPA Site Inspection	DR154	8/13/1998	PCBs (total-calc'd)	1.01E-01 J	2.33	4.33E+00	12	65	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	PCBs (total-calc'd)	9.70E-02 J	1.47	6.60E+00	12	65	mg/kg OC	<1	<1
EPA Site Inspection	DR166	8/13/1998	PCBs (total-calc'd)	9.50E-02 J	1.47	6.46E+00	12	65	mg/kg OC	<1	<1
EPA Site Inspection	DR133	9/2/1998	PCBs (total-calc'd)	7.90E-02	0.76	1.04E+01	12	65	mg/kg OC	<1	<1
EPA Site Inspection	DR164	8/19/1998	PCBs (total-calc'd)	6.40E-02 J	2.58	2.48E+00	12	65	mg/kg OC	<1	<1
NOAA Site Characterization	WST349*	10/23/1997	PCBs (total-calc'd)	5.60E-02	0.35	1.60E+01	0.13	1	mg/kg DW	<1	<1
EPA Site Inspection	DR161	8/31/1998	PCBs (total-calc'd)	2.40E-02	2.87	8.36E-01	12	65	mg/kg OC	<1	<1
Boeing Site Characterization	R5	10/15/1997	PCBs (total-calc'd)	1.80E-02 J	1.8	1.00E+00	12	65	mg/kg OC	<1	<1
EPA Site Inspection	DR132	8/13/1998	Phenanthrene	2.40E+00	2.9	8.28E+01	100	480	mg/kg OC	<1	<1
Boeing Site Characterization	R3	10/15/1997	Phenanthrene	1.10E+00	3.7	2.97E+01	100	480	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	Phenanthrene	7.10E-01	1.9	3.74E+01	100	480	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Phenanthrene	6.40E-01	1.47	4.35E+01	100	480	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Phenanthrene	6.25E-01	1.55	4.03E+01	100	480	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Phenanthrene	5.00E-01	2.87	1.74E+01	100	480	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Phenanthrene	4.60E-01	3.09	1.49E+01	100	480	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	Phenanthrene	4.30E-01	2.78	1.55E+01	100	480	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Phenanthrene	3.60E-01	3.8	9.47E+00	100	480	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	Phenanthrene	3.20E-01	2.7	1.19E+01	100	480	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Phenanthrene	3.10E-01	2.67	1.16E+01	100	480	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Phenanthrene	3.10E-01	2.78	1.12E+01	100	480	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	Phenanthrene	2.80E-01	2.99	9.36E+00	100	480	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Phenanthrene	2.70E-01	2.19	1.23E+01	100	480	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Phenanthrene	2.40E-01	2.54	9.45E+00	100	480	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Phenanthrene	2.30E-01	2.88	7.99E+00	100	480	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Phenanthrene	2.00E-01	3.05	6.56E+00	100	480	mg/kg OC	<1	<1
EPA Site Inspection	DR134	8/13/1998	Phenanthrene	1.90E-01	2.52	7.54E+00	100	480	mg/kg OC	<1	<1
EPA Site Inspection	DR152	8/27/1998	Phenanthrene	1.80E-01	2.37	7.59E+00	100	480	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	Phenanthrene	1.70E-01	1.9	8.95E+00	100	480	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Phenanthrene	1.70E-01	2.07	8.21E+00	100	480	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Phenanthrene	1.60E-01	2.63	6.08E+00	100	480	mg/kg OC	<1	<1
EPA Site Inspection	DR162	8/27/1998	Phenanthrene	1.50E-01	1.9	7.89E+00	100	480	mg/kg OC	<1	<1
Boeing Site Characterization	R7	10/15/1997	Phenanthrene	1.40E-01	1.4	1.00E+01	100	480	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Phenanthrene	1.40E-01	1.84	7.61E+00	100	480	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Phenanthrene	1.40E-01	2.58	5.43E+00	100	480	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	Phenanthrene	1.30E-01	1.5	8.67E+00	100	480	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Phenanthrene	1.20E-01	1.84	6.52E+00	100	480	mg/kg OC	<1	<1
EPA Site Inspection	DR154	8/13/1998	Phenanthrene	1.20E-01	2.33	5.15E+00	100	480	mg/kg OC	<1	<1

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Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Phenanthrene	1.10E-01	1.75	6.29E+00	100	480	mg/kg OC	<1	<1
EPA Site Inspection	DR164	8/19/1998	Phenanthrene	1.00E-01	2.58	3.88E+00	100	480	mg/kg OC	<1	<1
EPA Site Inspection	DR133	9/2/1998	Phenanthrene	9.00E-02	0.76	1.18E+01	100	480	mg/kg OC	<1	<1
EPA Site Inspection	DR166	8/13/1998	Phenanthrene	6.00E-02	1.47	4.08E+00	100	480	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Phenanthrene	5.40E-02 J	1.32	4.09E+00	100	480	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Phenanthrene	4.90E-02	3.5	1.40E+00	100	480	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Phenanthrene	4.40E-02 J	1.42	3.10E+00	100	480	mg/kg OC	<1	<1
EPA Site Inspection	DR161	8/31/1998	Phenanthrene	4.00E-02	2.87	1.39E+00	100	480	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS04	4/28/2009	Phenanthrene	3.60E-02	1.78	2.02E+00	100	480	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Phenanthrene	2.90E-02 J	2.57	1.13E+00	100	480	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS02	4/28/2009	Phenanthrene	2.80E-02	3.53	7.93E-01	100	480	mg/kg OC	<1	<1
EPA Site Inspection	DR133	9/2/1998	Phenol	1.30E-01	0.76	1.71E+01	0.42	1.2	mg/kg DW	<1	<1
EPA Site Inspection	DR128	8/12/1998	Phenol	8.00E-02	2.99	2.68E+00	0.42	1.2	mg/kg DW	<1	<1
EPA Site Inspection	DR132	8/13/1998	Phenol	7.00E-02	2.9	2.41E+00	0.42	1.2	mg/kg DW	<1	<1
Boeing Site Characterization	R3	10/15/1997	Phenol	6.80E-02 J	3.7	1.84E+00	0.42	1.2	mg/kg DW	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Phenol	6.30E-02	1.42	4.44E+00	0.42	1.2	mg/kg DW	<1	<1
EPA Site Inspection	DR155	8/13/1998	Phenol	6.00E-02	2.7	2.22E+00	0.42	1.2	mg/kg DW	<1	<1
Boeing Site Characterization	R4	10/15/1997	Phenol	5.30E-02	3.8	1.39E+00	0.42	1.2	mg/kg DW	<1	<1
Boeing Site Characterization	R2	10/15/1997	Phenol	4.60E-02	1.9	2.42E+00	0.42	1.2	mg/kg DW	<1	<1
EPA Site Inspection	DR154	8/13/1998	Phenol	4.00E-02	2.33	1.72E+00	0.42	1.2	mg/kg DW	<1	<1
EPA Site Inspection	DR134	8/13/1998	Phenol	3.00E-02	2.52	1.19E+00	0.42	1.2	mg/kg DW	<1	<1
Boeing Site Characterization	R5	10/15/1997	Phenol	2.70E-02 J	1.8	1.50E+00	0.42	1.2	mg/kg DW	<1	<1
EPA Site Inspection	DR129	8/27/1998	Phenol	2.00E-02	2.67	7.49E-01	0.42	1.2	mg/kg DW	<1	<1
EPA Site Inspection	DR126	8/12/1998	Phenol	2.00E-02	3.09	6.47E-01	0.42	1.2	mg/kg DW	<1	<1
Boeing Site Characterization	R8	10/16/1997	Phenol	1.53E-02	1.55	9.84E-01	0.42	1.2	mg/kg DW	<1	<1
Boeing Site Characterization	R3	10/15/1997	Pyrene	2.40E+00 J	3.7	6.49E+01	1000	1400	mg/kg OC	<1	<1
EPA Site Inspection	DR132	8/13/1998	Pyrene	1.90E+00	2.9	6.55E+01	1000	1400	mg/kg OC	<1	<1
Boeing Site Characterization	R5	10/15/1997	Pyrene	1.80E+00	1.8	1.00E+02	1000	1400	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	Pyrene	1.00E+00	2.78	3.60E+01	1000	1400	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Pyrene	9.20E-01	2.54	3.62E+01	1000	1400	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	Pyrene	9.10E-01	1.9	4.79E+01	1000	1400	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Pyrene	8.80E-01	3.09	2.85E+01	1000	1400	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Pyrene	8.60E-01	3.05	2.82E+01	1000	1400	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Pyrene	8.00E-01	1.47	5.44E+01	1000	1400	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Pyrene	8.00E-01	2.87	2.79E+01	1000	1400	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Pyrene	8.00E-01	3.8	2.11E+01	1000	1400	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Pyrene	7.40E-01	2.67	2.77E+01	1000	1400	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	Pyrene	7.30E-01	2.7	2.70E+01	1000	1400	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Pyrene	7.30E-01	2.78	2.63E+01	1000	1400	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Pyrene	7.00E-01	1.55	4.52E+01	1000	1400	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	Pyrene	6.30E-01	2.99	2.11E+01	1000	1400	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	Pyrene	5.80E-01	1.9	3.05E+01	1000	1400	mg/kg OC	<1	<1

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Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
EPA Site Inspection	DR153	8/31/1998	Pyrene	5.80E-01	2.19	2.65E+01	1000	1400	mg/kg OC	<1	<1
EPA Site Inspection	DR152	8/27/1998	Pyrene	5.40E-01	2.37	2.28E+01	1000	1400	mg/kg OC	<1	<1
EPA Site Inspection	DR134	8/13/1998	Pyrene	5.30E-01	2.52	2.10E+01	1000	1400	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Pyrene	4.70E-01	2.88	1.63E+01	1000	1400	mg/kg OC	<1	<1
EPA Site Inspection	DR162	8/27/1998	Pyrene	3.80E-01	1.9	2.00E+01	1000	1400	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	Pyrene	3.60E-01	1.5	2.40E+01	1000	1400	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Pyrene	3.60E-01	2.07	1.74E+01	1000	1400	mg/kg OC	<1	<1
EPA Site Inspection	DR154	8/13/1998	Pyrene	3.60E-01	2.33	1.55E+01	1000	1400	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Pyrene	3.60E-01	2.58	1.40E+01	1000	1400	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Pyrene	3.60E-01	2.63	1.37E+01	1000	1400	mg/kg OC	<1	<1
Boeing Site Characterization	R7	10/15/1997	Pyrene	3.30E-01	1.4	2.36E+01	1000	1400	mg/kg OC	<1	<1
EPA Site Inspection	DR133	9/2/1998	Pyrene	3.00E-01	0.76	3.95E+01	1000	1400	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Pyrene	3.00E-01	1.84	1.63E+01	1000	1400	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Pyrene	2.60E-01	1.84	1.41E+01	1000	1400	mg/kg OC	<1	<1
EPA Site Inspection	DR164	8/19/1998	Pyrene	2.30E-01	2.58	8.91E+00	1000	1400	mg/kg OC	<1	<1
EPA Site Inspection	DR166	8/13/1998	Pyrene	1.90E-01	1.47	1.29E+01	1000	1400	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Pyrene	1.80E-01	1.75	1.03E+01	1000	1400	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Pyrene	1.60E-01	1.42	1.13E+01	1000	1400	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS02	4/28/2009	Pyrene	1.40E-01	3.53	3.97E+00	1000	1400	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Pyrene	1.30E-01	1.32	9.85E+00	1000	1400	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Pyrene	9.90E-02	3.5	2.83E+00	1000	1400	mg/kg OC	<1	<1
EPA Site Inspection	DR161	8/31/1998	Pyrene	9.00E-02	2.87	3.14E+00	1000	1400	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Pyrene	7.20E-02 J	2.57	2.80E+00	1000	1400	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS04	4/28/2009	Pyrene	6.80E-02	1.78	3.82E+00	1000	1400	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Selenium	2.00E+01 J	2.19						
EPA Site Inspection	DR161	8/31/1998	Selenium	1.80E+01 J	2.87						
EPA Site Inspection	DR152	8/27/1998	Selenium	1.60E+01	2.37						
EPA Site Inspection	DR162	8/27/1998	Selenium	1.50E+01	1.9						
EPA Site Inspection	DR129	8/27/1998	Selenium	1.50E+01	2.67						
EPA Site Inspection	DR134	8/13/1998	Selenium	8.00E+00	2.52						
EPA Site Inspection	DR155	8/13/1998	Selenium	8.00E+00	2.7						
EPA Site Inspection	DR166	8/13/1998	Selenium	7.00E+00	1.47						
EPA Site Inspection	DR132	8/13/1998	Selenium	7.00E+00	2.9						
EPA Site Inspection	DR164	8/19/1998	Selenium	6.00E+00 J	2.58						
EPA Site Inspection	DR154	8/13/1998	Selenium	5.00E+00	2.33						
EPA Site Inspection	DR133	9/2/1998	Selenium	3.00E+00	0.76						
EPA Site Inspection	DR131	8/13/1998	Selenium	3.00E+00	1.47						
EPA Site Inspection	DR127	8/12/1998	Selenium	1.00E+00	2.78						
EPA Site Inspection	DR130	8/12/1998	Selenium	8.00E-01 J	2.87						
EPA Site Inspection	DR128	8/12/1998	Selenium	8.00E-01 J	2.99						
EPA Site Inspection	DR126	8/12/1998	Selenium	8.00E-01 J	3.09						
Boeing Site Characterization	R7	10/15/1997	Silver	1.60E+00	1.4		6.1	6.1	mg/kg DW	<1	<1

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Silver	1.30E+00	1.75		6.1	6.1	mg/kg DW	<1	<1
Boeing Site Characterization	R2	10/15/1997	Silver	5.00E-01	1.9		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR153	8/31/1998	Silver	4.20E-01	2.19		6.1	6.1	mg/kg DW	<1	<1
Boeing Site Characterization	R8	10/16/1997	Silver	4.00E-01	1.55		6.1	6.1	mg/kg DW	<1	<1
Boeing Site Characterization	R4	10/15/1997	Silver	4.00E-01	3.8		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR164	8/19/1998	Silver	3.80E-01	2.58		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR129	8/27/1998	Silver	3.80E-01	2.67		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR152	8/27/1998	Silver	3.70E-01	2.37		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR155	8/13/1998	Silver	3.50E-01	2.7		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR124	9/15/1998	Silver	3.50E-01 J	2.78		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR126	8/12/1998	Silver	3.50E-01	3.09		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR128	8/12/1998	Silver	3.40E-01	2.99		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR134	8/13/1998	Silver	3.20E-01	2.52		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR132	8/13/1998	Silver	3.20E-01	2.9		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR154	8/13/1998	Silver	3.10E-01	2.33		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR127	8/12/1998	Silver	3.10E-01	2.78		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR130	8/12/1998	Silver	2.80E-01	2.87		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR166	8/13/1998	Silver	2.70E-01	1.47		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR162	8/27/1998	Silver	2.60E-01	1.9		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR161	8/31/1998	Silver	2.40E-01	2.87		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR133	9/2/1998	Silver	1.90E-01 J	0.76		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR131	8/13/1998	Silver	1.40E-01	1.47		6.1	6.1	mg/kg DW	<1	<1
EPA Site Inspection	DR152	8/27/1998	Tetrabutyltin as ion	5.00E-03 J	2.37						
EPA Site Inspection	DR129	8/27/1998	Thallium	1.60E-01	2.67						
EPA Site Inspection	DR162	8/27/1998	Thallium	1.40E-01	1.9						
EPA Site Inspection	DR152	8/27/1998	Thallium	1.40E-01	2.37						
EPA Site Inspection	DR127	8/12/1998	Thallium	1.30E-01	2.78						
EPA Site Inspection	DR128	8/12/1998	Thallium	1.30E-01	2.99						
EPA Site Inspection	DR153	8/31/1998	Thallium	1.20E-01	2.19						
EPA Site Inspection	DR126	8/12/1998	Thallium	1.20E-01	3.09						
EPA Site Inspection	DR133	9/2/1998	Thallium	1.10E-01	0.76						
EPA Site Inspection	DR166	8/13/1998	Thallium	1.10E-01	1.47						
EPA Site Inspection	DR155	8/13/1998	Thallium	1.10E-01	2.7						
EPA Site Inspection	DR124	9/15/1998	Thallium	1.10E-01	2.78						
EPA Site Inspection	DR132	8/13/1998	Thallium	1.10E-01	2.9						
EPA Site Inspection	DR134	8/13/1998	Thallium	1.00E-01	2.52						
EPA Site Inspection	DR154	8/13/1998	Thallium	9.00E-02	2.33						
EPA Site Inspection	DR164	8/19/1998	Thallium	9.00E-02 J	2.58						
EPA Site Inspection	DR130	8/12/1998	Thallium	9.00E-02	2.87						
EPA Site Inspection	DR161	8/31/1998	Thallium	9.00E-02	2.87						
EPA Site Inspection	DR131	8/13/1998	Thallium	6.00E-02	1.47						
EPA Site Inspection	DR124	9/15/1998	Tin	1.37E+02 J	2.78						

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
EPA Site Inspection	DR126	8/12/1998	Tin	1.40E+01	3.09						
EPA Site Inspection	DR127	8/12/1998	Tin	1.10E+01	2.78						
EPA Site Inspection	DR152	8/27/1998	Tin	1.00E+01	2.37						
EPA Site Inspection	DR153	8/31/1998	Tin	9.00E+00	2.19						
EPA Site Inspection	DR128	8/12/1998	Tin	9.00E+00	2.99						
EPA Site Inspection	DR154	8/13/1998	Tin	6.00E+00	2.33						
EPA Site Inspection	DR155	8/13/1998	Tin	6.00E+00	2.7						
EPA Site Inspection	DR134	8/13/1998	Tin	5.00E+00	2.52						
EPA Site Inspection	DR130	8/12/1998	Tin	5.00E+00	2.87						
EPA Site Inspection	DR161	8/31/1998	Tin	5.00E+00	2.87						
EPA Site Inspection	DR132	8/13/1998	Tin	5.00E+00	2.9						
EPA Site Inspection	DR131	8/13/1998	Tin	4.00E+00	1.47						
EPA Site Inspection	DR164	8/19/1998	Tin	3.00E+00	2.58						
Boeing Site Characterization	R5	10/15/1997	Total HPAH (calc'd)	9.01E+00	1.8	5.01E+02	960	5300	mg/kg OC	<1	<1
EPA Site Inspection	DR132	8/13/1998	Total HPAH (calc'd)	7.88E+00	2.9	2.72E+02	960	5300	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	Total HPAH (calc'd)	7.30E+00	2.78	2.63E+02	960	5300	mg/kg OC	<1	<1
Boeing Site Characterization	R3	10/15/1997	Total HPAH (calc'd)	6.45E+00 J	3.7	1.74E+02	960	5300	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Total HPAH (calc'd)	5.40E+00	3.09	1.75E+02	960	5300	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Total HPAH (calc'd)	4.50E+00 J	2.54	1.77E+02	960	5300	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Total HPAH (calc'd)	4.37E+00	2.78	1.57E+02	960	5300	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Total HPAH (calc'd)	4.02E+00	1.47	2.73E+02	960	5300	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Total HPAH (calc'd)	3.90E+00	3.05	1.28E+02	960	5300	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	Total HPAH (calc'd)	3.89E+00	2.7	1.44E+02	960	5300	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Total HPAH (calc'd)	3.79E+00	3.8	9.98E+01	960	5300	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Total HPAH (calc'd)	3.73E+00	2.19	1.70E+02	960	5300	mg/kg OC	<1	<1
Boeing Site Characterization	R2	10/15/1997	Total HPAH (calc'd)	3.62E+00	1.9	1.91E+02	960	5300	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Total HPAH (calc'd)	3.62E+00	2.87	1.26E+02	960	5300	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	Total HPAH (calc'd)	3.61E+00	2.99	1.21E+02	960	5300	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Total HPAH (calc'd)	3.52E+00	2.67	1.32E+02	960	5300	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Total HPAH (calc'd)	3.33E+00	2.88	1.16E+02	960	5300	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Total HPAH (calc'd)	3.17E+00 J	1.55	2.05E+02	960	5300	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Total HPAH (calc'd)	3.11E+00	2.07	1.50E+02	960	5300	mg/kg OC	<1	<1
EPA Site Inspection	DR134	8/13/1998	Total HPAH (calc'd)	2.83E+00	2.52	1.12E+02	960	5300	mg/kg OC	<1	<1
EPA Site Inspection	DR152	8/27/1998	Total HPAH (calc'd)	2.72E+00	2.37	1.15E+02	960	5300	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Total HPAH (calc'd)	2.58E+00	2.63	9.81E+01	960	5300	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	Total HPAH (calc'd)	2.54E+00	1.9	1.34E+02	960	5300	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Total HPAH (calc'd)	2.28E+00 J	2.58	8.84E+01	960	5300	mg/kg OC	<1	<1
EPA Site Inspection	DR154	8/13/1998	Total HPAH (calc'd)	1.97E+00	2.33	8.45E+01	960	5300	mg/kg OC	<1	<1
EPA Site Inspection	DR162	8/27/1998	Total HPAH (calc'd)	1.80E+00	1.9	9.47E+01	960	5300	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	Total HPAH (calc'd)	1.77E+00	1.5	1.18E+02	960	5300	mg/kg OC	<1	<1
Boeing Site Characterization	R7	10/15/1997	Total HPAH (calc'd)	1.51E+00	1.4	1.08E+02	960	5300	mg/kg OC	<1	<1
EPA Site Inspection	DR164	8/19/1998	Total HPAH (calc'd)	1.46E+00	2.58	5.66E+01	960	5300	mg/kg OC	<1	<1

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Slope Sediment Characterization	T115-SS05	4/28/2009	Total HPAH (calc'd)	1.41E+00	1.84	7.65E+01	960	5300	mg/kg OC	<1	<1
EPA Site Inspection	DR133	9/2/1998	Total HPAH (calc'd)	1.39E+00	0.76	1.83E+02	960	5300	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Total HPAH (calc'd)	1.19E+00	1.84	6.45E+01	960	5300	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Total HPAH (calc'd)	1.12E+00	1.75	6.40E+01	960	5300	mg/kg OC	<1	<1
EPA Site Inspection	DR166	8/13/1998	Total HPAH (calc'd)	9.70E-01	1.47	6.60E+01	960	5300	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Total HPAH (calc'd)	9.50E-01 J	1.42	6.69E+01	960	5300	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS02	4/28/2009	Total HPAH (calc'd)	7.61E-01	3.53	2.16E+01	960	5300	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Total HPAH (calc'd)	7.10E-01 J	1.32	5.38E+01	960	5300	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Total HPAH (calc'd)	5.06E-01 J	2.57	1.97E+01	960	5300	mg/kg OC	<1	<1
EPA Site Inspection	DR161	8/31/1998	Total HPAH (calc'd)	5.00E-01	2.87	1.74E+01	960	5300	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Total HPAH (calc'd)	4.15E-01	3.5	1.18E+01	960	5300	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS04	4/28/2009	Total HPAH (calc'd)	3.86E-01	1.78	2.17E+01	960	5300	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Total HpCDD	2.95E-03	2.57						
Slope Sediment Characterization	T115-SS02	4/28/2009	Total HpCDD	2.13E-03	3.53						
Slope Sediment Characterization	T115-SS04	4/28/2009	Total HpCDD	1.97E-03	1.78						
Slope Sediment Characterization	T115-SS05	4/28/2009	Total HpCDD	4.05E-04	1.84						
Slope Sediment Characterization	T115-SS05	4/28/2009	Total HpCDD	3.73E-04	1.84						
Slope Sediment Characterization	T115-SS01	4/28/2009	Total HpCDD	1.80E-04	3.5						
EPA Site Inspection	DR154	8/13/1998	Total HpCDD	1.00E-06	2.33						
Slope Sediment Characterization	T115-SS04	4/28/2009	Total HpCDF	4.38E-04	1.78						
Slope Sediment Characterization	T115-SS03	4/28/2009	Total HpCDF	2.34E-04	2.57						
Slope Sediment Characterization	T115-SS02	4/28/2009	Total HpCDF	1.95E-04	3.53						
Slope Sediment Characterization	T115-SS05	4/28/2009	Total HpCDF	8.03E-05	1.84						
Slope Sediment Characterization	T115-SS05	4/28/2009	Total HpCDF	7.14E-05	1.84						
Slope Sediment Characterization	T115-SS01	4/28/2009	Total HpCDF	4.33E-05	3.5						
EPA Site Inspection	DR154	8/13/1998	Total HpCDF	2.60E-07	2.33						
Slope Sediment Characterization	T115-SS03	4/28/2009	Total HxCDD	2.45E-04	2.57						
Slope Sediment Characterization	T115-SS02	4/28/2009	Total HxCDD	2.01E-04 J	3.53						
Slope Sediment Characterization	T115-SS04	4/28/2009	Total HxCDD	1.88E-04	1.78						
Slope Sediment Characterization	T115-SS05	4/28/2009	Total HxCDD	4.89E-05	1.84						
Slope Sediment Characterization	T115-SS05	4/28/2009	Total HxCDD	4.72E-05	1.84						
Slope Sediment Characterization	T115-SS01	4/28/2009	Total HxCDD	3.15E-05 J	3.5						
EPA Site Inspection	DR154	8/13/1998	Total HxCDD	1.20E-07	2.33						
Slope Sediment Characterization	T115-SS04	4/28/2009	Total HxCDF	1.22E-04 J	1.78						
Slope Sediment Characterization	T115-SS03	4/28/2009	Total HxCDF	8.90E-05 J	2.57						
Slope Sediment Characterization	T115-SS02	4/28/2009	Total HxCDF	7.53E-05 J	3.53						
Slope Sediment Characterization	T115-SS05	4/28/2009	Total HxCDF	3.50E-05	1.84						
Slope Sediment Characterization	T115-SS05	4/28/2009	Total HxCDF	2.93E-05 J	1.84						
Slope Sediment Characterization	T115-SS01	4/28/2009	Total HxCDF	2.54E-05 J	3.5						
EPA Site Inspection	DR154	8/13/1998	Total HxCDF	9.20E-08	2.33						
EPA Site Inspection	DR132	8/13/1998	Total LPAH (calc'd)	3.31E+00	2.9	1.14E+02	370	780	mg/kg OC	<1	<1
Boeing Site Characterization	R3	10/15/1997	Total LPAH (calc'd)	1.76E+00	3.7	4.76E+01	370	780	mg/kg OC	<1	<1

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Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Boeing Site Characterization	R2	10/15/1997	Total LPAH (calc'd)	1.13E+00	1.9	5.95E+01	370	780	mg/kg OC	<1	<1
EPA Site Inspection	DR131	8/13/1998	Total LPAH (calc'd)	9.60E-01	1.47	6.53E+01	370	780	mg/kg OC	<1	<1
Boeing Site Characterization	R8	10/16/1997	Total LPAH (calc'd)	8.90E-01	1.55	5.74E+01	370	780	mg/kg OC	<1	<1
EPA Site Inspection	DR126	8/12/1998	Total LPAH (calc'd)	8.20E-01	3.09	2.65E+01	370	780	mg/kg OC	<1	<1
EPA Site Inspection	DR130	8/12/1998	Total LPAH (calc'd)	7.30E-01	2.87	2.54E+01	370	780	mg/kg OC	<1	<1
Boeing Site Characterization	R4	10/15/1997	Total LPAH (calc'd)	7.20E-01	3.8	1.89E+01	370	780	mg/kg OC	<1	<1
EPA Site Inspection	DR124	9/15/1998	Total LPAH (calc'd)	6.20E-01	2.78	2.23E+01	370	780	mg/kg OC	<1	<1
EPA Site Inspection	DR155	8/13/1998	Total LPAH (calc'd)	5.90E-01	2.7	2.19E+01	370	780	mg/kg OC	<1	<1
EPA Site Inspection	DR129	8/27/1998	Total LPAH (calc'd)	5.80E-01	2.67	2.17E+01	370	780	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Total LPAH (calc'd)	5.50E-01 J	2.88	1.91E+01	370	780	mg/kg OC	<1	<1
EPA Site Inspection	DR127	8/12/1998	Total LPAH (calc'd)	5.30E-01	2.78	1.91E+01	370	780	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Total LPAH (calc'd)	5.00E-01 J	2.54	1.97E+01	370	780	mg/kg OC	<1	<1
EPA Site Inspection	DR153	8/31/1998	Total LPAH (calc'd)	4.90E-01	2.19	2.24E+01	370	780	mg/kg OC	<1	<1
EPA Site Inspection	DR128	8/12/1998	Total LPAH (calc'd)	4.70E-01	2.99	1.57E+01	370	780	mg/kg OC	<1	<1
EPA Site Inspection	DR134	8/13/1998	Total LPAH (calc'd)	4.20E-01	2.52	1.67E+01	370	780	mg/kg OC	<1	<1
Boeing Site Characterization	R1	10/15/1997	Total LPAH (calc'd)	4.12E-01	1.9	2.17E+01	370	780	mg/kg OC	<1	<1
Boeing Site Characterization	R5	10/15/1997	Total LPAH (calc'd)	3.97E-01	1.8	2.21E+01	370	780	mg/kg OC	<1	<1
EPA Site Inspection	DR152	8/27/1998	Total LPAH (calc'd)	2.80E-01	2.37	1.18E+01	370	780	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Total LPAH (calc'd)	2.80E-01 J	2.63	1.06E+01	370	780	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Total LPAH (calc'd)	2.50E-01	2.07	1.21E+01	370	780	mg/kg OC	<1	<1
Boeing Site Characterization	R6	10/16/1997	Total LPAH (calc'd)	2.39E-01	1.5	1.59E+01	370	780	mg/kg OC	<1	<1
EPA Site Inspection	DR162	8/27/1998	Total LPAH (calc'd)	2.30E-01	1.9	1.21E+01	370	780	mg/kg OC	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Total LPAH (calc'd)	2.10E-01 J	2.58	8.14E+00	370	780	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Total LPAH (calc'd)	2.04E-01	1.84	1.11E+01	370	780	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Total LPAH (calc'd)	2.00E-01	3.05	6.56E+00	370	780	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Total LPAH (calc'd)	1.97E-01	1.84	1.07E+01	370	780	mg/kg OC	<1	<1
Boeing Site Characterization	R7	10/15/1997	Total LPAH (calc'd)	1.95E-01	1.4	1.39E+01	370	780	mg/kg OC	<1	<1
EPA Site Inspection	DR154	8/13/1998	Total LPAH (calc'd)	1.60E-01	2.33	6.87E+00	370	780	mg/kg OC	<1	<1
EPA Site Inspection	DR164	8/19/1998	Total LPAH (calc'd)	1.60E-01	2.58	6.20E+00	370	780	mg/kg OC	<1	<1
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Total LPAH (calc'd)	1.40E-01	1.75	8.00E+00	370	780	mg/kg OC	<1	<1
EPA Site Inspection	DR133	9/2/1998	Total LPAH (calc'd)	1.30E-01	0.76	1.71E+01	370	780	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Total LPAH (calc'd)	9.65E-02	3.5	2.76E+00	370	780	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS04	4/28/2009	Total LPAH (calc'd)	8.35E-02	1.78	4.69E+00	370	780	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Total LPAH (calc'd)	8.10E-02	2.57	3.15E+00	370	780	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS02	4/28/2009	Total LPAH (calc'd)	7.80E-02	3.53	2.21E+00	370	780	mg/kg OC	<1	<1
EPA Site Inspection	DR166	8/13/1998	Total LPAH (calc'd)	6.00E-02	1.47	4.08E+00	370	780	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Total LPAH (calc'd)	5.40E-02 J	1.32	4.09E+00	370	780	mg/kg OC	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Total LPAH (calc'd)	4.40E-02 J	1.42	3.10E+00	370	780	mg/kg OC	<1	<1
EPA Site Inspection	DR161	8/31/1998	Total LPAH (calc'd)	4.00E-02	2.87	1.39E+00	370	780	mg/kg OC	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Total PAH	1.61E+00	1.84						
Slope Sediment Characterization	T115-SS05	4/28/2009	Total PAH	1.38E+00	1.84						
Slope Sediment Characterization	T115-SS02	4/28/2009	Total PAH	8.39E-01	3.53						

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Slope Sediment Characterization	T115-SS03	4/28/2009	Total PAH	5.87E-01	2.57						
Slope Sediment Characterization	T115-SS01	4/28/2009	Total PAH	5.11E-01	3.5						
Slope Sediment Characterization	T115-SS04	4/28/2009	Total PAH	4.69E-01	1.78						
Slope Sediment Characterization	T115-SS03	4/28/2009	Total PeCDD	1.84E-05 J	2.57						
Slope Sediment Characterization	T115-SS02	4/28/2009	Total PeCDD	1.52E-05 J	3.53						
Slope Sediment Characterization	T115-SS04	4/28/2009	Total PeCDD	1.32E-05 J	1.78						
Slope Sediment Characterization	T115-SS01	4/28/2009	Total PeCDD	6.62E-06 J	3.5						
Slope Sediment Characterization	T115-SS05	4/28/2009	Total PeCDD	5.44E-06	1.84						
Slope Sediment Characterization	T115-SS05	4/28/2009	Total PeCDD	5.32E-06 J	1.84						
Slope Sediment Characterization	T115-SS03	4/28/2009	Total PeCDF	2.88E-05 J	2.57						
Slope Sediment Characterization	T115-SS02	4/28/2009	Total PeCDF	2.47E-05 J	3.53						
Slope Sediment Characterization	T115-SS04	4/28/2009	Total PeCDF	1.88E-05 J	1.78						
Slope Sediment Characterization	T115-SS01	4/28/2009	Total PeCDF	1.31E-05 J	3.5						
Slope Sediment Characterization	T115-SS05	4/28/2009	Total PeCDF	9.68E-06	1.84						
Slope Sediment Characterization	T115-SS05	4/28/2009	Total PeCDF	8.47E-06 J	1.84						
EPA Site Inspection	DR154	8/13/1998	Total PeCDF	3.30E-08	2.33						
Slope Sediment Characterization	T115-SS03	4/28/2009	Total TCDD	1.42E-05 J	2.57						
Slope Sediment Characterization	T115-SS02	4/28/2009	Total TCDD	6.70E-06 J	3.53						
Slope Sediment Characterization	T115-SS04	4/28/2009	Total TCDD	3.97E-06 J	1.78						
Slope Sediment Characterization	T115-SS01	4/28/2009	Total TCDD	3.45E-06 J	3.5						
Slope Sediment Characterization	T115-SS05	4/28/2009	Total TCDD	2.32E-06	1.84						
Slope Sediment Characterization	T115-SS05	4/28/2009	Total TCDD	1.98E-06 J	1.84						
EPA Site Inspection	DR154	8/13/1998	Total TCDD	4.90E-09	2.33						
Slope Sediment Characterization	T115-SS03	4/28/2009	Total TCDF	2.41E-05 J	2.57						
Slope Sediment Characterization	T115-SS02	4/28/2009	Total TCDF	2.20E-05	3.53						
Slope Sediment Characterization	T115-SS04	4/28/2009	Total TCDF	1.21E-05 J	1.78						
Slope Sediment Characterization	T115-SS01	4/28/2009	Total TCDF	1.10E-05 J	3.5						
Slope Sediment Characterization	T115-SS05	4/28/2009	Total TCDF	7.36E-06	1.84						
Slope Sediment Characterization	T115-SS05	4/28/2009	Total TCDF	7.02E-06 J	1.84						
EPA Site Inspection	DR154	8/13/1998	Total TCDF	3.60E-08	2.33						
EPA Site Inspection	DR154	8/13/1998	Tributyltin as ion	6.90E-02	2.33						
EPA Site Inspection	DR152	8/27/1998	Tributyltin as ion	6.80E-02 J	2.37						
EPA Site Inspection	DR166	8/13/1998	Tributyltin as ion	2.80E-02	1.47						
EPA Site Inspection	DR133	9/2/1998	Tributyltin as ion	2.00E-02	0.76						
EPA Site Inspection	DR153	8/31/1998	Vanadium	8.20E+01	2.19						
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Vanadium	7.80E+01	2.63						
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Vanadium	7.73E+01	2.88						
EPA Site Inspection	DR129	8/27/1998	Vanadium	7.70E+01	2.67						
EPA Site Inspection	DR161	8/31/1998	Vanadium	7.70E+01	2.87						
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Vanadium	7.57E+01	2.54						
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Vanadium	7.54E+01	2.58						
EPA Site Inspection	DR152	8/27/1998	Vanadium	7.50E+01	2.37						

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Vanadium	6.74E+01	2.07						
EPA Site Inspection	DR124	9/15/1998	Vanadium	6.60E+01	2.78						
EPA Site Inspection	DR162	8/27/1998	Vanadium	6.50E+01	1.9						
EPA Site Inspection	DR164	8/19/1998	Vanadium	6.10E+01	2.58						
EPA Site Inspection	DR132	8/13/1998	Vanadium	6.10E+01	2.9						
EPA Site Inspection	DR127	8/12/1998	Vanadium	6.00E+01	2.78						
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Vanadium	5.99E+01	3.05						
EPA Site Inspection	DR128	8/12/1998	Vanadium	5.80E+01	2.99						
EPA Site Inspection	DR155	8/13/1998	Vanadium	5.70E+01	2.7						
EPA Site Inspection	DR134	8/13/1998	Vanadium	5.60E+01	2.52						
EPA Site Inspection	DR130	8/12/1998	Vanadium	5.60E+01	2.87						
EPA Site Inspection	DR126	8/12/1998	Vanadium	5.50E+01	3.09						
EPA Site Inspection	DR154	8/13/1998	Vanadium	5.40E+01	2.33						
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Vanadium	5.26E+01	1.75						
EPA Site Inspection	DR133	9/2/1998	Vanadium	4.70E+01	0.76						
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Vanadium	4.57E+01	1.32						
EPA Site Inspection	DR166	8/13/1998	Vanadium	4.00E+01	1.47						
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Vanadium	3.63E+01	1.42						
EPA Site Inspection	DR131	8/13/1998	Vanadium	3.40E+01	1.47						
Slope Sediment Characterization	T115-SS05	4/28/2009	Zinc	3.36E+02	1.84		410	960	mg/kg DW	<1	<1
Boeing Site Characterization	R3	10/15/1997	Zinc	2.87E+02	3.7		410	960	mg/kg DW	<1	<1
EPA Site Inspection	DR124	9/15/1998	Zinc	2.82E+02	2.78		410	960	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS70	1/21/2005	Zinc	2.77E+02	3.05		410	960	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS05	4/28/2009	Zinc	2.57E+02	1.84		410	960	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS59	3/14/2005	Zinc	2.19E+02 J	2.07		410	960	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS03	4/28/2009	Zinc	1.88E+02	2.57		410	960	mg/kg DW	<1	<1
Boeing Site Characterization	R4	10/15/1997	Zinc	1.71E+02	3.8		410	960	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS02	4/28/2009	Zinc	1.66E+02	3.5		410	960	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS62	3/9/2005	Zinc	1.60E+02	2.88		410	960	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS04	4/28/2009	Zinc	1.57E+02	1.78		410	960	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS66	3/9/2005	Zinc	1.54E+02	2.63		410	960	mg/kg DW	<1	<1
EPA Site Inspection	DR153	8/31/1998	Zinc	1.52E+02	2.19		410	960	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS72	1/24/2005	Zinc	1.52E+02	2.54		410	960	mg/kg DW	<1	<1
LDW RI Phase 2 Round 2	LDW-SS68	3/7/2005	Zinc	1.52E+02	2.58		410	960	mg/kg DW	<1	<1
EPA Site Inspection	DR131	8/13/1998	Zinc	1.50E+02	1.47		410	960	mg/kg DW	<1	<1
EPA Site Inspection	DR127	8/12/1998	Zinc	1.38E+02	2.78		410	960	mg/kg DW	<1	<1
EPA Site Inspection	DR129	8/27/1998	Zinc	1.36E+02	2.67		410	960	mg/kg DW	<1	<1
EPA Site Inspection	DR126	8/12/1998	Zinc	1.35E+02	3.09		410	960	mg/kg DW	<1	<1
EPA Site Inspection	DR128	8/12/1998	Zinc	1.34E+02	2.99		410	960	mg/kg DW	<1	<1
EPA Site Inspection	DR154	8/13/1998	Zinc	1.33E+02	2.33		410	960	mg/kg DW	<1	<1
EPA Site Inspection	DR132	8/13/1998	Zinc	1.29E+02	2.9		410	960	mg/kg DW	<1	<1
EPA Site Inspection	DR130	8/12/1998	Zinc	1.25E+02	2.87		410	960	mg/kg DW	<1	<1

Table A-1
Chemicals Detected in Surface Sediment Samples
Associated with the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
EPA Site Inspection	DR152	8/27/1998	Zinc	1.21E+02	2.37		410	960	mg/kg DW	<1	<1
Boeing Site Characterization	R5	10/15/1997	Zinc	1.20E+02	1.8		410	960	mg/kg DW	<1	<1
EPA Site Inspection	DR155	8/13/1998	Zinc	1.14E+02	2.7		410	960	mg/kg DW	<1	<1
Boeing Site Characterization	R2	10/15/1997	Zinc	1.11E+02	1.9		410	960	mg/kg DW	<1	<1
Slope Sediment Characterization	T115-SS01	4/28/2009	Zinc	1.11E+02	3.5		410	960	mg/kg DW	<1	<1
EPA Site Inspection	DR134	8/13/1998	Zinc	1.07E+02	2.52		410	960	mg/kg DW	<1	<1
EPA Site Inspection	DR162	8/27/1998	Zinc	1.02E+02	1.9		410	960	mg/kg DW	<1	<1
Boeing Site Characterization	R8	10/16/1997	Zinc	1.02E+02	1.55		410	960	mg/kg DW	<1	<1
Boeing Site Characterization	R6	10/16/1997	Zinc	1.01E+02	1.5		410	960	mg/kg DW	<1	<1
EPA Site Inspection	DR164	8/19/1998	Zinc	9.80E+01	2.58		410	960	mg/kg DW	<1	<1
LDW RI Phase 2 Round 3	LDW-SS331	10/2/2006	Zinc	9.10E+01	1.32		410	960	mg/kg DW	<1	<1
EPA Site Inspection	DR166	8/13/1998	Zinc	8.60E+01	1.47		410	960	mg/kg DW	<1	<1
EPA Site Inspection	DR161	8/31/1998	Zinc	8.60E+01	2.87		410	960	mg/kg DW	<1	<1
LDW RI Phase 2 Round 1	LDW-SS75	1/21/2005	Zinc	7.90E+01	1.75		410	960	mg/kg DW	<1	<1
EPA Site Inspection	DR133	9/2/1998	Zinc	6.10E+01	0.76		410	960	mg/kg DW	<1	<1
LDW RI Phase 2 Round 3	LDW-SS332	10/2/2006	Zinc	5.70E+01	1.42		410	960	mg/kg DW	<1	<1

mg/kg - Milligram per kilogram
DW - Dry weight
TOC - Total Organic Carbon
OC - Organic carbon normalized
SQS - SMS Sediment Quality Standard
CSL - SMS Cleanup Screening Level

PAH - Polycyclic aromatic hydrocarbon
Total HPAH - Total high molecular weight PAH
Total LPAH - Total low molecular weight PAH
PCB - Polychlorinated biphenyl
J - Estimated value between the method detection limit and the laboratory reporting limit
SMS - Sediment Management Standard (Washington Administrative Code 173-204)

Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentrations to the CSL or SQS; exceedance factors are shown only if they are greater than 1.
* Due to the low TOC in this sample, results were compared to the Lowest Apparent Effects Threshold (LAET) or the second LAET (2LAET) value rather than the SQS and/or CSL. The LAET is functionally equivalent to the SQS and the 2LAET is functionally equivalent to the CSL. OC-normalization is not considered to be appropriate when TOC concentrations are less than or equal to 0.5 percent.
Chemicals with exceedance factors are shaded.
Sampling events are listed in Table 1.

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	1,2,3,4,6,7,8-HpCDD	2.04E-03	1.92	1.06E-01					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	1,2,3,4,6,7,8-HpCDD	1.13E-03	5.02	2.25E-02					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	1,2,3,4,6,7,8-HpCDD	1.11E-03	2.23	4.98E-02					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	1,2,3,4,6,7,8-HpCDD	1.01E-03	1.89	5.34E-02					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	1,2,3,4,6,7,8-HpCDD	9.38E-04	3.53	2.66E-02					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	1,2,3,4,6,7,8-HpCDD	8.65E-04	5.25	1.65E-02					
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	1,2,3,4,6,7,8-HpCDD	8.45E-04 J	1.84	4.59E-02					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	1,2,3,4,6,7,8-HpCDD	8.16E-04	1.89	4.32E-02					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	1,2,3,4,6,7,8-HpCDD	6.15E-04	2.59	2.37E-02					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	1,2,3,4,6,7,8-HpCDD	5.32E-04	1.98	2.69E-02					
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	1,2,3,4,6,7,8-HpCDD	3.49E-04	2.08	1.68E-02					
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	1,2,3,4,6,7,8-HpCDD	2.17E-05							
Post-Dredge Subsurface Sediment Characterization 2010	SG-04	3/10/2010	0 - 0.3	1,2,3,4,6,7,8-HpCDD	1.15E-05							
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	3 - 3.7	1,2,3,4,6,7,8-HpCDD	3.24E-06 BJ	0.077						
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-2	3/10/2010	1 - 2	1,2,3,4,6,7,8-HpCDD	1.16E-06 BJ	0.054						
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	1,2,3,4,6,7,8-HpCDF	9.94E-05	2.23	4.46E-03					
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	1,2,3,4,6,7,8-HpCDF	9.14E-05	1.84	4.97E-03					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	1,2,3,4,6,7,8-HpCDF	9.08E-05	5.02	1.81E-03					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	1,2,3,4,6,7,8-HpCDF	8.57E-05	1.6	5.90E-01					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	1,2,3,4,6,7,8-HpCDF	8.26E-05	1.89	4.37E-03					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	1,2,3,4,6,7,8-HpCDF	7.41E-05	5.25	1.41E-03					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	1,2,3,4,6,7,8-HpCDF	7.39E-05	2.59	2.85E-03					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	1,2,3,4,6,7,8-HpCDF	6.64E-05	3.53	1.88E-03					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	1,2,3,4,6,7,8-HpCDF	6.03E-05	1.92	3.14E-03					
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	1,2,3,4,6,7,8-HpCDF	4.63E-05	2.08	2.23E-03					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	1,2,3,4,6,7,8-HpCDF	4.49E-05	1.98	2.27E-03					
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-2	3/10/2010	2 - 3	1,2,3,4,6,7,8-HpCDF	4.85E-07 BJ	0.047						
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-2	3/10/2010	3 - 4	1,2,3,4,6,7,8-HpCDF	4.01E-07 BJK	0.052						
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	3 - 3.7	1,2,3,4,6,7,8-HpCDF	3.94E-07 BJ	0.077						
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-2	3/10/2010	1 - 2	1,2,3,4,6,7,8-HpCDF	8.95E-08 BJ	0.054						
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-2	3/10/2010	0 - 1	1,2,3,4,6,7,8-HpCDF	8.93E-08 BJK	0.087						
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	1,2,3,4,7,8,9-HpCDF	8.34E-06	5.02	1.66E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	1,2,3,4,7,8,9-HpCDF	7.52E-06	2.23	3.37E-04					
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	1,2,3,4,7,8,9-HpCDF	7.46E-06	1.84	4.05E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	1,2,3,4,7,8,9-HpCDF	7.18E-06	1.6	4.49E-04					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	1,2,3,4,7,8,9-HpCDF	6.23E-06	2.59	2.41E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	1,2,3,4,7,8,9-HpCDF	6.12E-06	5.25	1.17E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	1,2,3,4,7,8,9-HpCDF	6.07E-06	3.53	1.72E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	1,2,3,4,7,8,9-HpCDF	5.73E-06	1.89	3.03E-04					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	1,2,3,4,7,8,9-HpCDF	3.96E-06	1.92	2.06E-04					
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	1,2,3,4,7,8,9-HpCDF	3.77E-06	2.08	1.81E-04					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	1,2,3,4,7,8,9-HpCDF	3.62E-06	1.98	1.83E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	1,2,3,4,7,8-HxCDD	7.47E-06	2.23	3.35E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	1,2,3,4,7,8-HxCDD	5.72E-06	1.89	3.03E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	1,2,3,4,7,8-HxCDD	5.37E-06	1.6	3.36E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	1,2,3,4,7,8-HxCDD	5.10E-06	5.25	9.71E-05					
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	1,2,3,4,7,8-HxCDD	5.07E-06	1.84	2.76E-04					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	1,2,3,4,7,8-HxCDD	5.02E-06	1.92	2.61E-04					

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	1,2,3,4,7,8-HxCDD	4.91E-06	5.02	9.78E-05					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	1,2,3,4,7,8-HxCDD	4.53E-06	2.59	1.75E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	1,2,3,4,7,8-HxCDD	4.29E-06	3.53	1.22E-04					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	1,2,3,4,7,8-HxCDD	3.08E-06	1.98	1.56E-04					
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	1,2,3,4,7,8-HxCDD	2.88E-06	2.08	1.38E-04					
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	1,2,3,4,7,8-HxCDD	1.47E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-04	3/10/2010	0 - 0.3	1,2,3,4,7,8-HxCDD	5.70E-08							
Post-Dredge Subsurface Sediment Characterization 2010	SG-01	3/10/2010	0 - 0.3	1,2,3,4,7,8-HxCDD	3.94E-08 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-02	3/10/2010	0 - 0.3	1,2,3,4,7,8-HxCDD	3.92E-08 J							
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	1,2,3,4,7,8-HxCDF	1.04E-05	2.23	4.66E-04					
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	1,2,3,4,7,8-HxCDF	1.03E-05	1.84	5.60E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	1,2,3,4,7,8-HxCDF	9.95E-06	1.6	5.90E-01					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	1,2,3,4,7,8-HxCDF	9.72E-06	2.59	3.75E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	1,2,3,4,7,8-HxCDF	8.96E-06	5.02	1.78E-04					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	1,2,3,4,7,8-HxCDF	8.20E-06	1.92	4.27E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	1,2,3,4,7,8-HxCDF	7.78E-06	5.25	1.48E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	1,2,3,4,7,8-HxCDF	7.74E-06	1.89	4.10E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	1,2,3,4,7,8-HxCDF	6.67E-06	3.53	1.89E-04					
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	1,2,3,4,7,8-HxCDF	5.87E-06	2.08	2.82E-04					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	1,2,3,4,7,8-HxCDF	5.57E-06	1.98	2.81E-04					
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	1,2,3,4,7,8-HxCDF	2.77E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-01	3/10/2010	0 - 0.3	1,2,3,4,7,8-HxCDF	2.44E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-04	3/10/2010	0 - 0.3	1,2,3,4,7,8-HxCDF	1.98E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-02	3/10/2010	0 - 0.3	1,2,3,4,7,8-HxCDF	1.69E-07 J							
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	1,2,3,6,7,8-HxCDD	4.68E-05	1.92	2.44E-03					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	1,2,3,6,7,8-HxCDD	3.59E-05	2.23	1.61E-03					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	1,2,3,6,7,8-HxCDD	3.37E-05	1.89	1.78E-03					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	1,2,3,6,7,8-HxCDD	2.23E-05	5.02	4.44E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	1,2,3,6,7,8-HxCDD	2.23E-05	5.25	4.25E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	1,2,3,6,7,8-HxCDD	2.21E-05	1.6	1.38E-03					
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	1,2,3,6,7,8-HxCDD	2.21E-05	1.84	1.20E-03					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	1,2,3,6,7,8-HxCDD	2.06E-05	2.59	7.95E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	1,2,3,6,7,8-HxCDD	1.84E-05	3.53	5.21E-04					
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	1,2,3,6,7,8-HxCDD	1.39E-05	2.08	6.68E-04					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	1,2,3,6,7,8-HxCDD	1.34E-05	1.98	6.77E-04					
Post-Dredge Subsurface Sediment Characterization 2010	SG-04	3/10/2010	0 - 0.3	1,2,3,6,7,8-HxCDD	5.21E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	1,2,3,6,7,8-HxCDD	5.06E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-02	3/10/2010	0 - 0.3	1,2,3,6,7,8-HxCDD	2.39E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-01	3/10/2010	0 - 0.3	1,2,3,6,7,8-HxCDD	1.71E-07							
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	1,2,3,6,7,8-HxCDF	5.06E-06	2.23	2.27E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	1,2,3,6,7,8-HxCDF	4.39E-06	5.25	8.36E-05					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	1,2,3,6,7,8-HxCDF	4.38E-06	1.89	2.32E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	1,2,3,6,7,8-HxCDF	4.04E-06	1.6	2.53E-04					
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	1,2,3,6,7,8-HxCDF	3.71E-06	1.84	2.02E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	1,2,3,6,7,8-HxCDF	3.66E-06	5.02	7.29E-05					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	1,2,3,6,7,8-HxCDF	3.59E-06	2.59	1.39E-04					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	1,2,3,6,7,8-HxCDF	3.10E-06	1.92	1.61E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	1,2,3,6,7,8-HxCDF	2.78E-06	3.53	7.88E-05					

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	1,2,3,6,7,8-HxCDF	2.40E-06 J	2.08	1.15E-04					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	1,2,3,6,7,8-HxCDF	2.06E-06 J	1.98	1.04E-04					
Post-Dredge Subsurface Sediment Characterization 2010	SG-04	3/10/2010	0 - 0.3	1,2,3,6,7,8-HxCDF	1.76E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	1,2,3,6,7,8-HxCDF	1.04E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-01	3/10/2010	0 - 0.3	1,2,3,6,7,8-HxCDF	7.30E-08							
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	1,2,3,7,8,9-HxCDD	1.78E-05	2.23	7.98E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	1,2,3,7,8,9-HxCDD	1.41E-05	1.89	7.46E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	1,2,3,7,8,9-HxCDD	1.19E-05	1.6	5.90E-01					
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	1,2,3,7,8,9-HxCDD	1.09E-05	1.84	5.92E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	1,2,3,7,8,9-HxCDD	1.09E-05	5.25	2.08E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	1,2,3,7,8,9-HxCDD	1.08E-05	5.02	2.15E-04					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	1,2,3,7,8,9-HxCDD	1.06E-05	2.59	4.09E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	1,2,3,7,8,9-HxCDD	8.59E-06	3.53	2.43E-04					
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	1,2,3,7,8,9-HxCDD	8.51E-06	2.08	4.09E-04					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	1,2,3,7,8,9-HxCDD	8.27E-06	1.92	4.31E-04					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	1,2,3,7,8,9-HxCDD	6.46E-06	1.98	3.26E-04					
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	1,2,3,7,8,9-HxCDD	5.02E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-04	3/10/2010	0 - 0.3	1,2,3,7,8,9-HxCDD	3.98E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-02	3/10/2010	0 - 0.3	1,2,3,7,8,9-HxCDD	1.69E-07							
Post-Dredge Subsurface Sediment Characterization 2010	SG-01	3/10/2010	0 - 0.3	1,2,3,7,8,9-HxCDD	1.59E-07 J							
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	1,2,3,7,8,9-HxCDF	4.16E-06	1.92	2.17E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	1,2,3,7,8,9-HxCDF	2.75E-06	2.23	1.23E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	1,2,3,7,8,9-HxCDF	2.57E-06	1.89	1.36E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	1,2,3,7,8,9-HxCDF	2.38E-06 J	1.6	1.49E-04					
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	1,2,3,7,8,9-HxCDF	2.23E-06	1.84	1.21E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	1,2,3,7,8,9-HxCDF	2.20E-06 J	5.25	4.19E-05					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	1,2,3,7,8,9-HxCDF	2.11E-06 J	5.02	4.20E-05					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	1,2,3,7,8,9-HxCDF	2.05E-06 J	2.59	7.92E-05					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	1,2,3,7,8,9-HxCDF	1.59E-06 J	3.53	4.50E-05					
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	1,2,3,7,8,9-HxCDF	1.37E-06 J	2.08	6.59E-05					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	1,2,3,7,8,9-HxCDF	1.36E-06 J	1.98	6.87E-05					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	1,2,3,7,8-PeCDD	4.14E-06	2.23	1.86E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	1,2,3,7,8-PeCDD	3.24E-06	1.89	1.71E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	1,2,3,7,8-PeCDD	2.69E-06	1.6	1.68E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	1,2,3,7,8-PeCDD	2.61E-06	5.25	4.97E-05					
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	1,2,3,7,8-PeCDD	2.53E-06	1.84	1.38E-04					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	1,2,3,7,8-PeCDD	2.51E-06	2.59	9.69E-05					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	1,2,3,7,8-PeCDD	2.44E-06 J	5.02	4.86E-05					
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	1,2,3,7,8-PeCDD	2.11E-06 J	2.08	1.01E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	1,2,3,7,8-PeCDD	1.95E-06 J	3.53	5.52E-05					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	1,2,3,7,8-PeCDD	1.47E-06 J	1.98	7.42E-05					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	1,2,3,7,8-PeCDD	1.22E-06 J	1.92	6.35E-05					
Post-Dredge Subsurface Sediment Characterization 2010	SG-04	3/10/2010	0 - 0.3	1,2,3,7,8-PeCDD	1.01E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	1,2,3,7,8-PeCDD	9.08E-08 J							
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	1,2,3,7,8-PeCDF	2.30E-06 J	1.92	1.20E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	1,2,3,7,8-PeCDF	2.16E-06 J	2.23	9.69E-05					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	1,2,3,7,8-PeCDF	1.95E-06 J	1.89	1.03E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	1,2,3,7,8-PeCDF	1.60E-06 J	1.6	5.90E-01					

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	1,2,3,7,8-PeCDF	1.57E-06 J	1.84	8.53E-05					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	1,2,3,7,8-PeCDF	1.54E-06 J	2.59	5.95E-05					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	1,2,3,7,8-PeCDF	1.52E-06 J	5.02	3.03E-05					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	1,2,3,7,8-PeCDF	1.49E-06 J	5.25	2.84E-05					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	1,2,3,7,8-PeCDF	1.25E-06 J	3.53	3.54E-05					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	1,2,3,7,8-PeCDF	9.77E-07 J	1.98	4.93E-05					
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	1,2,3,7,8-PeCDF	9.44E-07 J	2.08	4.54E-05					
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	1,2,3,7,8-PeCDF	8.19E-08 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-01	3/10/2010	0 - 0.3	1,2,3,7,8-PeCDF	6.42E-08							
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	1,2-Dichlorobenzene	4.60E-03 J	3.02	1.52E-01	2.3	2.3	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	1,4-Dichlorobenzene	7.00E-03 J	3.02	2.32E-01	3.1	9	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	1,4-Dichlorobenzene	4.00E-03 J	2.9	1.38E-01	3.1	9	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	2,3,4,6,7,8-HxCDF	7.39E-06	2.23	3.31E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	2,3,4,6,7,8-HxCDF	7.08E-06	1.89	3.75E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	2,3,4,6,7,8-HxCDF	6.59E-06	5.25	1.26E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	2,3,4,6,7,8-HxCDF	5.81E-06	5.02	1.16E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	2,3,4,6,7,8-HxCDF	5.73E-06	1.6	3.58E-04					
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	2,3,4,6,7,8-HxCDF	5.48E-06	1.84	2.98E-04					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	2,3,4,6,7,8-HxCDF	5.31E-06	1.92	2.77E-04					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	2,3,4,6,7,8-HxCDF	5.08E-06	2.59	1.96E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	2,3,4,6,7,8-HxCDF	4.13E-06	3.53	1.17E-04					
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	2,3,4,6,7,8-HxCDF	3.43E-06	2.08	1.65E-04					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	2,3,4,6,7,8-HxCDF	3.09E-06	1.98	1.56E-04					
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	2,3,4,6,7,8-HxCDF	1.48E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-04	3/10/2010	0 - 0.3	2,3,4,6,7,8-HxCDF	1.18E-07 J							
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	2,3,4,7,8-PeCDF	5.91E-06	2.23	2.65E-04					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	2,3,4,7,8-PeCDF	5.32E-06	1.92	2.77E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	2,3,4,7,8-PeCDF	5.29E-06	1.89	2.80E-04					
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	2,3,4,7,8-PeCDF	5.14E-06	1.84	2.79E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	2,3,4,7,8-PeCDF	5.10E-06	1.6	3.19E-04					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	2,3,4,7,8-PeCDF	4.57E-06	2.59	1.76E-04					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	2,3,4,7,8-PeCDF	4.54E-06	5.02	9.04E-05					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	2,3,4,7,8-PeCDF	4.54E-06	5.25	8.65E-05					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	2,3,4,7,8-PeCDF	3.58E-06	3.53	1.01E-04					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	2,3,4,7,8-PeCDF	3.13E-06	1.98	1.58E-04					
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	2,3,4,7,8-PeCDF	2.91E-06	2.08	1.40E-04					
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	2,3,4,7,8-PeCDF	1.22E-07 J							
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	2,3,7,8-TCDD	8.94E-07	2.23	4.01E-05					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	2,3,7,8-TCDD	7.24E-07	2.59	2.80E-05					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	2,3,7,8-TCDD	6.59E-07	1.6	5.90E-01					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	2,3,7,8-TCDD	6.49E-07	1.89	3.43E-05					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	2,3,7,8-TCDD	6.19E-07	5.02	1.23E-05					
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	2,3,7,8-TCDD	6.14E-07	1.84	3.34E-05					
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	2,3,7,8-TCDD	6.05E-07	2.08	2.91E-05					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	2,3,7,8-TCDD	4.86E-07 J	1.98	2.45E-05					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	2,3,7,8-TCDD	4.85E-07	5.25	9.24E-06					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	2,3,7,8-TCDD	4.56E-07 J	3.53	1.29E-05					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	2,3,7,8-TCDD	4.43E-07 J	1.92	2.31E-05					

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	2,3,7,8-TCDF	2.01E-06	2.23	9.01E-05					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	2,3,7,8-TCDF	1.92E-06	1.6	1.20E-04					
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	2,3,7,8-TCDF	1.90E-06	1.84	1.03E-04					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	2,3,7,8-TCDF	1.77E-06	1.89	9.37E-05					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	2,3,7,8-TCDF	1.71E-06	5.02	3.41E-05					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	2,3,7,8-TCDF	1.61E-06	2.59	6.22E-05					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	2,3,7,8-TCDF	1.46E-06	3.53	4.14E-05					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	2,3,7,8-TCDF	1.35E-06	5.25	2.57E-05					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	2,3,7,8-TCDF	1.25E-06	1.92	6.51E-05					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	2,3,7,8-TCDF	1.16E-06	1.98	5.86E-05					
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	2,3,7,8-TCDF	1.03E-06	2.08	4.95E-05					
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	2,4-Dimethylphenol	7.00E-03 J	1.54		0.029	0.029	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	2-Methylnaphthalene	2.80E-02	1.54	1.82E+00	38	64	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	2-Methylnaphthalene	2.40E-02 D	4.69	5.10E-01	0.67	1.4	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	2-Methylnaphthalene	2.10E-02	2.19	9.60E-01	38	64	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	2-Methylnaphthalene	1.30E-02 JD	1.88	4.00E-01	38	64	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	2-Methylnaphthalene	1.20E-02	2.04	5.90E-01	38	64	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	2-Methylnaphthalene	1.10E-02 J	1.6	6.88E-01	38	64	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	2-Methylnaphthalene	9.90E-03 J	1.98	5.00E-01	38	64	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	2-Methylnaphthalene	8.50E-03	2.15	4.00E-01	38	64	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	2-Methylnaphthalene	7.80E-03	1.6	4.90E-01	38	64	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	2-Methylnaphthalene	4.10E-03	0.81	5.00E-01	38	64	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	2-Methylnaphthalene	3.30E-03	0.33	1.01E+00	0.67	1.4	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	2-Methylphenol	3.30E-02 J	3.53	9.35E-01	0.063	0.063	mg/kg DW	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	2-Methylphenol	9.30E-03 J	3.02	3.08E-01	0.063	0.063	mg/kg DW	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	2-Methylphenol	6.70E-03 J	2.9	2.31E-01	0.063	0.063	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	4-Methylphenol	3.00E-02	2.44		0.67	0.67	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	4-Methylphenol	6.80E-03 J	1.54		0.67	0.67	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Acenaphthene	2.20E-01 D	1.01	2.18E+01	16	57	mg/kg OC	1.4	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Acenaphthene	1.60E-01 D	4.69	3.41E+00	0.5	0.73	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Acenaphthene	1.50E-01	2.19	6.85E+00	16	57	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Acenaphthene	8.10E-02	3.53	2.29E+00	16	57	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Acenaphthene	7.90E-02	2.59	3.05E+00	16	57	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Acenaphthene	5.30E-02 D	1.3	4.08E+00	16	57	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Acenaphthene	3.60E-02 J	1.6	5.90E-01	16	57	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Acenaphthene	3.50E-02	5.02	6.97E-01	0.5	0.73	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Acenaphthene	3.50E-02	5.25	6.67E-01	0.5	0.73	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Acenaphthene	2.80E-02 J	1.84	1.52E+00	16	57	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Acenaphthene	2.80E-02 J	1.98	1.41E+00	16	57	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Acenaphthene	2.30E-02	1.54	1.49E+00	16	57	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Acenaphthene	2.30E-02	1.94	1.19E+00	16	57	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Acenaphthene	2.10E-02	1.6	1.31E+00	16	57	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Acenaphthene	1.90E-02 JD	1.88	6.00E-01	16	57	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Acenaphthene	1.70E-02	2.04	8.30E-01	16	57	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Acenaphthene	1.70E-02	2.44	7.00E-01	16	57	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Acenaphthene	1.30E-02	2.15	6.00E-01	16	57	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Acenaphthene	3.60E-03	0.33	1.10E+00	0.5	0.73	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Acenaphthene	2.50E-03 J	0.81	3.10E-01	16	57	mg/kg OC	<1	<1

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Post-Dredge Subsurface Sediment Characterization 2010	SG-03*	3/10/2010	0 - 0.3	Acenaphthene	1.50E-03 J	0.185	8.11E-01	0.5	0.73	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Acenaphthylene	3.30E-01	2.59	1.27E+01	66	66	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Acenaphthylene	1.10E-01 J	1.6	6.88E+00	66	66	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Acenaphthylene	8.50E-02 J	1.98	4.29E+00	66	66	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Acenaphthylene	6.20E-02 J	1.84	3.37E+00	66	66	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Acenaphthylene	5.90E-02 D	1.3	4.54E+00	66	66	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Acenaphthylene	5.80E-02	5.02	1.16E+00	1.3	1.3	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Acenaphthylene	5.00E-02	3.53	1.42E+00	66	66	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Acenaphthylene	4.40E-02	2.19	2.01E+00	66	66	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Acenaphthylene	3.80E-02	2.23	1.70E+00	66	66	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Acenaphthylene	2.90E-02	2.44	1.19E+00	66	66	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Acenaphthylene	2.80E-02	1.01	2.77E+00	66	66	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Acenaphthylene	2.80E-02 D	4.69	6.00E-01	1.3	1.3	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Acenaphthylene	2.40E-02	5.25	4.57E-01	1.3	1.3	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Acenaphthylene	2.10E-02	1.54	1.36E+00	66	66	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Acenaphthylene	2.10E-02 J	1.92	1.09E+00	66	66	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Acenaphthylene	1.80E-02	1.94	9.30E-01	66	66	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Acenaphthylene	1.80E-02	2.04	8.80E-01	66	66	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Acenaphthylene	1.60E-02 JD	1.88	7.00E-01	66	66	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Acenaphthylene	1.50E-02	2.15	7.00E-01	66	66	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Acenaphthylene	5.80E-03	0.33	1.78E+00	1.3	1.3	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Acenaphthylene	5.80E-03	1.6	3.60E-01	66	66	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Acenaphthylene	4.80E-03	0.81	5.90E-01	66	66	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Anthracene	1.20E+00	2.59	4.63E+01	220	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Anthracene	3.80E-01	2.19	1.74E+01	220	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Anthracene	3.50E-01 D	1.3	2.69E+01	220	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Anthracene	3.30E-01 D	4.69	7.04E+00	0.96	4.4	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Anthracene	3.00E-01	3.53	8.50E+00	220	1200	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Anthracene	2.80E-01 J	1.6	1.75E+01	220	1200	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Anthracene	2.70E-01	5.02	5.38E+00	0.96	4.4	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Anthracene	2.60E-01 D	1.01	2.57E+01	220	1200	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Anthracene	2.50E-01 J	1.84	1.36E+01	220	1200	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Anthracene	2.20E-01 J	1.98	1.11E+01	220	1200	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Anthracene	1.60E-01 J	3.02	5.30E+00	220	1200	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Anthracene	1.30E-01	2.23	5.83E+00	220	1200	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Anthracene	1.10E-01	5.25	2.10E+00	0.96	4.4	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Anthracene	8.40E-02	1.94	4.33E+00	220	1200	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Anthracene	8.40E-02 J	2.9	2.90E+00	220	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Anthracene	7.10E-02	2.44	2.91E+00	220	1200	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Anthracene	7.00E-02	1.86	3.76E+00	220	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Anthracene	6.70E-02	1.54	4.35E+00	220	1200	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Anthracene	5.20E-02	1.89	2.75E+00	220	1200	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Anthracene	4.90E-02 J	1.92	2.55E+00	220	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Anthracene	4.80E-02 D	1.88	2.19E+00	220	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Anthracene	4.70E-02	2.15	2.19E+00	220	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Anthracene	4.40E-02	2.04	2.16E+00	220	1200	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Anthracene	4.30E-02 J	1.91	2.25E+00	220	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Anthracene	3.90E-02	0.33	1.20E+01	0.96	4.4	mg/kg DW	<1	<1

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Anthracene	3.40E-02	1.6	2.13E+00	220	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-02*	3/10/2010	0 - 0.3	Anthracene	1.50E-02	0.091	1.65E+01	0.96	4.4	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Anthracene	1.10E-02 J	2.08	5.29E-01	220	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Anthracene	9.30E-03	0.81	1.14E+00	220	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-03*	3/10/2010	0 - 0.3	Anthracene	2.90E-03	0.185	1.57E+00	0.96	4.4	mg/kg DW	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Aroclor-1248	8.20E-02	3.02	2.72E+00					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Aroclor-1248	5.80E-02	2.05	2.83E+00					
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Aroclor-1254	1.70E-01 J	1.86	9.14E+00					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Aroclor-1254	1.20E-01	3.02	3.97E+00					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Aroclor-1254	1.10E-01	2.05	5.37E+00					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Aroclor-1254	1.10E-01	2.9	3.79E+00					
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Aroclor-1260	2.00E-01 J	1.86	1.08E+01					
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Aroclor-1260	1.50E-01 J	1.91	7.85E+00					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Aroclor-1260	1.00E-01	2.9	3.45E+00					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Aroclor-1260	8.10E-02	2.05	3.95E+00					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Aroclor-1260	7.70E-02	3.02	2.55E+00					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Arsenic	2.00E+01	1.89	1.06E+03	57	93	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Arsenic	2.00E+01	2.9	6.90E+02	57	93	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Arsenic	2.00E+01	3.02	6.62E+02	57	93	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	Arsenic	2.00E+01	5.25	3.81E+02	57	93	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Arsenic	1.80E+01	1.86	9.68E+02	57	93	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Arsenic	1.60E+01	1.91	8.38E+02	57	93	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Arsenic	1.50E+01	2.05	7.32E+02	57	93	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Arsenic	1.40E+01	1.84	7.61E+02	57	93	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Arsenic	1.30E+01	1.6	5.90E-01	57	93	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Arsenic	1.20E+01	3.53	3.40E+02	57	93	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	Arsenic	1.20E+01	5.02	2.39E+02	57	93	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Arsenic	1.00E+01	2.59	3.86E+02	57	93	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Arsenic	9.00E+00	1.98	4.55E+02	57	93	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Arsenic	8.00E+00	1.92	4.17E+02	57	93	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Benzo(a)anthracene	6.80E+00	2.59	2.63E+02	110	270	mg/kg OC	2.4	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Benzo(a)anthracene	1.90E+00 D	1.3	1.46E+02	110	270	mg/kg OC	1.3	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Benzo(a)anthracene	1.20E+00 J	1.98	6.06E+01	110	270	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Benzo(a)anthracene	8.00E-01 J	1.84	4.35E+01	110	270	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Benzo(a)anthracene	7.80E-01 D	1.01	7.72E+01	110	270	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Benzo(a)anthracene	7.40E-01	3.53	2.10E+01	110	270	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Benzo(a)anthracene	6.80E-01	5.02	1.35E+01	1.3	1.6	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Benzo(a)anthracene	5.70E-01 J	1.6	3.56E+01	110	270	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Benzo(a)anthracene	5.30E-01	2.19	2.42E+01	110	270	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Benzo(a)anthracene	4.30E-01	3.02	1.42E+01	110	270	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Benzo(a)anthracene	4.00E-01	2.23	1.79E+01	110	270	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Benzo(a)anthracene	4.00E-01 D	4.69	8.53E+00	1.3	1.6	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Benzo(a)anthracene	3.80E-01	0.33	1.17E+02	1.3	1.6	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Benzo(a)anthracene	3.70E-01	5.25	7.05E+00	1.3	1.6	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Benzo(a)anthracene	3.60E-01 J	1.92	1.88E+01	110	270	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Benzo(a)anthracene	2.60E-01	2.9	8.97E+00	110	270	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Benzo(a)anthracene	2.30E-01	2.44	9.43E+00	110	270	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Benzo(a)anthracene	2.00E-01	1.94	1.03E+01	110	270	mg/kg OC	<1	<1

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Benzo(a)anthracene	1.90E-01	2.04	9.31E+00	110	270	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Benzo(a)anthracene	1.70E-01	1.86	9.14E+00	110	270	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Benzo(a)anthracene	1.50E-01 D	1.88	6.05E+00	110	270	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Benzo(a)anthracene	1.40E-01	1.54	9.09E+00	110	270	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Benzo(a)anthracene	1.40E-01	1.89	7.41E+00	110	270	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Benzo(a)anthracene	1.30E-01	1.91	6.81E+00	110	270	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Benzo(a)anthracene	1.30E-01	2.05	6.34E+00	110	270	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Benzo(a)anthracene	1.30E-01	2.15	6.05E+00	110	270	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Benzo(a)anthracene	7.30E-02	1.6	4.56E+00	110	270	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-02*	3/10/2010	0 - 0.3	Benzo(a)anthracene	5.70E-02	0.091	6.26E+01	1.3	1.6	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Benzo(a)anthracene	3.70E-02	2.08	1.78E+00	110	270	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Benzo(a)anthracene	2.10E-02	0.81	2.58E+00	110	270	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-03*	3/10/2010	0 - 0.3	Benzo(a)anthracene	5.90E-03	0.185	3.19E+00	1.3	1.6	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	3 - 3.7	Benzo(a)anthracene	3.70E-03	0.077	4.81E+00	1.3	1.6	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-04*	3/10/2010	0 - 0.3	Benzo(a)anthracene	1.80E-03 J	0.067	2.69E+00	1.3	1.6	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Benzo(a)pyrene	3.40E+00	2.59	1.31E+02	99	210	mg/kg OC	1.3	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Benzo(a)pyrene	1.00E+00 D	1.3	7.69E+01	99	210	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Benzo(a)pyrene	1.00E+00	3.53	2.83E+01	99	210	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Benzo(a)pyrene	9.40E-01	5.02	1.87E+01	1.6	3	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Benzo(a)pyrene	8.20E-01 J	1.6	5.13E+01	99	210	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Benzo(a)pyrene	7.20E-01 J	1.84	3.91E+01	99	210	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Benzo(a)pyrene	5.60E-01 J	1.98	2.83E+01	99	210	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Benzo(a)pyrene	5.20E-01	5.25	9.90E+00	1.6	3	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Benzo(a)pyrene	4.20E-01	2.23	1.88E+01	99	210	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Benzo(a)pyrene	4.10E-01	2.19	1.87E+01	99	210	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Benzo(a)pyrene	4.00E-01	3.02	1.32E+01	99	210	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Benzo(a)pyrene	3.00E-01 D	1.01	2.97E+01	99	210	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Benzo(a)pyrene	2.90E-01	2.44	1.19E+01	99	210	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Benzo(a)pyrene	2.90E-01 D	4.69	6.18E+00	1.6	3	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Benzo(a)pyrene	2.60E-01	1.89	1.38E+01	99	210	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Benzo(a)pyrene	2.50E-01	1.54	1.62E+01	99	210	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Benzo(a)pyrene	2.40E-01 J	1.92	1.25E+01	99	210	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Benzo(a)pyrene	2.30E-01	2.9	7.93E+00	99	210	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Benzo(a)pyrene	2.20E-01	2.04	1.08E+01	99	210	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Benzo(a)pyrene	2.10E-01 D	1.88	7.91E+00	99	210	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Benzo(a)pyrene	2.10E-01	1.91	1.10E+01	99	210	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Benzo(a)pyrene	2.00E-01	1.86	1.08E+01	99	210	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Benzo(a)pyrene	1.90E-01	1.94	9.79E+00	99	210	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Benzo(a)pyrene	1.70E-01	2.15	7.91E+00	99	210	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Benzo(a)pyrene	1.50E-01	2.05	7.32E+00	99	210	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Benzo(a)pyrene	1.30E-01	0.33	3.99E+01	1.6	3	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Benzo(a)pyrene	6.40E-02	1.6	4.00E+00	99	210	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Benzo(a)pyrene	4.90E-02	2.08	2.36E+00	99	210	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Benzo(a)pyrene	3.10E-02	0.81	3.81E+00	99	210	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-02*	3/10/2010	0 - 0.3	Benzo(a)pyrene	1.80E-02	0.091	1.98E+01	1.6	3	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-03*	3/10/2010	0 - 0.3	Benzo(a)pyrene	6.20E-03	0.185	3.35E+00	1.6	3	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-01*	3/10/2010	0 - 0.3	Benzo(a)pyrene	2.10E-03 J	0.068	3.09E+00	1.6	3	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	3 - 3.7	Benzo(a)pyrene	2.10E-03 J	0.077	2.73E+00	1.6	3	mg/kg DW	<1	<1

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Post-Dredge Subsurface Sediment Characterization 2010	SG-04*	3/10/2010	0 - 0.3	Benzo(a)pyrene	1.90E-03 J	0.067	2.84E+00	1.6	3	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Benzo(b)fluoranthene	1.80E+00 D	1.3	1.38E+02					
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Benzo(b)fluoranthene	5.80E-01	2.19	2.65E+01					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Benzo(b)fluoranthene	5.30E-01	3.02	1.75E+01					
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Benzo(b)fluoranthene	4.90E-01 D	1.01	4.85E+01					
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Benzo(b)fluoranthene	4.90E-01	2.44	2.01E+01					
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	2 - 3	Benzo(b)fluoranthene	4.40E-01 D	4.69	9.38E+00					
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Benzo(b)fluoranthene	3.90E-01	1.54	2.53E+01					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Benzo(b)fluoranthene	3.80E-01	2.9	1.31E+01					
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Benzo(b)fluoranthene	3.60E-01	1.86	1.94E+01					
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Benzo(b)fluoranthene	3.50E-01	1.91	1.83E+01					
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Benzo(b)fluoranthene	3.50E-01	2.04	1.72E+01					
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Benzo(b)fluoranthene	3.40E-01 D	1.88	1.35E+01					
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Benzo(b)fluoranthene	2.90E-01	2.15	1.35E+01					
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Benzo(b)fluoranthene	2.60E-01	1.94	1.34E+01					
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	2 - 3	Benzo(b)fluoranthene	2.30E-01	0.33	7.06E+01					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Benzo(b)fluoranthene	2.20E-01	2.05	1.07E+01					
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Benzo(b)fluoranthene	9.20E-02	1.6	5.75E+00					
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Benzo(b)fluoranthene	5.60E-02	0.81	6.88E+00					
Post-Dredge Subsurface Sediment Characterization 2010	SG-02	3/10/2010	0 - 0.3	Benzo(b)fluoranthene	3.80E-02	0.091	4.18E+01					
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	Benzo(b)fluoranthene	1.11E-02	0.185	6.00E+00					
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	3 - 3.7	Benzo(b)fluoranthene	3.60E-03	0.077	4.68E+00					
Post-Dredge Subsurface Sediment Characterization 2010	SG-01	3/10/2010	0 - 0.3	Benzo(b)fluoranthene	3.50E-03	0.068	5.15E+00					
Post-Dredge Subsurface Sediment Characterization 2010	SG-04	3/10/2010	0 - 0.3	Benzo(b)fluoranthene	3.40E-03	0.067	5.07E+00					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Benzo(g,h,i)perylene	5.30E-01	2.59	2.05E+01	31	78	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Benzo(g,h,i)perylene	2.90E-01 J	1.84	1.58E+01	31	78	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Benzo(g,h,i)perylene	2.70E-01	1.6	5.90E-01	31	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Benzo(g,h,i)perylene	2.50E-01	2.19	1.14E+01	31	78	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Benzo(g,h,i)perylene	2.00E-01	3.02	6.62E+00	31	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Benzo(g,h,i)perylene	1.90E-01 D	1.3	1.46E+01	31	78	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Benzo(g,h,i)perylene	1.90E-01	5.02	3.78E+00	0.67	0.72	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Benzo(g,h,i)perylene	1.80E-01	2.44	7.38E+00	31	78	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Benzo(g,h,i)perylene	1.70E-01 J	1.98	8.59E+00	31	78	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Benzo(g,h,i)perylene	1.70E-01	3.53	4.82E+00	31	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Benzo(g,h,i)perylene	1.50E-01 D	4.69	3.20E+00	0.67	0.72	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Benzo(g,h,i)perylene	1.30E-01	1.94	6.70E+00	31	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Benzo(g,h,i)perylene	1.30E-01	2.15	6.05E+00	31	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Benzo(g,h,i)perylene	1.20E-01	1.54	7.79E+00	31	78	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Benzo(g,h,i)perylene	1.00E-01	5.25	1.90E+00	0.67	0.72	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Benzo(g,h,i)perylene	9.30E-02 D	1.01	9.21E+00	31	78	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Benzo(g,h,i)perylene	8.30E-02 J	1.92	4.32E+00	31	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Benzo(g,h,i)perylene	7.80E-02 D	1.88	4.15E+00	31	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Benzo(g,h,i)perylene	7.40E-02	2.04	3.63E+00	31	78	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Benzo(g,h,i)perylene	6.30E-02 J	2.9	2.17E+00	31	78	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Benzo(g,h,i)perylene	6.20E-02	1.89	3.28E+00	31	78	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Benzo(g,h,i)perylene	5.90E-02	2.23	2.65E+00	31	78	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Benzo(g,h,i)perylene	4.70E-02 J	1.91	2.46E+00	31	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Benzo(g,h,i)perylene	4.60E-02	1.6	2.88E+00	31	78	mg/kg OC	<1	<1

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Benzo(g,h,i)perylene	4.50E-02 J	1.86	2.42E+00	31	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Benzo(g,h,i)perylene	2.90E-02	0.33	8.90E+00	0.67	0.72	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Benzo(g,h,i)perylene	2.60E-02 J	2.08	1.25E+00	31	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Benzo(g,h,i)perylene	1.10E-02	0.81	1.35E+00	31	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-03*	3/10/2010	0 - 0.3	Benzo(g,h,i)perylene	3.60E-03	0.185	1.95E+00	0.67	0.72	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-2*	3/10/2010	0 - 1	Benzo(g,h,i)perylene	3.40E-03	0.087	3.93E+00	0.67	0.72	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-02*	3/10/2010	0 - 0.3	Benzo(g,h,i)perylene	3.20E-03	0.091	3.52E+00	0.67	0.72	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	3 - 3.7	Benzo(g,h,i)perylene	1.80E-03 J	0.077	2.34E+00	0.67	0.72	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-01*	3/10/2010	0 - 0.3	Benzo(g,h,i)perylene	1.60E-03 J	0.068	2.35E+00	0.67	0.72	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Benzo(k)fluoranthene	5.90E-01 D	1.3	4.54E+01					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Benzo(k)fluoranthene	4.70E-01	3.02	1.56E+01					
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Benzo(k)fluoranthene	2.80E-01	1.91	1.47E+01					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Benzo(k)fluoranthene	2.80E-01	2.9	9.66E+00					
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Benzo(k)fluoranthene	2.20E-01	1.86	1.18E+01					
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Benzo(k)fluoranthene	2.20E-01	2.19	1.01E+01					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Benzo(k)fluoranthene	2.10E-01	2.05	1.02E+01					
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Benzo(k)fluoranthene	1.80E-01 D	1.01	1.78E+01					
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Benzo(k)fluoranthene	1.70E-01	2.44	6.97E+00					
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	2 - 3	Benzo(k)fluoranthene	1.50E-01 D	4.69	3.20E+00					
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Benzo(k)fluoranthene	1.20E-01	1.54	7.79E+00					
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Benzo(k)fluoranthene	1.20E-01	2.04	5.88E+00					
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Benzo(k)fluoranthene	1.10E-01 D	1.88	4.37E+00					
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Benzo(k)fluoranthene	1.00E-01	1.94	5.15E+00					
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Benzo(k)fluoranthene	9.40E-02	2.15	4.37E+00					
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	2 - 3	Benzo(k)fluoranthene	7.90E-02	0.33	2.42E+01					
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Benzo(k)fluoranthene	3.10E-02	1.6	1.94E+00					
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Benzo(k)fluoranthene	1.90E-02	0.81	2.33E+00					
Post-Dredge Subsurface Sediment Characterization 2010	SG-02	3/10/2010	0 - 0.3	Benzo(k)fluoranthene	1.30E-02	0.091	1.43E+01					
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	Benzo(k)fluoranthene	6.80E-03	0.185	3.68E+00					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Benzofluoranthenes (total-calc'd)	1.42E+01	2.59	5.48E+02	230	450	mg/kg OC	2.4	1.2
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Benzofluoranthenes (total-calc'd)	2.50E+00 J	1.6	1.56E+02	230	450	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Benzofluoranthenes (total-calc'd)	2.40E+00	5.02	4.78E+01	3.2	3.6	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Benzofluoranthenes (total-calc'd)	2.39E+00	1.3	1.84E+02	230	450	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Benzofluoranthenes (total-calc'd)	2.10E+00	3.53	5.95E+01	230	450	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Benzofluoranthenes (total-calc'd)	1.89E+00 J	1.84	1.03E+02	230	450	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Benzofluoranthenes (total-calc'd)	1.78E+00 J	1.98	8.99E+01	230	450	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Benzofluoranthenes (total-calc'd)	1.56E+00	2.23	7.00E+01	230	450	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Benzofluoranthenes (total-calc'd)	1.39E+00	5.25	2.65E+01	3.2	3.6	mg/kg DW	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Benzofluoranthenes (total-calc'd)	1.00E+00	3.02	3.31E+01	230	450	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Benzofluoranthenes (total-calc'd)	8.00E-01	2.19	3.65E+01	230	450	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Benzofluoranthenes (total-calc'd)	7.60E-01	1.89	4.02E+01	230	450	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Benzofluoranthenes (total-calc'd)	6.70E-01	1.01	6.63E+01	230	450	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Benzofluoranthenes (total-calc'd)	6.60E-01	2.9	2.28E+01	230	450	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Benzofluoranthenes (total-calc'd)	6.60E-01	2.44	2.71E+01	230	450	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Benzofluoranthenes (total-calc'd)	6.30E-01	1.91	3.30E+01	230	450	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Benzofluoranthenes (total-calc'd)	5.90E-01	4.69	1.26E+01	3.2	3.6	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Benzofluoranthenes (total-calc'd)	5.90E-01 J	1.92	3.07E+01	230	450	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Benzofluoranthenes (total-calc'd)	5.80E-01	1.86	3.12E+01	230	450	mg/kg OC	<1	<1

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Benzofluoranthenes (total-calc'd)	5.10E-01	1.54	3.31E+01	230	450	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Benzofluoranthenes (total-calc'd)	4.70E-01	2.04	2.30E+01	230	450	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Benzofluoranthenes (total-calc'd)	4.50E-01	1.88	1.79E+01	230	450	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Benzofluoranthenes (total-calc'd)	4.30E-01	2.05	2.10E+01	230	450	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Benzofluoranthenes (total-calc'd)	3.84E-01	2.15	1.79E+01	230	450	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Benzofluoranthenes (total-calc'd)	3.60E-01	1.94	1.86E+01	230	450	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Benzofluoranthenes (total-calc'd)	3.09E-01	0.33	9.48E+01	3.2	3.6	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Benzofluoranthenes (total-calc'd)	1.34E-01	2.08	6.44E+00	230	450	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Benzofluoranthenes (total-calc'd)	1.23E-01	1.6	7.69E+00	230	450	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Benzofluoranthenes (total-calc'd)	7.50E-02	0.81	9.21E+00	230	450	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-02*	3/10/2010	0 - 0.3	Benzofluoranthenes (total-calc'd)	5.10E-02	0.091	5.60E+01	3.2	3.6	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-03*	3/10/2010	0 - 0.3	Benzofluoranthenes (total-calc'd)	1.79E-02	0.185	9.68E+00	3.2	3.6	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	3 - 3.7	Benzofluoranthenes (total-calc'd)	3.60E-03	0.077	4.68E+00	0.23	0.45	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-01*	3/10/2010	0 - 0.3	Benzofluoranthenes (total-calc'd)	3.50E-03	0.068	5.15E+00	3.2	3.6	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-04*	3/10/2010	0 - 0.3	Benzofluoranthenes (total-calc'd)	3.40E-03	0.067	5.07E+00	3.2	3.6	mg/kg DW	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Benzoic acid	1.30E-01	1.91	6.81E+00	0.65	0.65	mg/kg DW	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Benzoic acid	1.20E-01	1.86	6.45E+00	0.65	0.65	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Benzoic acid	1.00E-01 J	2.15		0.65	0.65	mg/kg DW	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Benzyl alcohol	2.10E-01	3.02	6.95E+00	0.057	0.073	mg/kg DW	3.7	2.9
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Benzyl alcohol	3.40E-02	2.9	1.17E+00	0.057	0.073	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Benzyl alcohol	2.40E-02	2.15		0.057	0.073	mg/kg DW	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Benzyl alcohol	2.00E-02 J	2.05	9.76E-01	0.057	0.073	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Benzyl alcohol	7.60E-03 J	1.54		0.057	0.073	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Benzyl alcohol	4.20E-03	2.19		0.057	0.073	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Bis(2-ethylhexyl)phthalate	6.70E+00 J	1.84	3.64E+02	47	78	mg/kg OC	7.7	4.7
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Bis(2-ethylhexyl)phthalate	3.90E+00	3.02	1.29E+02	47	78	mg/kg OC	2.7	1.7
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Bis(2-ethylhexyl)phthalate	1.30E+00 J	5.02	2.59E+01	1.3	1.9	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Bis(2-ethylhexyl)phthalate	1.00E+00	2.23	4.48E+01	47	78	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Bis(2-ethylhexyl)phthalate	1.00E+00 J	1.6	6.25E+01	47	78	mg/kg OC	1.3	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Bis(2-ethylhexyl)phthalate	9.20E-01	2.9	3.17E+01	47	78	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Bis(2-ethylhexyl)phthalate	9.20E-01	5.25	1.75E+01	1.3	1.9	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Bis(2-ethylhexyl)phthalate	7.30E-01	1.54	4.74E+01	47	78	mg/kg OC	1.0	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Bis(2-ethylhexyl)phthalate	6.70E-01	2.05	3.27E+01	47	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Bis(2-ethylhexyl)phthalate	5.90E-01	2.15	2.74E+01	47	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Bis(2-ethylhexyl)phthalate	5.50E-01 D	1.94	2.84E+01	47	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Bis(2-ethylhexyl)phthalate	5.20E-01	2.44	2.13E+01	47	78	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Bis(2-ethylhexyl)phthalate	4.90E-01	1.89	2.59E+01	47	78	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Bis(2-ethylhexyl)phthalate	4.90E-01 J	3.53	1.39E+01	47	78	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Bis(2-ethylhexyl)phthalate	4.10E-01	2.59	1.58E+01	47	78	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Bis(2-ethylhexyl)phthalate	4.00E-01	1.86	2.15E+01	47	78	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Bis(2-ethylhexyl)phthalate	3.80E-01	1.91	1.99E+01	47	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Bis(2-ethylhexyl)phthalate	3.20E-01 JD	1.88	1.70E+01	47	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Bis(2-ethylhexyl)phthalate	2.80E-01 JD	1.3	2.15E+01	47	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Bis(2-ethylhexyl)phthalate	2.70E-01	2.19	1.23E+01	47	78	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Bis(2-ethylhexyl)phthalate	2.60E-01 J	1.98	1.31E+01	47	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Bis(2-ethylhexyl)phthalate	2.30E-01	2.04	1.13E+01	47	78	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Bis(2-ethylhexyl)phthalate	1.50E-01	2.08	7.21E+00	47	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Bis(2-ethylhexyl)phthalate	1.40E-01	1.6	8.75E+00	47	78	mg/kg OC	<1	<1

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Bis(2-ethylhexyl)phthalate	1.10E-01 J	1.92	5.73E+00	47	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Bis(2-ethylhexyl)phthalate	6.70E-02 J	1.01	7.52E+00	47	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Bis(2-ethylhexyl)phthalate	4.10E-02 J	0.81	5.04E+00	47	78	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-03*	3/10/2010	0 - 0.3	Bis(2-ethylhexyl)phthalate	3.33E-02	0.185	1.80E+01	1.3	1.9	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Bis(2-ethylhexyl)phthalate	2.10E-02 J	0.33	6.44E+00	1.3	1.9	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-01*	3/10/2010	0 - 0.3	Bis(2-ethylhexyl)phthalate	8.40E-03 J	0.068	1.24E+01	1.3	1.9	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-04*	3/10/2010	0 - 0.3	Bis(2-ethylhexyl)phthalate	8.20E-03 J	0.067	1.22E+01	1.3	1.9	mg/kg DW	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Butyl benzyl phthalate	4.40E-01	2.9	1.52E+01	4.9	64	mg/kg OC	3.1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Butyl benzyl phthalate	4.00E-01	3.02	1.32E+01	4.9	64	mg/kg OC	2.7	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Butyl benzyl phthalate	1.40E-01	1.54	9.09E+00	4.9	64	mg/kg OC	1.9	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Butyl benzyl phthalate	1.00E-01	1.94	5.15E+00	4.9	64	mg/kg OC	1.1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Butyl benzyl phthalate	7.20E-02 D	1.88	3.83E+00	4.9	64	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Butyl benzyl phthalate	6.60E-02	2.04	3.24E+00	4.9	64	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Butyl benzyl phthalate	4.50E-02 J	1.84	2.45E+00	4.9	64	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Butyl benzyl phthalate	4.40E-02	2.05	2.15E+00	4.9	64	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Butyl benzyl phthalate	4.30E-02	1.86	2.31E+00	4.9	64	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Butyl benzyl phthalate	4.20E-02	2.19	1.92E+00	4.9	64	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Butyl benzyl phthalate	4.00E-02	2.15	1.86E+00	4.9	64	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Butyl benzyl phthalate	3.40E-02 J	1.6	2.13E+00	4.9	64	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Butyl benzyl phthalate	3.20E-02	1.91	1.68E+00	4.9	64	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Butyl benzyl phthalate	2.70E-02 J	5.02	5.38E-01	0.063	0.9	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Butyl benzyl phthalate	2.50E-02 J	1.89	1.32E+00	4.9	64	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Butyl benzyl phthalate	1.70E-02	1.6	1.06E+00	4.9	64	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Butyl benzyl phthalate	1.70E-02 J	1.98	8.59E-01	4.9	64	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Butyl benzyl phthalate	1.60E-02 J	2.08	7.69E-01	4.9	64	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Butyl benzyl phthalate	1.30E-02	0.81	1.60E+00	4.9	64	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Butyl benzyl phthalate	1.30E-02 J	2.59	5.02E-01	4.9	64	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Cadmium	9.00E-01	1.89	4.76E+01	5.1	6.7	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Cadmium	9.00E-01	3.02	2.98E+01	5.1	6.7	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Cadmium	8.00E-01	2.23	3.59E+01	5.1	6.7	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Cadmium	7.00E-01	1.6	4.38E+01	5.1	6.7	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Cadmium	7.00E-01	1.84	3.80E+01	5.1	6.7	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Cadmium	6.00E-01	2.59	2.32E+01	5.1	6.7	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	Cadmium	6.00E-01	5.02	1.20E+01	5.1	6.7	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Cadmium	5.00E-01	1.91	2.62E+01	5.1	6.7	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Cadmium	5.00E-01	1.98	2.53E+01	5.1	6.7	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Cadmium	5.00E-01	3.53	1.42E+01	5.1	6.7	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Cadmium	4.00E-01	2.08	1.92E+01	5.1	6.7	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Cadmium	3.00E-01	1.92	1.56E+01	5.1	6.7	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Chromium	5.10E+01	2.23	2.29E+03	260	270	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Chromium	5.00E+01	3.02	1.66E+03	260	270	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Chromium	3.85E+01	3.53	1.09E+03	260	270	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Chromium	3.61E+01	1.86	1.94E+03	260	270	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Chromium	3.60E+01	2.59	1.39E+03	260	270	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Chromium	3.42E+01	1.91	1.79E+03	260	270	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Chromium	3.40E+01	1.89	1.80E+03	260	270	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Chromium	3.40E+01	2.9	1.17E+03	260	270	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Chromium	3.34E+01	1.84	1.82E+03	260	270	mg/kg	<1	<1

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Chromium	3.25E+01	1.98	1.64E+03	260	270	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Chromium	3.21E+01	1.6	2.01E+03	260	270	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	Chromium	3.20E+01	5.25	6.10E+02	260	270	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	Chromium	3.11E+01	5.02	6.20E+02	260	270	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Chromium	3.09E+01	2.05	1.51E+03	260	270	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Chromium	2.88E+01	1.92	1.50E+03	260	270	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Chromium	2.54E+01	2.08	1.22E+03	260	270	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Chrysene	1.60E+01	2.59	6.18E+02	110	460	mg/kg OC	5.6	1.3
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Chrysene	2.60E+00 J	1.98	1.31E+02	110	460	mg/kg OC	1.2	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Chrysene	2.10E+00 D	1.3	1.62E+02	110	460	mg/kg OC	1.5	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Chrysene	1.60E+00 J	1.6	1.00E+02	110	460	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Chrysene	1.50E+00	5.02	2.99E+01	1.4	2.8	mg/kg DW	1.1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Chrysene	1.30E+00	1.84	7.07E+01	110	460	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Chrysene	1.30E+00	3.53	3.68E+01	110	460	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Chrysene	9.40E-01 D	1.01	9.31E+01	110	460	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Chrysene	7.60E-01	2.19	3.47E+01	110	460	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Chrysene	7.20E-01	3.02	2.38E+01	110	460	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Chrysene	6.10E-01 D	4.69	1.30E+01	1.4	2.8	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Chrysene	6.00E-01	5.25	1.14E+01	1.4	2.8	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Chrysene	5.50E-01	2.23	2.47E+01	110	460	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Chrysene	3.90E-01	0.33	1.20E+02	1.4	2.8	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Chrysene	3.80E-01	2.44	1.56E+01	110	460	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Chrysene	3.60E-01	2.9	1.24E+01	110	460	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Chrysene	3.50E-01 J	1.92	1.82E+01	110	460	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Chrysene	2.90E-01	1.94	1.50E+01	110	460	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Chrysene	2.60E-01	1.86	1.40E+01	110	460	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Chrysene	2.20E-01	1.89	1.16E+01	110	460	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Chrysene	2.10E-01	2.04	1.03E+01	110	460	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Chrysene	2.00E-01	1.54	1.30E+01	110	460	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Chrysene	2.00E-01	1.91	1.05E+01	110	460	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Chrysene	2.00E-01	2.15	9.30E+00	110	460	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Chrysene	1.90E-01 D	1.88	9.30E+00	110	460	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Chrysene	1.90E-01	2.05	9.27E+00	110	460	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Chrysene	8.70E-02	1.6	5.44E+00	110	460	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-02*	3/10/2010	0 - 0.3	Chrysene	7.20E-02	0.091	7.91E+01	1.4	2.8	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Chrysene	6.30E-02	2.08	3.03E+00	110	460	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Chrysene	3.00E-02	0.81	3.69E+00	110	460	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-03*	3/10/2010	0 - 0.3	Chrysene	9.40E-03	0.185	5.08E+00	1.4	2.8	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-01*	3/10/2010	0 - 0.3	Chrysene	3.10E-03	0.068	4.56E+00	1.4	2.8	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	3 - 3.7	Chrysene	3.00E-03	0.077	3.90E+00	1.4	2.8	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-04*	3/10/2010	0 - 0.3	Chrysene	2.80E-03	0.067	4.18E+00	1.4	2.8	mg/kg DW	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Cobalt	9.70E+00	1.91	5.08E+02					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Cobalt	9.60E+00	2.9	3.31E+02					
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Cobalt	8.90E+00	1.86	4.78E+02					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Cobalt	8.90E+00	3.02	2.95E+02					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Cobalt	8.60E+00	2.05	4.20E+02					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Copper	9.14E+01	3.02	3.03E+03	390	390	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Copper	7.95E+01	2.59	3.07E+03	390	390	mg/kg	<1	<1

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Copper	7.88E+01	1.84	4.28E+03	390	390	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Copper	7.84E+01	2.9	2.70E+03	390	390	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Copper	7.72E+01	1.89	4.08E+03	390	390	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Copper	7.28E+01	2.08	3.50E+03	390	390	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Copper	7.19E+01	2.23	3.22E+03	390	390	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Copper	6.41E+01	1.6	4.01E+03	390	390	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Copper	6.36E+01	1.91	3.33E+03	390	390	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	Copper	6.18E+01	5.25	1.18E+03	390	390	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Copper	6.12E+01	1.86	3.29E+03	390	390	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	Copper	5.64E+01	5.02	1.12E+03	390	390	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Copper	5.57E+01	1.98	2.81E+03	390	390	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Copper	5.15E+01	3.53	1.46E+03	390	390	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Copper	5.13E+01	2.05	2.50E+03	390	390	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Copper	4.21E+01	1.92	2.19E+03	390	390	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	delta-BHC	1.90E-02	3.02	6.29E-01					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	delta-BHC	7.00E-03	2.9	2.41E-01					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Dibenzo(a,h)anthracene	3.00E-01	2.59	1.16E+01	12	33	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Dibenzo(a,h)anthracene	1.50E-01 J	1.6	9.38E+00	12	33	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Dibenzo(a,h)anthracene	1.30E-01 J	1.84	7.07E+00	12	33	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Dibenzo(a,h)anthracene	1.10E-01 D	1.3	8.46E+00	12	33	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Dibenzo(a,h)anthracene	1.10E-01	3.53	3.12E+00	12	33	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Dibenzo(a,h)anthracene	1.10E-01	5.02	2.19E+00	0.23	0.54	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Dibenzo(a,h)anthracene	8.50E-02 J	1.98	4.29E+00	12	33	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Dibenzo(a,h)anthracene	7.10E-02	2.19	3.24E+00	12	33	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Dibenzo(a,h)anthracene	4.80E-02	5.25	9.14E-01	0.23	0.54	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Dibenzo(a,h)anthracene	4.70E-02	2.23	2.11E+00	12	33	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Dibenzo(a,h)anthracene	4.70E-02	2.44	1.93E+00	12	33	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Dibenzo(a,h)anthracene	4.30E-02 D	4.69	9.20E-01	0.23	0.54	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Dibenzo(a,h)anthracene	3.50E-02	2.04	1.72E+00	12	33	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Dibenzo(a,h)anthracene	3.40E-02	1.54	2.21E+00	12	33	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Dibenzo(a,h)anthracene	3.40E-02 D	1.88	1.35E+00	12	33	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Dibenzo(a,h)anthracene	3.30E-02	1.01	3.27E+00	12	33	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Dibenzo(a,h)anthracene	2.90E-02	1.94	1.49E+00	12	33	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Dibenzo(a,h)anthracene	2.90E-02	2.15	1.35E+00	12	33	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Dibenzo(a,h)anthracene	2.80E-02	1.89	1.48E+00	12	33	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Dibenzo(a,h)anthracene	2.10E-02 J	1.92	1.09E+00	12	33	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Dibenzo(a,h)anthracene	1.20E-02	0.33	3.68E+00	0.23	0.54	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Dibenzo(a,h)anthracene	1.10E-02	1.6	6.90E-01	12	33	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Dibenzo(a,h)anthracene	5.40E-03	0.81	6.60E-01	12	33	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-02*	3/10/2010	0 - 0.3	Dibenzo(a,h)anthracene	2.10E-03 J	0.091	2.31E+00	0.23	0.54	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-03*	3/10/2010	0 - 0.3	Dibenzo(a,h)anthracene	1.70E-03 J	0.185	9.19E-01	0.23	0.54	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Dibenzofuran	8.50E-02	2.19	3.88E+00	15	58	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Dibenzofuran	8.40E-02 D	1.01	8.32E+00	15	58	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Dibenzofuran	6.20E-02 J	3.53	1.76E+00	15	58	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Dibenzofuran	6.10E-02 D	4.69	1.30E+00	0.54	0.7	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Dibenzofuran	5.80E-02 JD	1.3	4.46E+00	15	58	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Dibenzofuran	4.10E-02	2.59	1.58E+00	15	58	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Dibenzofuran	3.50E-02 J	5.02	6.97E-01	0.54	0.7	mg/kg DW	<1	<1

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Dibenzofuran	2.70E-02 J	1.6	1.69E+00	15	58	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Dibenzofuran	2.50E-02 J	5.25	4.76E-01	0.54	0.7	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Dibenzofuran	2.20E-02 J	1.84	1.20E+00	15	58	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Dibenzofuran	2.00E-02 J	1.98	1.01E+00	15	58	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Dibenzofuran	1.70E-02	1.54	1.10E+00	15	58	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Dibenzofuran	1.60E-02 JD	1.88	8.50E-01	15	58	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Dibenzofuran	1.40E-02	1.6	8.80E-01	15	58	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Dibenzofuran	1.30E-02	1.94	6.70E-01	15	58	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Dibenzofuran	1.10E-02	2.15	5.10E-01	15	58	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Dibenzofuran	1.00E-02 J	2.23	4.48E-01	15	58	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Dibenzofuran	5.60E-03	0.33	1.72E+00	0.54	0.7	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Dibenzofuran	3.00E-03 J	0.81	3.70E-01	15	58	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	3 - 3.7	Dibenzofuran	2.00E-03 J	0.077	2.60E+00	0.54	0.7	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Dimethylphthalate	7.70E-02 J	1.6	4.81E+00	53	53	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Dimethylphthalate	3.80E-02 J	1.84	2.07E+00	61	110	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Dimethylphthalate	3.70E-02 J	1.98	1.87E+00	61	110	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Dimethylphthalate	2.40E-02 J	5.02	4.78E-01	0.071	0.16	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Dimethylphthalate	1.20E-02 JD	1.88	6.40E-01	61	110	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Di-n-butyl phthalate	4.00E-02 J	4.69	8.50E-01	1.4	5.1	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Di-n-butyl phthalate	2.50E-02	5.02	4.98E-01	1.4	5.1	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Di-n-butyl phthalate	2.20E-02	5.25	4.19E-01	1.4	5.1	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Di-n-butyl phthalate	2.00E-02	1.54	1.30E+00	220	1700	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Di-n-butyl phthalate	1.30E-02 J	2.15	6.00E-01	220	1700	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Di-n-butyl phthalate	1.10E-02 J	2.19	5.00E-01	220	1700	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Di-n-octyl phthalate	2.20E-01	3.02	7.28E+00	58	4500	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Di-n-octyl phthalate	6.40E-02 J	2.05	3.12E+00	58	4500	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Di-n-octyl phthalate	4.20E-02 J	1.84	2.28E+00	58	4500	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Di-n-octyl phthalate	3.80E-02	2.23	1.70E+00	58	4500	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Di-n-octyl phthalate	2.00E-02	1.89	1.06E+00	58	4500	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Di-n-octyl phthalate	1.30E-02 J	2.59	5.02E-01	58	4500	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Di-n-octyl phthalate	1.20E-02 J	1.6	7.50E-01	58	4500	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-02	3/10/2010	0 - 0.3	Dioxin/furan - TEQ	5.11E-06							
Post-Dredge Subsurface Sediment Characterization 2010	SG-01	3/10/2010	0 - 0.3	Dioxin/furan - TEQ	4.56E-06							
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	Dioxin/furan - TEQ	1.90E-06							
Post-Dredge Subsurface Sediment Characterization 2010	SG-04	3/10/2010	0 - 0.3	Dioxin/furan - TEQ	1.89E-06							
Terminal 115 Sediment Characterization	S1-02	1/27/2010	1.5 - 2.5	Dioxin/furan TEQ - ITEF	5.41E-05	2.07	2.61E-03					
Terminal 115 Sediment Characterization	S2-02	1/27/2010	1 - 2	Dioxin/furan TEQ - ITEF	4.15E-05	2.07	2.00E-03					
Terminal 115 Sediment Characterization	S2-01	1/27/2010	0 - 1	Dioxin/furan TEQ - ITEF	3.86E-05	2.07	1.86E-03					
Terminal 115 Sediment Characterization	S2-01	1/27/2010	1 - 2	Dioxin/furan TEQ - ITEF	3.33E-05	2.07	1.61E-03					
Terminal 115 Sediment Characterization	S2-02	1/27/2010	0 - 1	Dioxin/furan TEQ - ITEF	3.12E-05	2.07	1.51E-03					
Terminal 115 Sediment Characterization	S2-02	1/27/2010	2 - 3	Dioxin/furan TEQ - ITEF	3.12E-05	2.07	1.51E-03					
Terminal 115 Sediment Characterization	S2-CS	1/27/2010	C	Dioxin/furan TEQ - ITEF	2.99E-05	2.07	1.44E-03					
Terminal 115 Sediment Characterization	S2-01	1/27/2010	2 - 3	Dioxin/furan TEQ - ITEF	2.83E-05	2.07	1.37E-03					
Terminal 115 Sediment Characterization	S1-CS	1/27/2010	C	Dioxin/furan TEQ - ITEF	2.32E-05	2.07	1.12E-03					
Terminal 115 Sediment Characterization	S1-02	1/27/2010	0.5 - 1.5	Dioxin/furan TEQ - ITEF	1.79E-05	2.07	8.65E-04					
Terminal 115 Sediment Characterization	S1-01	1/27/2010	0 - 1	Dioxin/furan TEQ - ITEF	1.43E-05	2.07	6.91E-04					
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-2	1/27/2010	0 - 1	Dioxin/furan TEQ - Mammal - Half DL	7.61E-06	2.07	3.68E-04					
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	1/27/2010	3 - 3.7	Dioxin/furan TEQ - Mammal - Half DL	6.69E-06	2.07	3.23E-04					

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-2	1/27/2010	2 - 3	Dioxin/furan TEQ - Mammal - Half DL	6.39E-06	2.07	3.09E-04					
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-2	1/27/2010	1 - 2	Dioxin/furan TEQ - Mammal - Half DL	6.37E-06	2.07	3.08E-04					
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-2	1/27/2010	3 - 4	Dioxin/furan TEQ - Mammal - Half DL	6.20E-06	2.07	2.99E-04					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Fluoranthene	4.70E+01	2.59	1.81E+03	160	1200	mg/kg OC	11	1.5
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Fluoranthene	7.40E+00 J	1.98	3.74E+02	160	1200	mg/kg OC	2.3	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Fluoranthene	2.70E+00 D	1.01	2.67E+02	160	1200	mg/kg OC	1.7	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Fluoranthene	2.40E+00	1.84	1.30E+02	160	1200	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Fluoranthene	2.00E+00 J	1.6	1.25E+02	160	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Fluoranthene	1.60E+00 D	1.3	1.21E+01	160	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Fluoranthene	1.30E+00	2.19	5.94E+01	160	1200	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Fluoranthene	1.30E+00 J	3.02	4.30E+01	160	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Fluoranthene	1.20E+00 D	4.69	2.56E+01	1.7	2.5	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Fluoranthene	1.20E+00	5.02	2.39E+01	1.7	2.5	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Fluoranthene	1.10E+00	3.53	3.12E+01	160	1200	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Fluoranthene	1.00E+00 J	1.92	5.21E+01	160	1200	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Fluoranthene	8.10E-01	2.9	2.79E+01	160	1200	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Fluoranthene	7.30E-01	5.25	1.39E+01	1.7	2.5	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Fluoranthene	6.50E-01	2.23	2.91E+01	160	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Fluoranthene	4.50E-01	0.33	1.38E+02	1.7	2.5	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Fluoranthene	4.50E-01	2.04	2.21E+01	160	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Fluoranthene	4.00E-01	1.94	2.06E+01	160	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Fluoranthene	3.50E-01	2.44	1.43E+01	160	1200	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Fluoranthene	3.30E-01	1.86	1.77E+01	160	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Fluoranthene	3.30E-01 D	1.88	1.30E+01	160	1200	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Fluoranthene	3.30E-01	1.89	1.75E+01	160	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Fluoranthene	3.10E-01	1.54	2.01E+01	160	1200	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Fluoranthene	3.00E-01	1.91	1.57E+01	160	1200	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Fluoranthene	3.00E-01	2.05	1.46E+01	160	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Fluoranthene	2.80E-01	2.15	1.30E+01	160	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Fluoranthene	2.30E-01	1.6	1.44E+01	160	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-02*	3/10/2010	0 - 0.3	Fluoranthene	2.10E-01	0.091	2.31E+02	1.7	2.5	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Fluoranthene	1.20E-01	2.08	5.77E+00	160	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Fluoranthene	4.20E-02	0.81	5.16E+00	160	1200	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-03*	3/10/2010	0 - 0.3	Fluoranthene	1.41E-02	0.185	7.62E+00	1.7	2.5	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	3 - 3.7	Fluoranthene	4.40E-03	0.077	5.71E+00	1.7	2.5	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-04*	3/10/2010	0 - 0.3	Fluoranthene	3.70E-03	0.067	5.52E+00	1.7	2.5	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-01*	3/10/2010	0 - 0.3	Fluoranthene	3.70E-03	0.068	5.44E+00	1.7	2.5	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Fluorene	2.20E-01	2.59	8.49E+00	23	79	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Fluorene	2.00E-01	2.19	9.13E+00	23	79	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Fluorene	1.60E-01 D	1.3	1.23E+01	23	79	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Fluorene	1.50E-01 D	1.01	1.49E+01	23	79	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Fluorene	1.30E-01	3.53	3.68E+00	23	79	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Fluorene	1.10E-01 D	4.69	2.35E+00	0.54	1	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Fluorene	6.60E-02	5.02	1.31E+00	0.54	1	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Fluorene	5.50E-02 J	1.6	3.44E+00	23	79	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Fluorene	5.50E-02 J	1.84	2.99E+00	23	79	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Fluorene	4.00E-02 J	1.98	2.02E+00	23	79	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Fluorene	3.90E-02	5.25	7.43E-01	0.54	1	mg/kg DW	<1	<1

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Fluorene	3.10E-02	1.94	1.60E+00	23	79	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Fluorene	2.70E-02	2.44	1.11E+00	23	79	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Fluorene	2.60E-02 D	1.88	7.40E-01	23	79	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Fluorene	2.50E-02	1.54	1.62E+00	23	79	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Fluorene	2.50E-02	1.6	1.56E+00	23	79	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Fluorene	2.40E-02	2.04	1.18E+00	23	79	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Fluorene	1.70E-02 J	2.23	7.62E-01	23	79	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Fluorene	1.60E-02	2.15	7.40E-01	23	79	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Fluorene	1.40E-02	0.33	4.29E+00	0.54	1	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Fluorene	3.60E-03	0.81	4.40E-01	23	79	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-02*	3/10/2010	0 - 0.3	Fluorene	2.10E-03 J	0.091	2.31E+00	0.54	1	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-03*	3/10/2010	0 - 0.3	Fluorene	1.60E-03 J	0.185	8.65E-01	0.54	1	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	HpCDD, total	4.41E-05							
Post-Dredge Subsurface Sediment Characterization 2010	SG-04	3/10/2010	0 - 0.3	HpCDD, total	2.57E-05							
Post-Dredge Subsurface Sediment Characterization 2010	SG-02	3/10/2010	0 - 0.3	HpCDD, total	1.71E-05							
Post-Dredge Subsurface Sediment Characterization 2010	SG-01	3/10/2010	0 - 0.3	HpCDD, total	1.37E-05							
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	HpCDF, total	6.73E-06							
Post-Dredge Subsurface Sediment Characterization 2010	SG-04	3/10/2010	0 - 0.3	HpCDF, total	6.09E-06							
Post-Dredge Subsurface Sediment Characterization 2010	SG-02	3/10/2010	0 - 0.3	HpCDF, total	3.16E-06 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-01	3/10/2010	0 - 0.3	HpCDF, total	2.78E-06 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	HxCDD, total	4.17E-06							
Post-Dredge Subsurface Sediment Characterization 2010	SG-04	3/10/2010	0 - 0.3	HxCDD, total	3.19E-06 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-02	3/10/2010	0 - 0.3	HxCDD, total	1.87E-06 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-01	3/10/2010	0 - 0.3	HxCDD, total	1.30E-06 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-04	3/10/2010	0 - 0.3	HxCDF, total	2.74E-06 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	HxCDF, total	2.58E-06 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-01	3/10/2010	0 - 0.3	HxCDF, total	1.28E-06 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-02	3/10/2010	0 - 0.3	HxCDF, total	7.31E-07 J							
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Indeno(1,2,3-cd)pyrene	7.30E-01	2.59	2.82E+01	34	88	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Indeno(1,2,3-cd)pyrene	3.50E-01 D	1.3	2.69E+01	34	88	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Indeno(1,2,3-cd)pyrene	3.30E-01 J	1.6	2.06E+01	34	88	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Indeno(1,2,3-cd)pyrene	2.80E-01 J	1.84	1.52E+01	34	88	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Indeno(1,2,3-cd)pyrene	2.70E-01	2.19	1.23E+01	34	88	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Indeno(1,2,3-cd)pyrene	2.10E-01	5.02	4.18E+00	0.6	0.69	mg/kg DW	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Indeno(1,2,3-cd)pyrene	2.00E-01	3.02	6.62E+00	34	88	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Indeno(1,2,3-cd)pyrene	2.00E-01	3.53	5.67E+00	34	88	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Indeno(1,2,3-cd)pyrene	1.90E-01 J	1.98	9.60E+00	34	88	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Indeno(1,2,3-cd)pyrene	1.90E-01	2.44	7.79E+00	34	88	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Indeno(1,2,3-cd)pyrene	1.50E-01 D	4.69	3.20E+00	0.6	0.69	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Indeno(1,2,3-cd)pyrene	1.30E-01	1.54	8.44E+00	34	88	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Indeno(1,2,3-cd)pyrene	1.20E-01 D	1.01	1.19E+01	34	88	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Indeno(1,2,3-cd)pyrene	1.20E-01 D	1.88	5.58E+00	34	88	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Indeno(1,2,3-cd)pyrene	1.20E-01	1.94	6.19E+00	34	88	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Indeno(1,2,3-cd)pyrene	1.20E-01	2.04	5.88E+00	34	88	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Indeno(1,2,3-cd)pyrene	1.20E-01	2.15	5.58E+00	34	88	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Indeno(1,2,3-cd)pyrene	1.20E-01	5.25	2.29E+00	0.6	0.69	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Indeno(1,2,3-cd)pyrene	9.40E-02 J	1.92	4.90E+00	34	88	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Indeno(1,2,3-cd)pyrene	9.20E-02	2.23	4.13E+00	34	88	mg/kg OC	<1	<1

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Indeno(1,2,3-cd)pyrene	7.50E-02 J	2.9	2.59E+00	34	88	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Indeno(1,2,3-cd)pyrene	6.90E-02	1.89	3.65E+00	34	88	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Indeno(1,2,3-cd)pyrene	5.30E-02 J	1.91	2.77E+00	34	88	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Indeno(1,2,3-cd)pyrene	5.20E-02 J	2.05	2.54E+00	34	88	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Indeno(1,2,3-cd)pyrene	5.00E-02 J	1.86	2.69E+00	34	88	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Indeno(1,2,3-cd)pyrene	4.20E-02	1.6	2.63E+00	34	88	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Indeno(1,2,3-cd)pyrene	4.00E-02	0.33	1.23E+01	0.6	0.6	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Indeno(1,2,3-cd)pyrene	2.20E-02	0.81	2.70E+00	34	88	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Indeno(1,2,3-cd)pyrene	1.90E-02 J	2.08	9.13E-01	34	88	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-02*	3/10/2010	0 - 0.3	Indeno(1,2,3-cd)pyrene	6.40E-03	0.091	7.03E+00	0.6	0.69	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-03*	3/10/2010	0 - 0.3	Indeno(1,2,3-cd)pyrene	3.80E-03	0.185	2.05E+00	0.6	0.69	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Lead	1.33E+02	2.23	5.96E+03	450	530	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Lead	8.70E+01	3.02	2.88E+03	450	530	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Lead	7.80E+01	2.05	3.80E+03	450	530	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Lead	7.60E+01	3.53	2.15E+03	450	530	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Lead	7.30E+01	1.91	3.82E+03	450	530	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Lead	7.10E+01	1.89	3.76E+03	450	530	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	Lead	7.10E+01	5.25	1.35E+03	450	530	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	Lead	6.80E+01	5.02	1.35E+03	450	530	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Lead	6.00E+01	2.59	2.32E+03	450	530	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Lead	6.00E+01	2.9	2.07E+03	450	530	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Lead	5.80E+01	1.6	3.63E+03	450	530	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Lead	5.30E+01	1.84	2.88E+03	450	530	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Lead	4.60E+01	2.08	2.21E+03	450	530	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Lead	4.20E+01	1.86	2.26E+03	450	530	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Lead	2.70E+01	1.98	1.36E+03	450	530	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Lead	1.80E+01	1.92	9.38E+02	450	530	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Mercury	2.60E-01	2.9	8.97E+00	0.41	0.59	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Mercury	2.50E-01	3.02	8.28E+00	0.41	0.59	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Mercury	2.10E-01	1.84	1.14E+01	0.41	0.59	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Mercury	2.10E-01	2.59	8.11E+00	0.41	0.59	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Mercury	2.00E-01	1.91	1.05E+01	0.41	0.59	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Mercury	1.70E-01	1.6	1.06E+01	0.41	0.59	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Mercury	1.70E-01	1.86	9.14E+00	0.41	0.59	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Mercury	1.70E-01	2.23	7.62E+00	0.41	0.59	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Mercury	1.60E-01	1.98	8.08E+00	0.41	0.59	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Mercury	1.30E-01	1.92	6.77E+00	0.41	0.59	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	Mercury	1.30E-01	5.02	2.59E+00	0.41	0.59	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Mercury	1.20E-01	2.05	5.85E+00	0.41	0.59	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Mercury	1.10E-01	2.08	5.29E+00	0.41	0.59	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Mercury	1.00E-01	1.89	5.29E+00	0.41	0.59	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Mercury	1.00E-01	3.53	2.83E+00	0.41	0.59	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	Mercury	8.00E-02	5.25	1.52E+00	0.41	0.59	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Molybdenum	4.00E+00	3.02	1.32E+02					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Molybdenum	1.30E+00	2.05	6.34E+01					
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Molybdenum	1.20E+00	1.91	6.28E+01					
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Molybdenum	1.00E+00	1.86	5.38E+01					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Molybdenum	1.00E+00	2.9	3.45E+01					

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Naphthalene	6.90E-02 D	1.3	5.31E+00	99	170	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Naphthalene	5.80E-02	3.53	1.64E+00	99	170	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Naphthalene	4.00E-02	1.54	2.60E+00	99	170	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Naphthalene	3.50E-02 D	1.01	3.47E+00	99	170	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Naphthalene	3.00E-02	2.19	1.37E+00	99	170	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Naphthalene	2.50E-02 D	4.69	5.30E-01	2.1	2.4	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Naphthalene	2.30E-02	0.33	7.06E+00	2.1	2.4	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Naphthalene	1.70E-02 JD	1.88	5.60E-01	99	170	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Naphthalene	1.60E-02	2.04	7.80E-01	99	170	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Naphthalene	1.20E-02 J	1.6	6.10E+00	99	170	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Naphthalene	1.20E-02	1.6	7.50E-01	99	170	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Naphthalene	1.20E-02	2.15	5.60E-01	99	170	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	3 - 3.7	Naphthalene	4.70E-03	0.077	6.10E+00	2.1	2.4	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Naphthalene	4.20E-03	0.81	5.20E-01	99	170	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Nickel	3.60E+01	2.23	1.61E+03					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Nickel	3.50E+01	1.6	2.19E+03					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Nickel	3.30E+01	2.05	1.61E+03					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Nickel	3.20E+01	3.53	9.07E+02					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	Nickel	3.10E+01	5.25	5.90E+02					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Nickel	3.00E+01	2.59	1.16E+03					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Nickel	2.90E+01	1.98	1.46E+03					
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Nickel	2.90E+01	2.08	1.39E+03					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Nickel	2.90E+01	3.02	9.60E+02					
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	Nickel	2.90E+01	5.02	5.78E+02					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Nickel	2.70E+01	1.89	1.43E+03					
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Nickel	2.60E+01	1.84	1.41E+03					
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Nickel	2.60E+01	1.91	1.36E+03					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Nickel	2.60E+01	2.9	8.97E+02					
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Nickel	2.30E+01	1.86	1.24E+03					
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Nickel	2.30E+01	1.92	1.20E+03					
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	N-Nitrosodiphenylamine	1.30E-02 JD	1.88	6.90E-01	11	11	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	N-Nitrosodiphenylamine	9.70E-03	2.04	4.80E-01	11	11	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	N-Nitrosodiphenylamine	3.50E-03	2.15	1.60E-01	11	11	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	OCDD	2.09E-02 J	1.92						
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	OCDD	1.86E-02 J	5.02						
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	OCDD	1.27E-02 J	3.53						
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	OCDD	1.12E-02 J	2.23						
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	OCDD	1.08E-02 J	1.6						
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	OCDD	9.43E-03 J	1.84						
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	OCDD	9.34E-03 J	1.89						
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	OCDD	8.40E-03 J	5.25						
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	OCDD	5.85E-03	2.59						
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	OCDD	5.47E-03	1.98						
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	OCDD	3.11E-03	2.08						
Post-Dredge Subsurface Sediment Characterization 2010	SG-04	3/10/2010	0 - 0.3	OCDD	2.38E-04							
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	OCDD	2.03E-04							
Post-Dredge Subsurface Sediment Characterization 2010	SG-02	3/10/2010	0 - 0.3	OCDD	6.53E-05 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-01	3/10/2010	0 - 0.3	OCDD	4.52E-05							

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	3.0 - 3.7	OCDD	2.90E-05 BJ	0.077						
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-2	3/10/2010	1 - 2	OCDD	1.02E-05 BJ	0.054						
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-2	3/10/2010	0 - 1	OCDD	2.57E-06 BJ	0.087						
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	OCDF	4.44E-04	5.02						
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	OCDF	3.63E-04	1.84						
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	OCDF	3.13E-04	1.6						
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	OCDF	3.02E-04	2.23						
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	OCDF	2.99E-04	3.53						
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	OCDF	2.42E-04	2.59						
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	OCDF	2.41E-04	5.25						
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	OCDF	2.34E-04	1.89						
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	OCDF	1.57E-04	1.98						
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	OCDF	1.34E-04	2.08						
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	OCDF	1.27E-04	1.92						
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-2	3/10/2010	3 - 4	OCDF	3.95E-06 BJ	0.052						
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-2	3/10/2010	2 - 3	OCDF	3.55E-06 BJ	0.047						
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	3.0 - 3.7	OCDF	1.11E-06 BJ	0.077						
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-2	3/10/2010	1 - 2	OCDF	2.56E-07 BJK	0.054						
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	PCBs (total calc'd)	5.90E-01	4.69	1.26E+01	0.13	1	mg/kg DW	4.5	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	PCBs (total calc'd)	5.40E-01	0.33	1.66E+02	0.13	1	mg/kg DW	4.2	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	PCBs (total calc'd)	4.25E-01	1.01	4.21E+01	12	65	mg/kg OC	3.5	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	PCBs (total calc'd)	3.70E-01 J	1.86	1.99E+01	12	65	mg/kg OC	1.7	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	PCBs (total calc'd)	3.49E-01	2.44	1.43E+01	12	65	mg/kg OC	1.2	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	PCBs (total calc'd)	3.33E-01	1.54	2.16E+01	12	65	mg/kg OC	1.8	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	PCBs (total calc'd)	3.30E-01	2.15	1.54E+01	12	65	mg/kg OC	1.3	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	PCBs (total calc'd)	3.24E-01	5.02	6.45E+00	0.13	1	mg/kg DW	2.5	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	PCBs (total calc'd)	3.11E-01	1.88	1.65E+01	12	65	mg/kg OC	1.4	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	PCBs (total calc'd)	3.02E-01	1.3	2.32E+01	12	65	mg/kg OC	1.9	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	PCBs (total calc'd)	2.97E-01	2.23	1.33E+01	12	65	mg/kg OC	1.1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	PCBs (total calc'd)	2.94E-01	1.94	1.52E+01	12	65	mg/kg OC	1.3	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	PCBs (total calc'd)	2.82E-01	2.04	1.38E+01	12	65	mg/kg OC	1.2	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	PCBs (total calc'd)	2.80E-01	3.02	9.27E+00	12	65	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	PCBs (total calc'd)	2.64E-01	1.89	1.40E+01	12	65	mg/kg OC	1.2	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	PCBs (total calc'd)	2.50E-01	2.05	1.22E+01	12	65	mg/kg OC	1.0	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	PCBs (total calc'd)	2.34E-01	3.53	6.63E+00	12	65	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	PCBs (total calc'd)	2.14E-01	2.19	9.77E+00	12	65	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	PCBs (total calc'd)	2.10E-01	2.9	7.24E+00	12	65	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	PCBs (total calc'd)	2.03E-01	0.81	2.49E+01	12	65	mg/kg OC	2.1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	PCBs (total calc'd)	1.77E-01	1.6	6.10E+00	12	65	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	PCBs (total calc'd)	1.77E-01	5.25	3.37E+00	0.13	1	mg/kg DW	1.4	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	PCBs (total calc'd)	1.72E-01	1.84	9.35E+00	12	65	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	PCBs (total calc'd)	1.50E-01 J	1.91	7.85E+00	12	65	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	PCBs (total calc'd)	1.41E-01	2.59	5.44E+00	12	65	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	PCBs (total calc'd)	1.26E-01	1.98	6.36E+00	12	65	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	PCBs (total calc'd)	1.12E-01	1.6	7.00E+00	12	65	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	PCBs (total calc'd)	8.60E-02	2.08	4.13E+00	12	65	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	PCBs (total calc'd)	7.80E-02	1.92	4.06E+00	12	65	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-04	3/10/2010	0 - 0.3	PeCDD, total	1.01E-07 J							

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	PeCDD, total	9.08E-08 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	PeCDF, total	7.74E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-04	3/10/2010	0 - 0.3	PeCDF, total	4.85E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-02	3/10/2010	0 - 0.3	PeCDF, total	3.72E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-01	3/10/2010	0 - 0.3	PeCDF, total	1.73E-07 J							
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Pentachlorophenol	1.60E-01	1.89	8.47E+00	0.36	0.69	mg/kg DW	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Pentachlorophenol	7.60E-02	2.9	2.62E+00	0.36	0.69	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Pentachlorophenol	3.10E-02 J	1.54		0.36	0.69	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Phenanthrene	1.10E+00	2.19	5.02E+01	100	480	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Phenanthrene	5.10E-01	2.59	1.97E+01	100	480	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Phenanthrene	5.00E-01 J	1.98	2.53E+01	100	480	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Phenanthrene	4.40E-01	5.02	8.76E+00	1.5	5.4	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Phenanthrene	4.30E-01	3.53	1.22E+01	100	480	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Phenanthrene	3.90E-01 J	1.6	2.44E+01	100	480	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Phenanthrene	3.40E-01 J	3.02	1.13E+01	100	480	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Phenanthrene	3.20E-01 J	1.84	1.74E+01	100	480	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Phenanthrene	2.90E-01 D	1.3	2.23E+01	100	480	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Phenanthrene	2.80E-01	2.9	9.66E+00	100	480	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Phenanthrene	2.80E-01	5.25	5.33E+00	1.5	5.4	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Phenanthrene	2.70E-01 D	4.69	5.76E+00	1.5	5.4	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Phenanthrene	2.20E-01	1.94	1.13E+01	100	480	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Phenanthrene	2.00E-01 D	1.01	1.98E+01	100	480	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Phenanthrene	1.60E-01	1.89	8.47E+00	100	480	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Phenanthrene	1.40E-01	2.44	5.74E+00	100	480	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Phenanthrene	1.30E-01	1.54	8.44E+00	100	480	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Phenanthrene	1.30E-01 D	1.88	5.12E+00	100	480	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Phenanthrene	1.30E-01	2.04	6.37E+00	100	480	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Phenanthrene	1.20E-01	1.6	7.50E+00	100	480	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Phenanthrene	1.10E-01	1.86	5.91E+00	100	480	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Phenanthrene	1.10E-01	2.05	5.37E+00	100	480	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Phenanthrene	1.10E-01	2.15	5.12E+00	100	480	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Phenanthrene	9.90E-02	2.23	4.44E+00	100	480	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Phenanthrene	9.20E-02	1.91	4.82E+00	100	480	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Phenanthrene	8.60E-02 J	1.92	4.48E+00	100	480	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Phenanthrene	2.60E-02	2.08	1.25E+00	100	480	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Phenanthrene	2.30E-02	0.81	2.83E+00	100	480	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Phenanthrene	2.00E-02	0.33	6.13E+00	1.5	5.4	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-02*	3/10/2010	0 - 0.3	Phenanthrene	1.00E-02	0.091	1.10E+01	1.5	5.4	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-03*	3/10/2010	0 - 0.3	Phenanthrene	5.00E-03	0.185	2.70E+00	1.5	5.4	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-04*	3/10/2010	0 - 0.3	Phenanthrene	1.60E-03 J	0.067	2.39E+00	1.5	5.4	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	3 - 3.7	Phenanthrene	1.60E-03 J	0.077	2.08E+00	1.5	5.4	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Phenol	6.80E-02 J	1.84	3.70E+00	420	1200	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Phenol	3.70E-02 J	1.6	6.10E+00	420	1200	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Phenol	2.20E-02 J	1.98	1.11E+00	420	1200	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	Phenol	2.20E-02 J	5.02	4.38E-01	0.42	1.2	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Phenol	2.00E-02 JD	1.88		0.42	1.2	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Phenol	2.00E-02 J	3.53	5.67E-01	0.42	1.2	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Phenol	1.80E-02 J	2.15		0.42	1.2	mg/kg DW	<1	<1

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Phenol	1.60E-02	2.04		0.42	1.2	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Phenol	1.30E-02 J	1.54		0.42	1.2	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Phenol	8.60E-03	2.19		0.42	1.2	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Phenol	2.40E-03 J	1.6		0.42	1.2	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Pyrene	3.40E+01	2.59	1.31E+03	1000	1400	mg/kg OC	1.3	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Pyrene	9.00E+00 D	1.3	6.92E+02	1000	1400	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Pyrene	8.50E+00	3.53	2.41E+02	1000	1400	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Pyrene	5.50E+00 J	1.98	2.78E+02	1000	1400	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Pyrene	4.60E+00	5.02	9.16E+01	2.6	3.3	mg/kg DW	1.8	1.4
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Pyrene	3.30E+00 J	1.6	2.06E+02	1000	1400	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Pyrene	2.90E+00	1.84	1.58E+02	1000	1400	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Pyrene	2.60E+00 D	1.01	2.57E+02	1000	1400	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Pyrene	1.60E+00	5.25	3.05E+01	2.6	3.3	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Pyrene	1.50E+00	2.23	6.73E+01	1000	1400	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Pyrene	1.40E+00 J	1.92	7.29E+01	1000	1400	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Pyrene	1.30E+00 D	4.69	2.77E+01	2.6	3.3	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Pyrene	1.20E+00 D	0.33	3.68E+02	2.6	3.3	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Pyrene	1.10E+00 D	1.54	7.14E+01	1000	1400	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Pyrene	1.10E+00	1.89	5.82E+01	1000	1400	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Pyrene	9.90E-01	2.19	4.52E+01	1000	1400	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Pyrene	9.20E-01 J	3.02	3.05E+01	1000	1400	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Pyrene	8.60E-01	2.04	4.22E+01	1000	1400	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Pyrene	8.40E-01 D	1.88	2.00E+01	1000	1400	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Pyrene	8.00E-01	2.44	3.28E+01	1000	1400	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Pyrene	5.40E-01	2.9	1.86E+01	1000	1400	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Pyrene	5.30E-01	1.91	2.77E+01	1000	1400	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Pyrene	5.20E-01	1.94	2.68E+01	1000	1400	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Pyrene	4.90E-01	1.86	2.63E+01	1000	1400	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Pyrene	4.60E-01	2.05	2.24E+01	1000	1400	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Pyrene	4.30E-01	2.15	2.00E+01	1000	1400	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Pyrene	1.90E-01	1.6	1.19E+01	1000	1400	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Pyrene	1.40E-01 J	2.08	6.73E+00	1000	1400	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-02*	3/10/2010	0 - 0.3	Pyrene	6.10E-02	0.091	6.70E+01	2.6	3.3	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Pyrene	5.80E-02	0.81	7.13E+00	1000	1400	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	3 - 3.7	Pyrene	2.30E-02 D	0.077	2.99E+01	2.6	3.3	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-03*	3/10/2010	0 - 0.3	Pyrene	2.01E-02	0.185	1.09E+01	2.6	3.3	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-04*	3/10/2010	0 - 0.3	Pyrene	4.50E-03	0.067	6.72E+00	2.6	3.3	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-01*	3/10/2010	0 - 0.3	Pyrene	4.30E-03	0.068	6.32E+00	2.6	3.3	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-2*	3/10/2010	3 - 4	Pyrene	1.60E-03 J	0.052	3.08E+00	2.6	3.3	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Selenium	6.00E-01	1.98	3.03E+01					
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Selenium	5.00E-01	1.84	2.72E+01					
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Selenium	4.00E-01	2.08	1.92E+01					
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Selenium	4.00E-01	2.59	1.54E+01					
Post-Dredge Subsurface Sediment Characterization 2010	SG-01	3/10/2010	0 - 0.3	TCDD, total	2.23E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	TCDD, total	1.28E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-02	3/10/2010	0 - 0.3	TCDF, total	1.48E-06							
Post-Dredge Subsurface Sediment Characterization 2010	SG-01	3/10/2010	0 - 0.3	TCDF, total	9.01E-07 J							
Post-Dredge Subsurface Sediment Characterization 2010	SG-03	3/10/2010	0 - 0.3	TCDF, total	6.13E-07 J							

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Post-Dredge Subsurface Sediment Characterization 2010	SG-04	3/10/2010	0 - 0.3	TCDF, total	4.73E-07 J							
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Total HPAH (calc'd)	1.23E+02	2.59	4.75E+03	960	5300	mg/kg OC	4.9	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Total HPAH (calc'd)	1.95E+01 J	1.98	9.84E+02	960	5300	mg/kg OC	1.0	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Total HPAH (calc'd)	1.86E+01	1.3	1.43E+03	960	5300	mg/kg OC	1.5	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Total HPAH (calc'd)	1.52E+01	3.53	4.31E+02	960	5300	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Total HPAH (calc'd)	1.18E+01	5.02	2.36E+02	12	17	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Total HPAH (calc'd)	1.15E+01 J	1.6	7.21E+02	960	5300	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Total HPAH (calc'd)	1.07E+01	1.84	5.82E+02	960	5300	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Total HPAH (calc'd)	8.24E+00	1.01	8.15E+02	960	5300	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Total HPAH (calc'd)	5.48E+00	5.25	1.04E+02	12	17	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Total HPAH (calc'd)	5.38E+00	2.19	2.46E+02	960	5300	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Total HPAH (calc'd)	5.28E+00	2.23	2.37E+02	960	5300	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Total HPAH (calc'd)	5.20E+00 J	3.02	1.72E+02	960	5300	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Total HPAH (calc'd)	4.73E+00	4.69	1.01E+02	12	17	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Total HPAH (calc'd)	4.14E+00 J	1.92	2.16E+02	960	5300	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Total HPAH (calc'd)	3.13E+00	2.44	1.28E+02	960	5300	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Total HPAH (calc'd)	3.00E+00 J	2.9	1.03E+02	960	5300	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Total HPAH (calc'd)	2.97E+00	1.89	1.57E+02	960	5300	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Total HPAH (calc'd)	2.94E+00	0.33	9.02E+02	12	17	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Total HPAH (calc'd)	2.79E+00	1.54	1.81E+02	960	5300	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Total HPAH (calc'd)	2.63E+00	2.04	1.29E+02	960	5300	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Total HPAH (calc'd)	2.40E+00	1.88	8.71E+01	960	5300	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Total HPAH (calc'd)	2.24E+00	1.94	1.15E+02	960	5300	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Total HPAH (calc'd)	2.13E+00 J	1.86	1.15E+02	960	5300	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Total HPAH (calc'd)	2.10E+00 J	1.91	1.10E+02	960	5300	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Total HPAH (calc'd)	1.87E+00	2.15	8.71E+01	960	5300	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Total HPAH (calc'd)	1.71E+00 J	2.05	8.34E+01	960	5300	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Total HPAH (calc'd)	8.66E-01	1.6	5.41E+01	960	5300	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Total HPAH (calc'd)	5.88E-01	2.08	2.83E+01	960	5300	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-02*	3/10/2010	0 - 0.3	Total HPAH (calc'd)	4.81E-01	0.091	5.28E+02	12	17	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Total HPAH (calc'd)	2.95E-01	0.81	3.63E+01	960	5300	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-03*	3/10/2010	0 - 0.3	Total HPAH (calc'd)	8.27E-02	0.185	4.47E+01	12	17	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	3 - 3.7	Total HPAH (calc'd)	4.16E-02	0.077	5.40E+01	12	17	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-01*	3/10/2010	0 - 0.3	Total HPAH (calc'd)	2.18E-02	0.068	3.21E+01	12	17	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-04*	3/10/2010	0 - 0.3	Total HPAH (calc'd)	1.81E-02	0.067	2.70E+01	12	17	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-2*	3/10/2010	0 - 1	Total HPAH (calc'd)	3.40E-03	0.087	3.93E+00	12	17	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-2*	3/10/2010	3 - 4	Total HPAH (calc'd)	1.60E-03	0.052	3.08E+00	12	17	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Total LPAH (calc'd)	2.34E+00	2.59	9.03E+01	370	780	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	3 - 4	Total LPAH (calc'd)	1.90E+00	2.19	8.69E+01	370	780	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Total LPAH (calc'd)	1.05E+00	3.53	2.97E+01	370	780	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	1 - 2	Total LPAH (calc'd)	9.81E-01	1.3	7.55E+01	370	780	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01*	1/27/2010	2 - 3	Total LPAH (calc'd)	9.23E-01	4.69	1.97E+01	5.2	13	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	3 - 4	Total LPAH (calc'd)	8.93E-01	1.01	8.84E+01	370	780	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Total LPAH (calc'd)	8.83E-01 J	1.6	5.52E+01	370	780	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Total LPAH (calc'd)	8.73E-01	1.98	4.41E+01	370	780	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-02*	3/14/2008	1 - 2	Total LPAH (calc'd)	8.69E-01	5.02	1.73E+01	5.2	13	mg/kg DW	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Total LPAH (calc'd)	7.15E-01	1.84	3.89E+01	370	780	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Total LPAH (calc'd)	5.00E-01 J	3.02	1.66E+01	370	780	mg/kg OC	<1	<1

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor
Terminal 115 Sediment Characterization	S2-01*	3/14/2008	2 - 3	Total LPAH (calc'd)	4.88E-01	5.25	9.30E+00	5.2	13	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	1 - 2	Total LPAH (calc'd)	3.76E-01	1.94	1.94E+01	370	780	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Total LPAH (calc'd)	3.60E-01 J	2.9	1.24E+01	370	780	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	1 - 2	Total LPAH (calc'd)	3.06E-01	1.54	1.99E+01	370	780	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Total LPAH (calc'd)	2.84E-01	2.23	1.27E+01	370	780	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	0 - 1	Total LPAH (calc'd)	2.84E-01	2.44	1.16E+01	370	780	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2	3/10/2010	0 - 1	Total LPAH (calc'd)	2.56E-01	1.88	9.91E+00	370	780	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-05-3-2	3/10/2010	0 - 1	Total LPAH (calc'd)	2.49E-01	2.04	1.22E+01	370	780	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-02	1/27/2010	2 - 3	Total LPAH (calc'd)	2.18E-01	1.6	1.36E+01	370	780	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-01	1/27/2010	0 - 1	Total LPAH (calc'd)	2.13E-01	2.15	9.91E+00	370	780	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Total LPAH (calc'd)	2.12E-01	1.89	1.12E+01	370	780	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Total LPAH (calc'd)	1.80E-01	1.86	9.68E+00	370	780	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	1.5 - 2.5	Total LPAH (calc'd)	1.56E-01	1.92	8.13E+00	370	780	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Total LPAH (calc'd)	1.35E-01 J	1.91	7.07E+00	370	780	mg/kg OC	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Total LPAH (calc'd)	1.10E-01	2.05	5.37E+00	370	780	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	2 - 3	Total LPAH (calc'd)	1.05E-01	0.33	3.23E+01	5.2	13	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-04-3	3/10/2010	0 - 1	Total LPAH (calc'd)	4.74E-02	0.81	5.82E+00	370	780	mg/kg OC	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Total LPAH (calc'd)	3.70E-02	2.08	1.78E+00	370	780	mg/kg OC	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-02*	3/10/2010	0 - 0.3	Total LPAH (calc'd)	2.71E-02	0.091	2.98E+01	5.2	13	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-03*	3/10/2010	0 - 0.3	Total LPAH (calc'd)	1.10E-02	0.185	5.95E+00	5.2	13	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SG-04*	3/10/2010	0 - 0.3	Total LPAH (calc'd)	1.60E-03	0.067	2.39E+00	5.2	13	mg/kg DW	<1	<1
Post-Dredge Subsurface Sediment Characterization 2010	SC-03-2*	3/10/2010	3 - 3.7	Total LPAH (calc'd)	1.60E-03	0.077	2.08E+00	5.2	13	mg/kg DW	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Vanadium	7.13E+01	1.86	3.83E+03					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Vanadium	6.75E+01	2.9	2.33E+03					
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Vanadium	6.61E+01	1.91	3.46E+03					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Vanadium	6.57E+01	3.02	2.18E+03					
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Vanadium	6.04E+01	2.05	2.95E+03					
Terminal 115 Sediment Characterization	S2-01	3/14/2008	0 - 1	Zinc	2.66E+02	2.23	1.19E+04	410	960	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	1 - 2	Zinc	2.53E+02	3.02	8.38E+03	410	960	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	1 - 2	Zinc	2.13E+02	1.89	1.13E+04	410	960	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-01	3/14/2008	2 - 3	Zinc	2.12E+02	5.25	4.04E+03	410	960	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	2 - 4	Zinc	2.11E+02	1.91	1.10E+04	410	960	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	2 - 3	Zinc	1.95E+02	3.53	5.52E+03	410	960	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-CS	3/14/2008	C	Zinc	1.88E+02	1.84	1.02E+04	410	960	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	0 - 1	Zinc	1.88E+02	2.9	6.48E+03	410	960	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	1 - 2	Zinc	1.79E+02	5.02	3.57E+03	410	960	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S2-02	3/14/2008	0 - 1	Zinc	1.72E+02	1.6	1.08E+04	410	960	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-CS	3/14/2008	C	Zinc	1.55E+02	2.59	5.98E+03	410	960	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC34	2/17/2006	2 - 4	Zinc	1.36E+02	2.05	6.63E+03	410	960	mg/kg	<1	<1
LDW Subsurface Sediment 2006	LDW-SC35	2/14/2006	0 - 2	Zinc	1.20E+02	1.86	6.45E+03	410	960	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-02	3/14/2008	0.5 - 1.5	Zinc	1.15E+02	1.98	5.81E+03	410	960	mg/kg	<1	<1
Terminal 115 Sediment Characterization	S1-01	3/14/2008	0 - 1	Zinc	9.60E+01	2.08	4.62E+03	410	960	mg/kg	<1	<1
Terminal 115 Sediment Characterizatior	S1-02	3/14/2008	1.5 - 2.5	Zinc	8.80E+01	1.92	4.58E+03	410	960	mg/kg	<1	<1

Table A-2
Chemicals Detected in Subsurface Sediment Samples
Adjacent to the Terminal 115 Source Control Area

Event Name	Location Name	Date Collected	Sample Depth (feet)	Chemical	Conc'n (mg/kg DW)	TOC %	Conc'n (mg/kg OC)	SQS	CSL	Units	SQS Exceedance Factor	CSL Exceedance Factor

mg/kg - Milligram per kilogram
DW - Dry weight
TOC - Total Organic Carbon
OC - Organic carbon normalized
SQS - SMS Sediment Quality Standard
CSL - SMS Cleanup Screening Level
PAH - Polycyclic aromatic hydrocarbon

Total HPAH - Total high molecular weight PAH
Total LPAH - Total low molecular weight PAH
PCB - Polychlorinated biphenyl
SMS - Sediment Management Standard (Washington Administrative Code 173-204)
B - The analyte was found in the associated method blank at a level that is significant relative to the sample result
C - Composite sample
J - Estimated value between the method detection limit and the laboratory reporting limit

Table presents detected chemicals only.

Exceedance factors are the ratio of the detected concentrations to the CSL or SQS; exceedance factors are shown only if they are greater than 1.

Chemicals with exceedance factors are shaded.

Sampling events are listed in Table 1.

* Due to the TOC in this sample, results were compared to the Lowest Apparent Effects Threshold (LAET) or the second LAET (2LAET) value rather than the SQS and/or CSL. The LAET is functionally equivalent to the SQS and the 2LAET is functionally equivalent to the CSL. OC-normalization is not considered to be appropriate for when TOC concentrations are less than or equal to 0.5 percent or greater than or equal to 4.0 percent.

Appendix B

Historical Aerial Photograph Review

Appendix B

Lower Duwamish Waterway
RM 1.6-2.0 West (Terminal 115)
Historical Aerial Photograph Review

In an effort to more thoroughly understand and evaluate historical facility operations and development within the RM 1.6-2.0 West (Terminal 115) source control area, SAIC reviewed historical aerial photographs from 1936 to 2004. These photographs represent conditions from roughly each decade. Additional photographs from supplementary years are available; however, if during a cursory assessment there were no apparent changes, photographs less than a decade apart were not included in this summary. Aerial photographs for years 1936, 1956, 1960, 1969, 1974, 1977, 1985, 1993, 1995, 1999, 2001, 2004, and 2006 are described below.

1936

The area currently referred to as Terminal 115 was non-existent in 1936 (Figure B-1). Prior to industrial development, a tidally influenced island (Foss Island) was present in the central and northern portion of the area. The island is surrounded by a wide oxbow meander of the Duwamish River. Large rafts of floating lumber are stored around the island and to the north. Additional lumber storage is located on the west shore of the Duwamish River. West Marginal Way SW is easily identified along the shoreline, and small, sparsely located buildings are also present.

Boeing Plant 1 is located on the southern portion of the property (area currently occupied by Seafreeze). Large buildings, including Boeing's Administration Building (Building 1-01, currently occupied by Haslund MP), Main Factory (Building 1-02), and Assembly Building (Building 1-03), as well as multiple smaller outbuildings, were constructed prior to 1936.

The surrounding area, including the hillside to the west of West Marginal Way SW, is generally undeveloped. Initial stages of logging may have occurred and a mill or elevator of some sort is present at the base of the hillside. A large area of scrubland located to the south is relatively undeveloped. The historical McAllister Slough discharged into the Duwamish River on the west side of Boeing Plant 1. The Puget Sound Brick and Tile building (current location of Pacific Plumbing Supply) is visible along the western shoreline of McAllister Slough.

1956

This photograph documents the increased development that has taken place along the LDW (Figure B-2). Foss Island remains relatively unchanged and log rafts continue to be stored around it. Shoreline development along the west side of the LDW has increased and several small buildings are present.

Additional buildings, including a foundry, hammer shop, and aluminum foundry, are present at the Boeing Plant 1 location. An area between Boeing Plant 1 and West Marginal Way SW has been developed and includes several buildings.

Construction of expanded southbound lanes for the 1st Avenue S Bridge is underway and associated clearing and road development has taken place in this area. The Puget Sound Brick and Tile building has been demolished. A building has been constructed in the current location of Lloyd Electric.

1960

Significant development has occurred in the area including initial backfilling activities between the shoreline and Foss Island (Figure B-3). Dirt roads are clearly visible over areas that were previously only tidally exposed. Floating lumber log rafts are still present in the same vicinity. A narrow pier extends a short distance out into the LDW from the east side of the island.

Klinker Sand and Gravel's operations are visible on the east side of West Marginal Way SW and north of Boeing Plant 1. Boeing Plant 1 remains relatively unchanged.

Construction associated with the expansion of the 1st Avenue S Bridge appears to be complete. All remnants associated with the old bridge have been entirely removed and additional road construction activities appear to be complete.

1969

A significant amount of development has occurred in the local area (Figure B-4). Construction material and equipment appear to be present across the local area, except on the Boeing Plant 1 property. A retaining wall and/or sheet pilings, associated with backfill and dewatering processes during the construction of the present day Terminal 115 area, appear to have been installed at two locations on the former Foss Island. Two lagoons, constructed as part of the filling operations to construct Terminal 115, are located on the former Foss Island and north of the former island. Light-colored fill material, visible in this photograph, is believed to be composed of cement kiln dust (CKD).

The MRI Corporation building is visible in the area currently occupied by Commercial Fence (Terminal 115 North). A rectangular building (currently occupied by Aluminum & Bronze) has been constructed on the west side of West Marginal Way SW. Ready-Mix Concrete (formerly Klinker Sand and Gravel) is operating east of West Marginal Way SW and north of Boeing Plant 1. Several other smaller buildings are located in the same vicinity.

An additional parking area has been constructed on the east side of Boeing Plant 1. Two rectangular shaped shoreline areas, located on the east and west side of the 1st Avenue S Bridge, have been backfilled.

The former McAllister Slough appears to be entirely buried by fill material and may have been redirected into underground culverts, discharging to an unknown location.

1974

Construction of Terminal 115 is complete and the entire property appears to be paved (Figure B-5). Two large buildings and several smaller buildings are located on the property. The lagoons on the property have been filled and paved as parking areas. All buildings on the east side of West Marginal Way SW and north of SW Michigan Street, including the Boeing Plant 1 buildings, now appear to have been incorporated into the Terminal 115 property.

A three-fingered overwater pier is present toward the southern end of the Terminal 115 property, and several cranes are present, presumably to assist with the loading and/or offloading of barges.

Thousands of vehicles are parked at Terminal 115 and at nearby properties. These vehicles are parked close together and sometimes blocked several cars deep. This may indicate Terminal 115 served as a temporary parking or holding area for these vehicles. These vehicles are not believed to be representative of actual onsite activities or a large number of associated workers.

Glacier Bay is also clearly identifiable along the northern property boundary. The area between Boeing Plant 1 and West Marginal Way SW is filled and McAllister Slough is no longer present.

The Pioneer Industries building south of Highland Park Way SW is present. The building on the current Lloyd Electric property has been demolished.

1977

Operations at Terminal 115 are similar to the operations seen in the 1974 aerial photograph. The buildings associated with Boeing Plant 1 have been removed, with the exception of the Administration Building, the former location of Foss Environmental (Figures B-6a and B-6b). The area currently occupied by the Seafreeze building is being used to store automobiles.

A new building has been constructed at the Lloyd Electric property, and a large building has been constructed at the property currently occupied by Pacific Plumbing Supply. A building has been constructed on the property currently occupied by Pacific Rim and Krueger Sheet Metal.

1985

The Terminal 115 area appears to be predominantly used for storing large cargo containers, semi-truck trailers, and industrial equipment. A large warehouse building of unknown use has been constructed toward the northern side of the property (Figure B-7).

A large warehouse building, currently occupied by Seafreeze, is present on the southern end of the property. A small finger pier is located on the east side of the Seafreeze Building. The Boeing Plant 1 area seems to be fully integrated into Terminal 115 activities and development. Several other small buildings have been constructed in the general area, including the building currently occupied by Catholic Printery, Inc. Increased industrial activities appear to be taking place on the surrounding properties.

1993

Container storage operations have increased at Terminal 115 (Figures B-8a and B-8b). Industrial activities in the area appear to have increased.

1995

A large variety of storage containers are being stored at Terminal 115. Two barges are docked at the three finger pier and northern portion of Terminal 115 (Figure B-9).

The west side of the Seafreeze building has been expanded. Loading or unloading of containers from semi-trucks is being performed at the docking stations on the south side. Two additional small finger piers have been constructed on the west side of the Seafreeze building.

The 1st Avenue S Bridge is undergoing a new expansion. Development associated with the expansion appears to include large-scale re-grading of the area southwest of the interchange between West Marginal Way and the 1st Avenue S Bridge.

1999

Terminal 115 continues to be used for cargo container storage. Relatively few changes or modifications have been made to the property. Several smaller ships are docked at the Terminal 115 pier(s). It appears that some areas have been recently paved with asphalt (Figure B-10).

Construction and redevelopment of the 1st Avenue S Bridge has been completed. A topographical depression or water collection area is now present between 2nd Avenue SW and South Highway 99 and appears to discharge into the Duwamish Waterway under the 1st Avenue S Bridge.

It appears that Emswiler Construction is now operating at the property north of Aluminum & Bronze on the west side of West Marginal Way SW.

2001

Few changes are observed between the 1999 and 2001 aerial photographs (Figures B-10 and B-11a through B-11c).

2004

The large warehouse building, located in the northern portion of the Terminal 115 property, has been removed (Figure B-12). Another large building located in approximately the center of the property and currently occupied by Northland Services, has been extended on the north side. Two barges, one with containers and a second empty ship, are moored adjacent to the property. Additional areas appear to have been paved with asphalt, and trucking lanes have been recently painted.

The surrounding area remains relatively unchanged. The area south of West Marginal Way SW remains largely undeveloped. Additional cargo containers are stored between 2nd Avenue SW and the 1st Avenue S Bridge.

2006

Terminal 115 and the surrounding area remain relatively unchanged (Figures B-13a through B-13c).

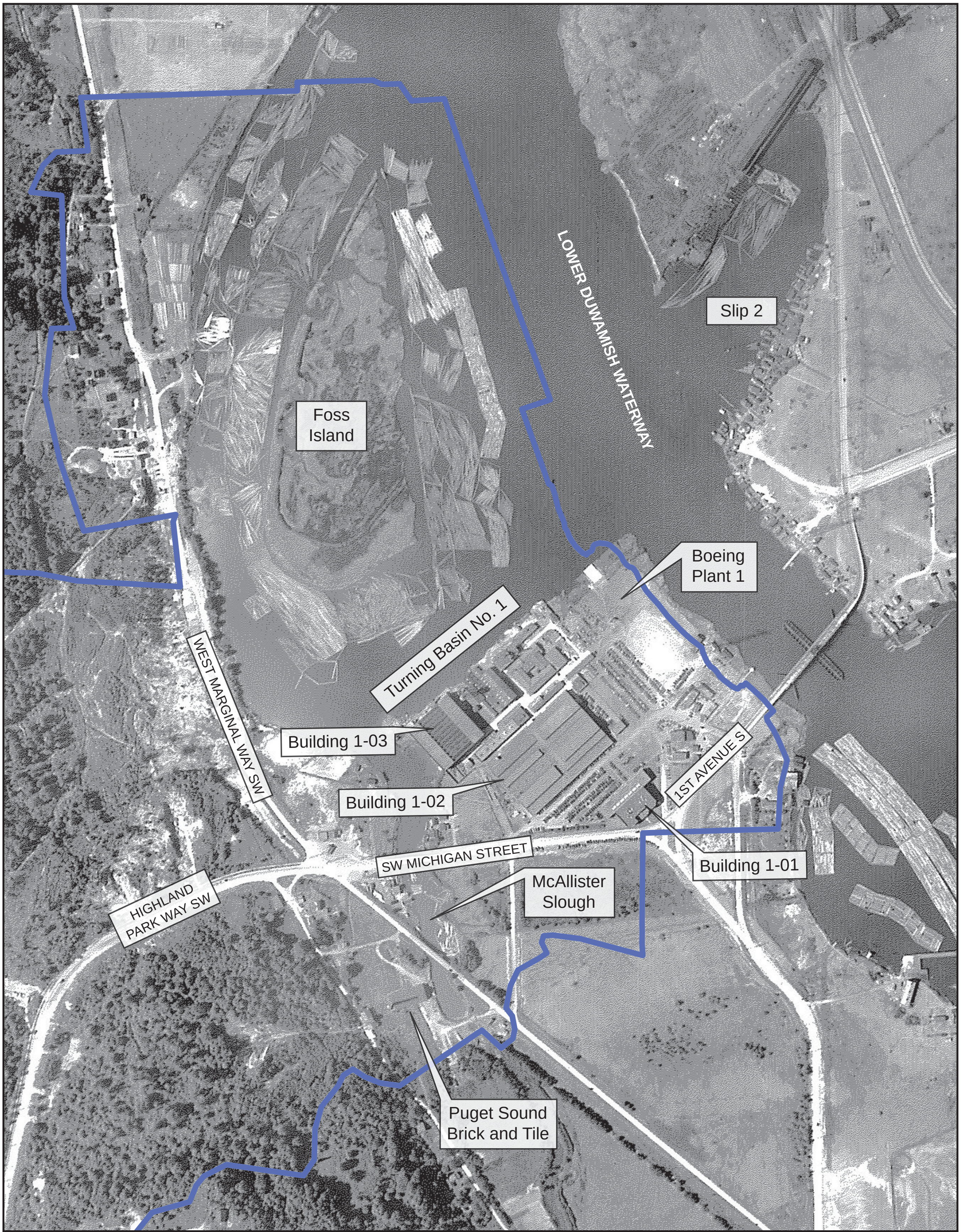

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Figure B–1. RM 1.6 to 2.1 West (Terminal 115): 1936

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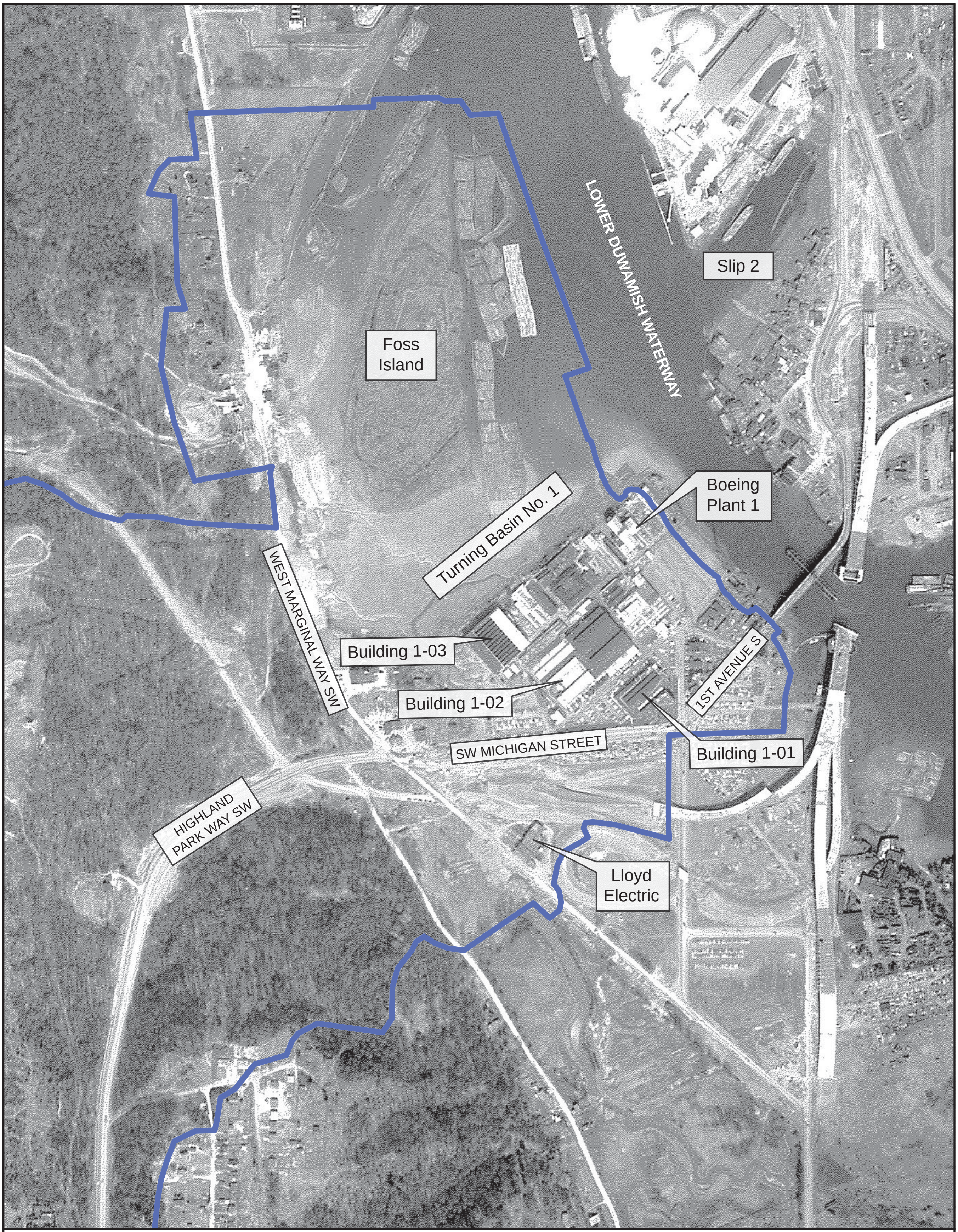

DEPARTMENT OF ECOLOGY State of Washington

Figure B–2. RM 1.6 to 2.1 West (Terminal 115): 1956

SAIC® From Science to Solutions

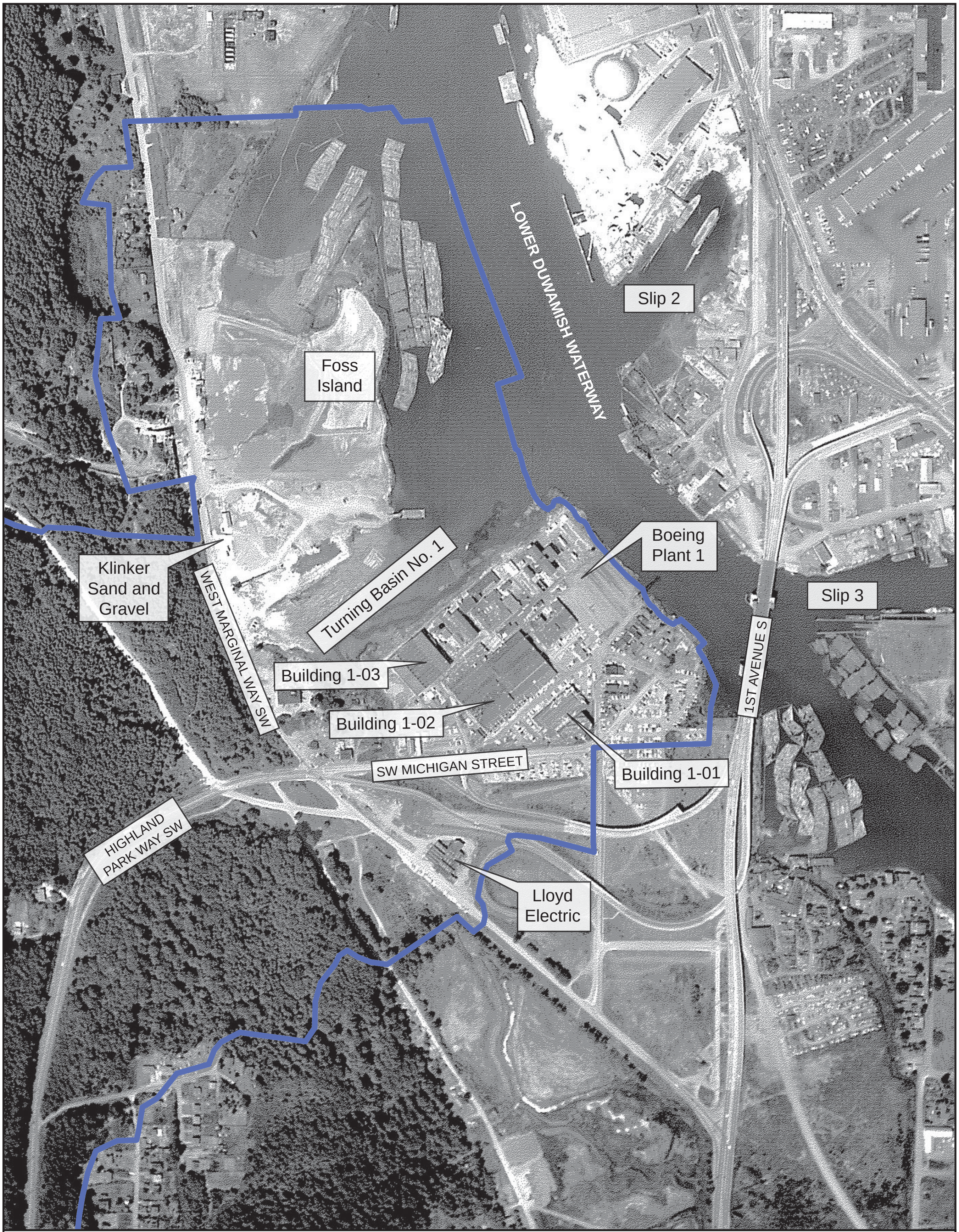

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Figure B–3. RM 1.6 to 2.1 West (Terminal 115): 1960

SAIC® From Science to Solutions

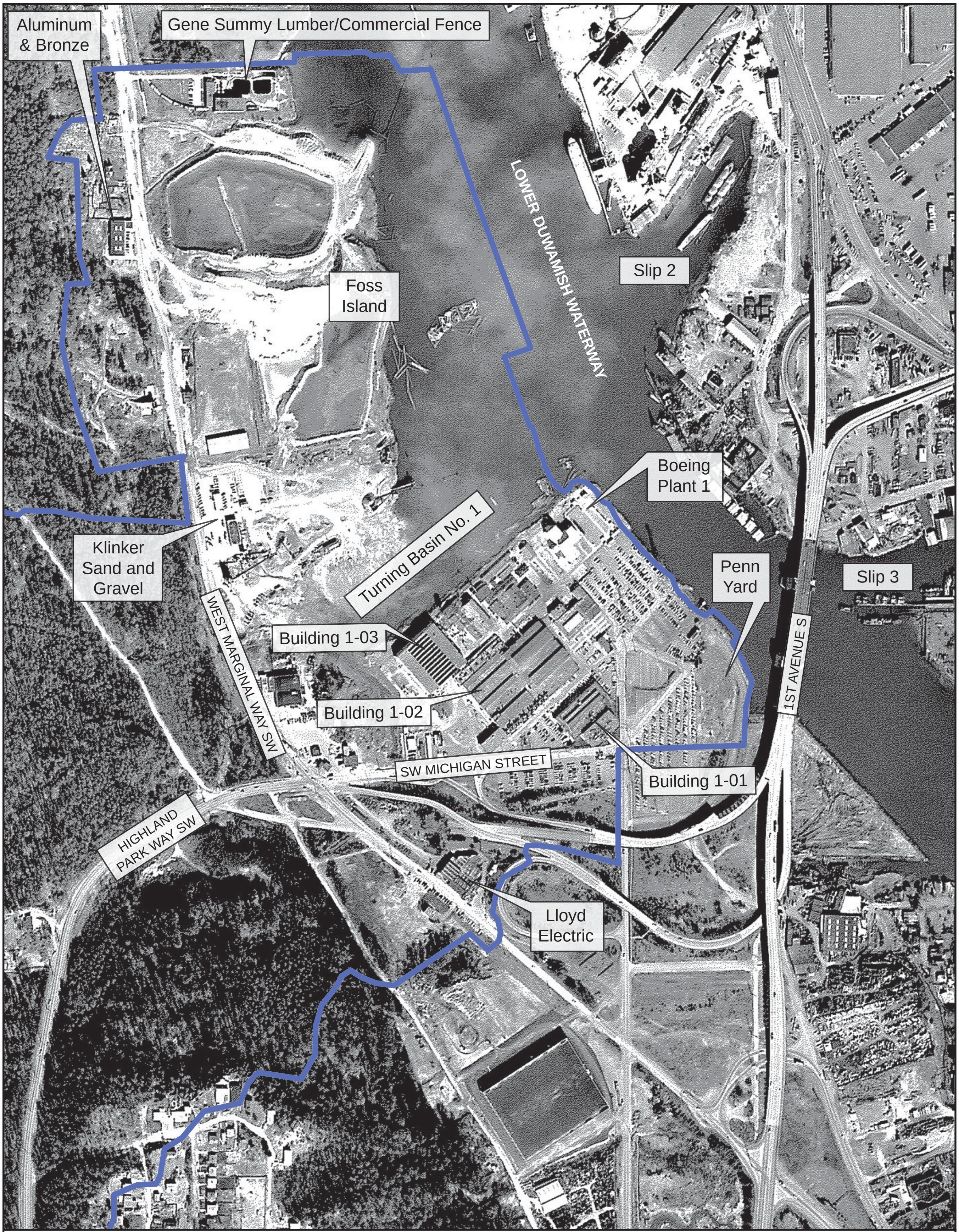

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Figure B–4. RM 1.6 to 2.1 West (Terminal 115): 1969

SAIC From Science to Solutions

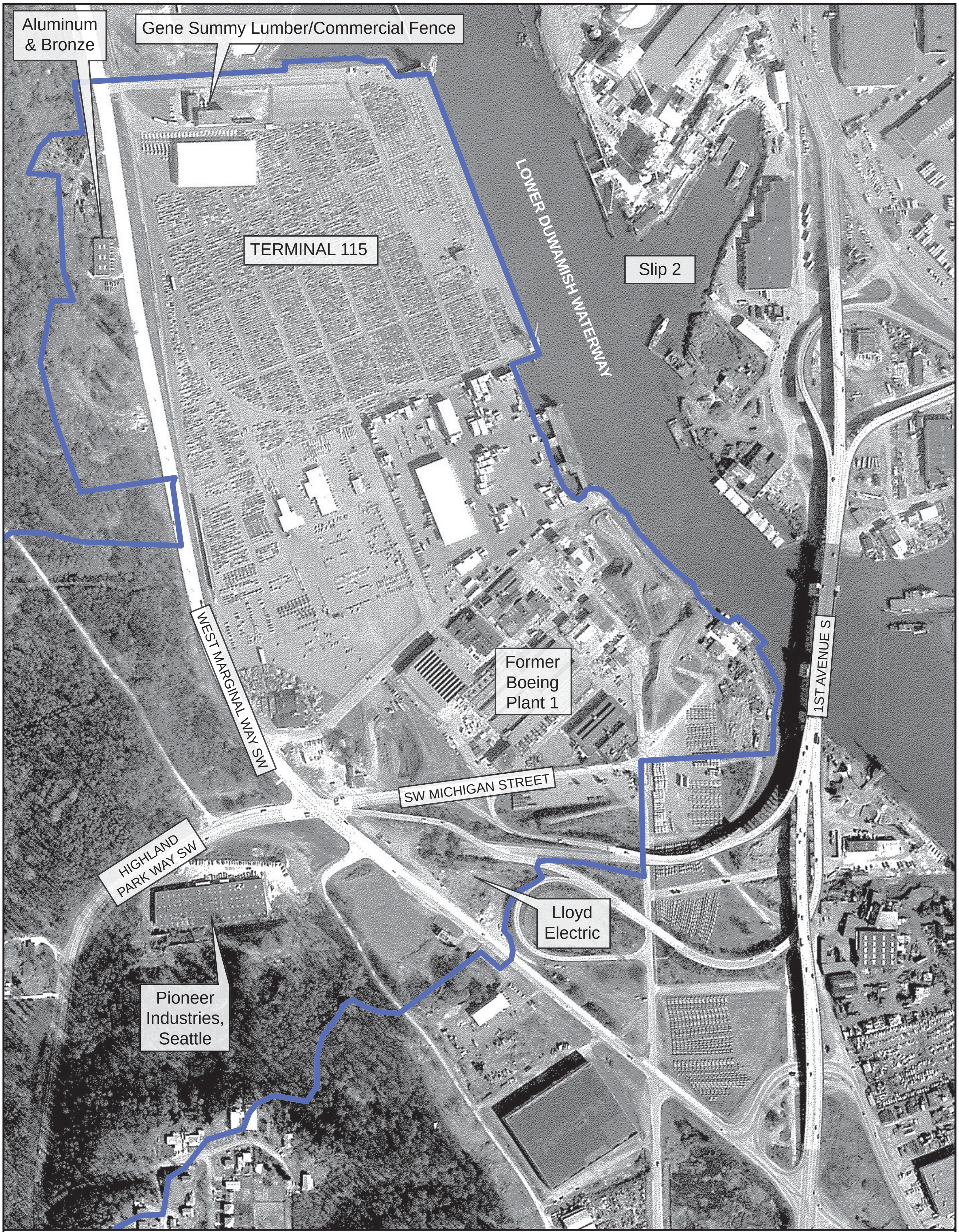

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Figure B–5. RM 1.6 to 2.1 West (Terminal 115): 1974

SAIC® From Science to Solutions

Source: Washington Coastal Atlas 2011
Photo Date: 06/26/77

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Figure B–6a. RM 1.6 to 2.1 West (Terminal 115): Shoreline Photo, 1977

Terminal 115 approximate property boundary within source control area

Tenant facility approximate boundary

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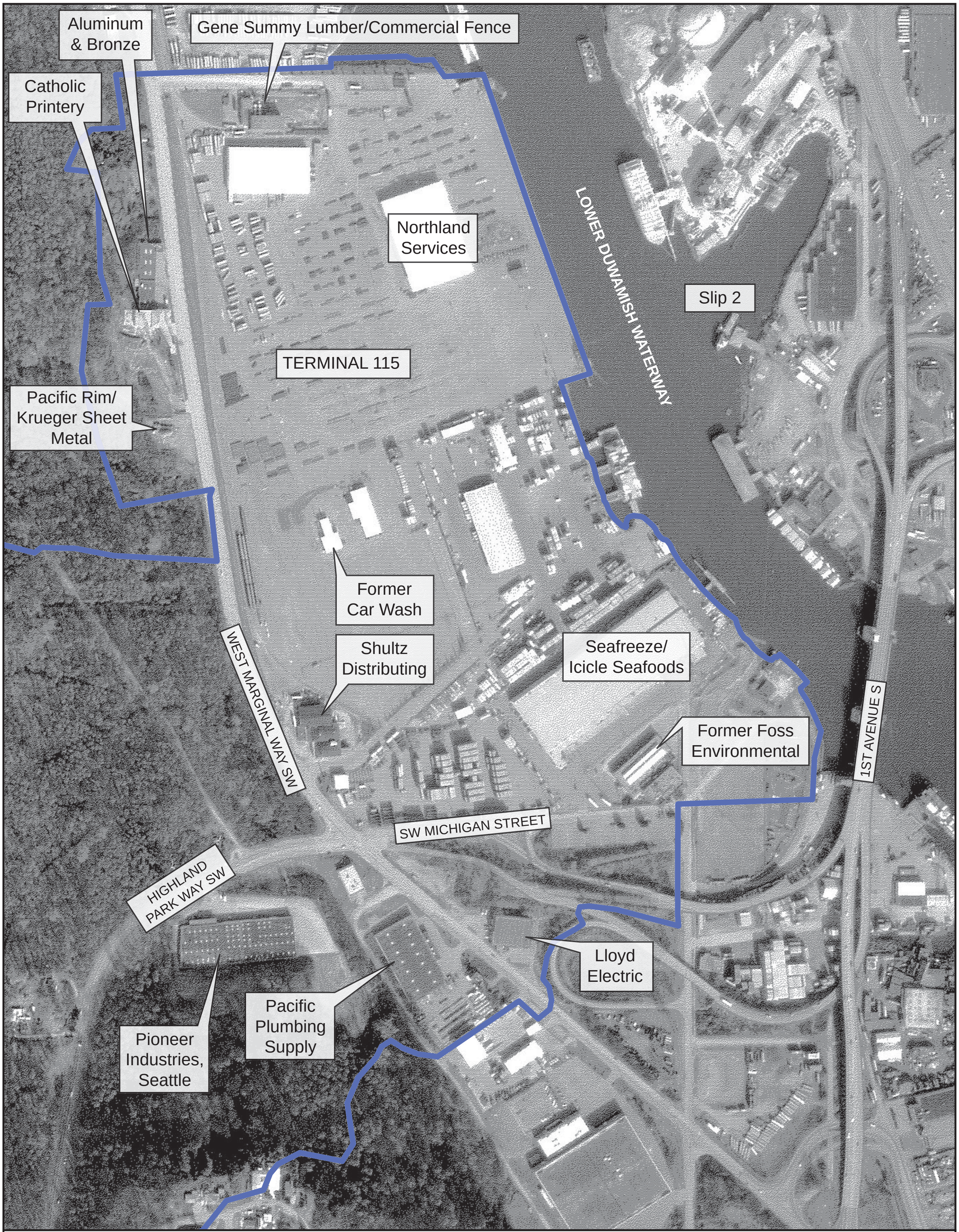
Figure B–6b. RM 1.6 to 2.1 West (Terminal 115): Shoreline Photo, 1977

Source: Washington Coastal Atlas 2011
Photo Date: 06/26/77

Terminal 115 approximate property boundary

Tenant facility approximate boundary



DEPARTMENT OF ECOLOGY State of Washington

N

Figure B–7. RM 1.6 to 2.1 West (Terminal 115): 1985

SAIC® From Science to Solutions

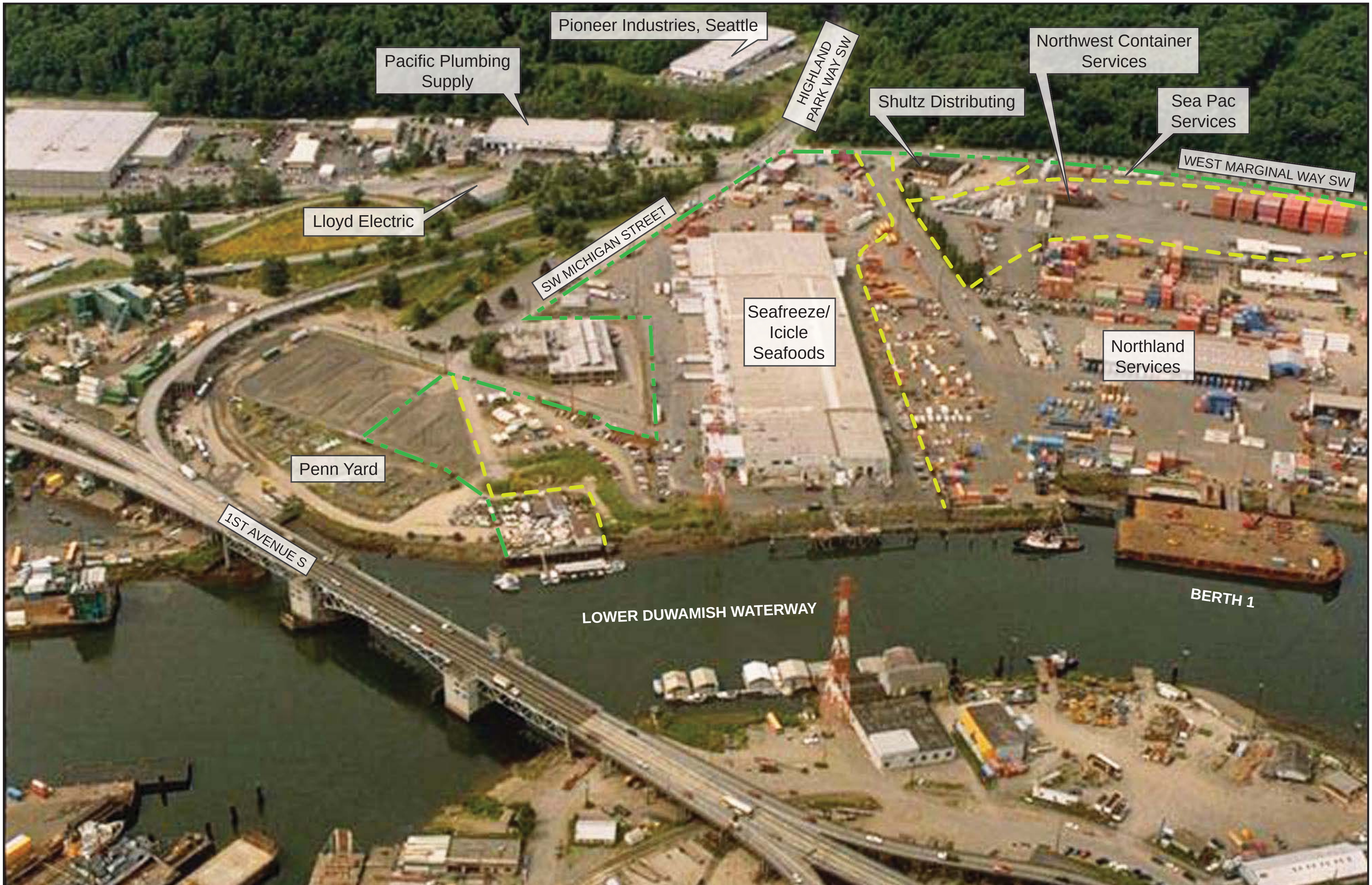


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Figure B–8a. RM 1.6 to 2.1 West (Terminal 115): Shoreline Photo, 1993

Source: Washington Coastal Atlas 2011
Photo Date: 05/19/93

Terminal 115 approximate property boundary within source control area

Tenant facility approximate boundary

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Figure B–8b. RM 1.6 to 2.1 West (Terminal 115): Shoreline Photo, 1993

Source: Washington Coastal Atlas 2011
Photo Date: 05/19/93

Terminal 115 approximate property boundary
Tenant facility approximate boundary

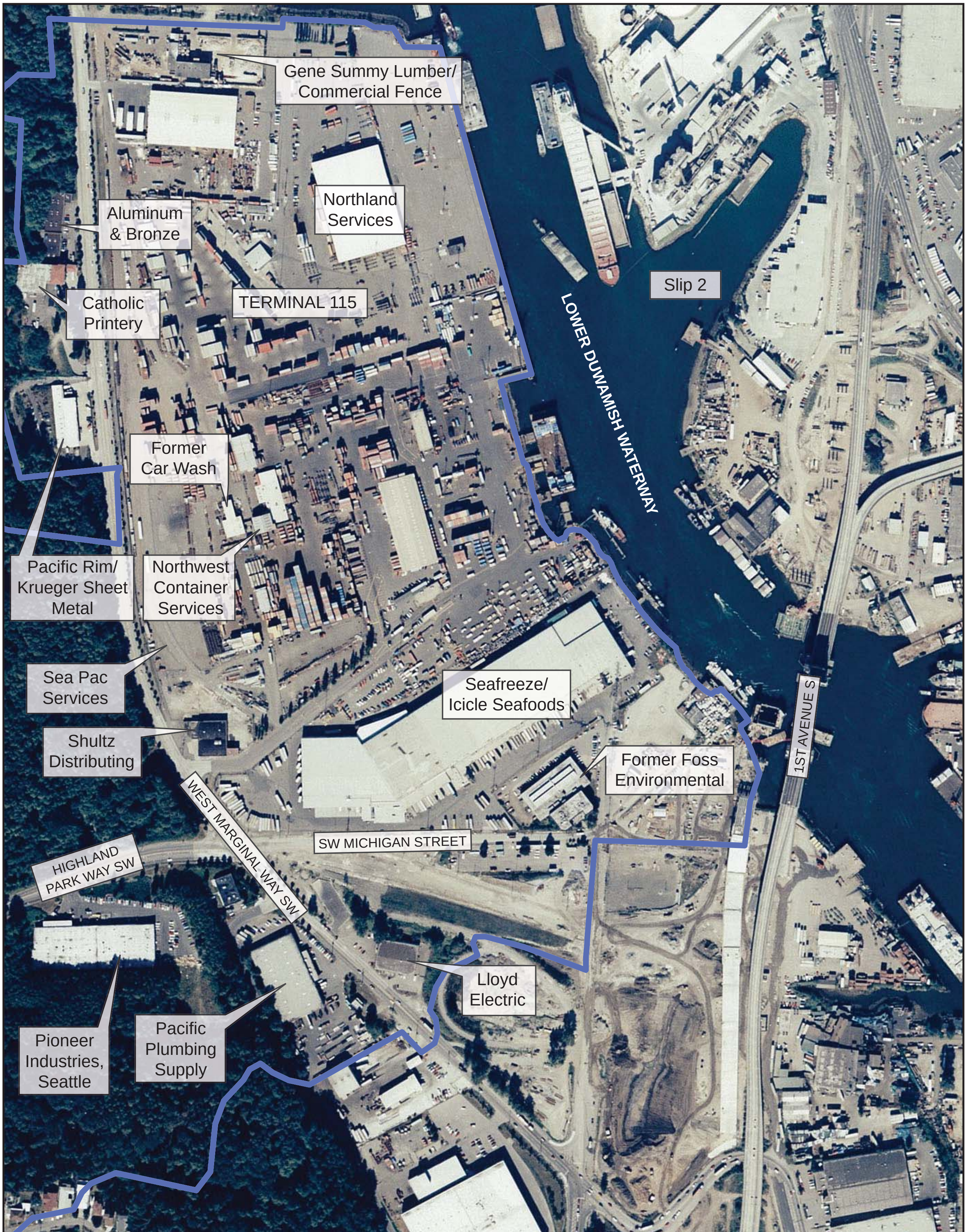

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Figure B–9. RM 1.6 to 2.1 West (Terminal 115): 1995

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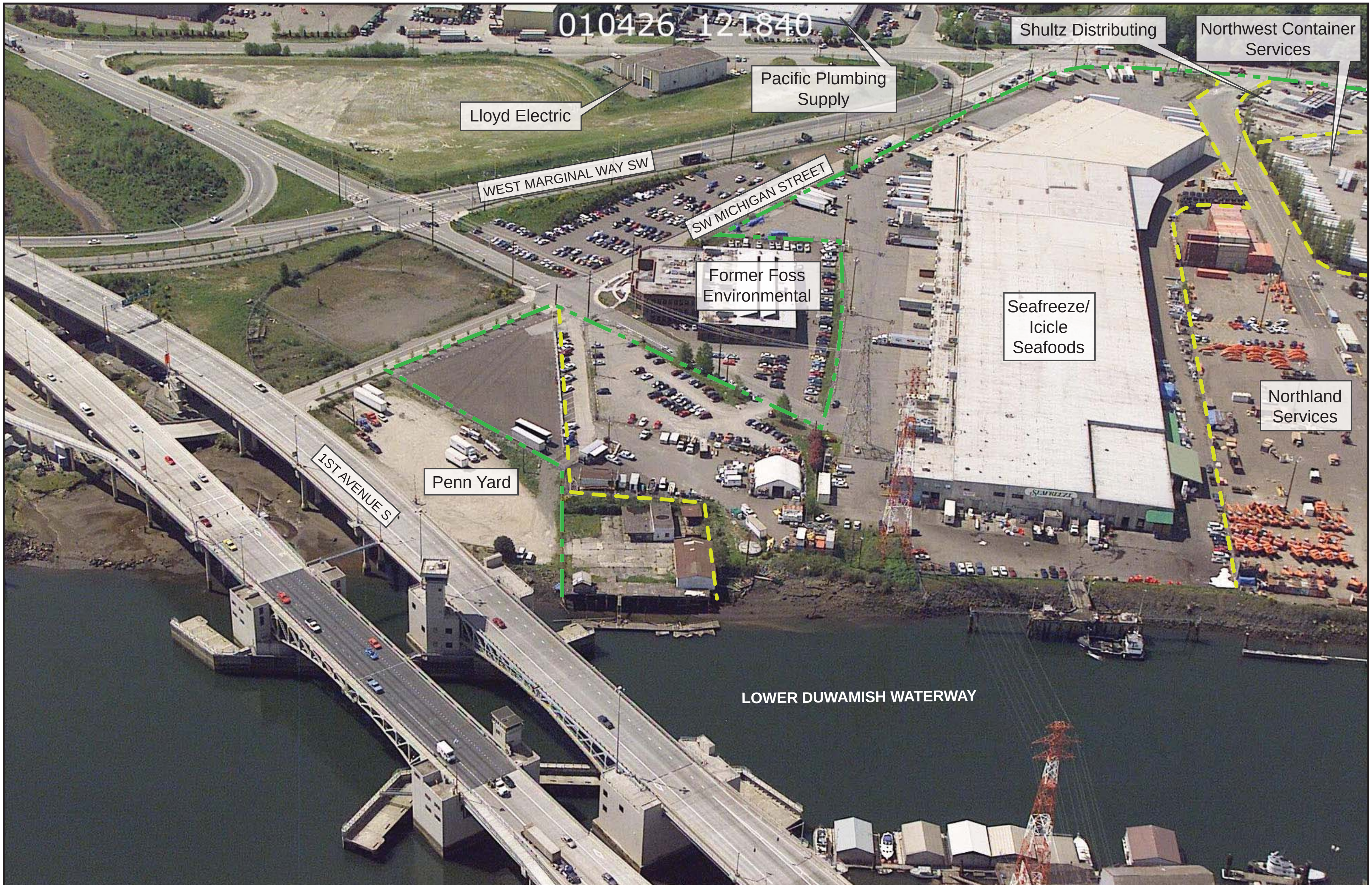
Figure B–10. RM 1.6 to 2.1 West (Terminal 115): 1999

SAIC® From Science to Solutions



DEPARTMENT OF ECOLOGY State of Washington

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Figure B–11a. RM 1.6 to 2.1 West (Terminal 115): Shoreline Photo, 2001

Source: Washington Coastal Atlas 2011
Photo Date: 04/26/01

Terminal 115 approximate property boundary within source control area

Tenant facility approximate boundary

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Figure B–11b. RM 1.6 to 2.1 West (Terminal 115): Shoreline Photo, 2001

Source: Washington Coastal Atlas 2011
Photo Date: 04/26/01

Terminal 115 approximate property boundary

Tenant facility approximate boundary

Source: Washington Coastal Atlas 2011
Photo Date: 04/26/01

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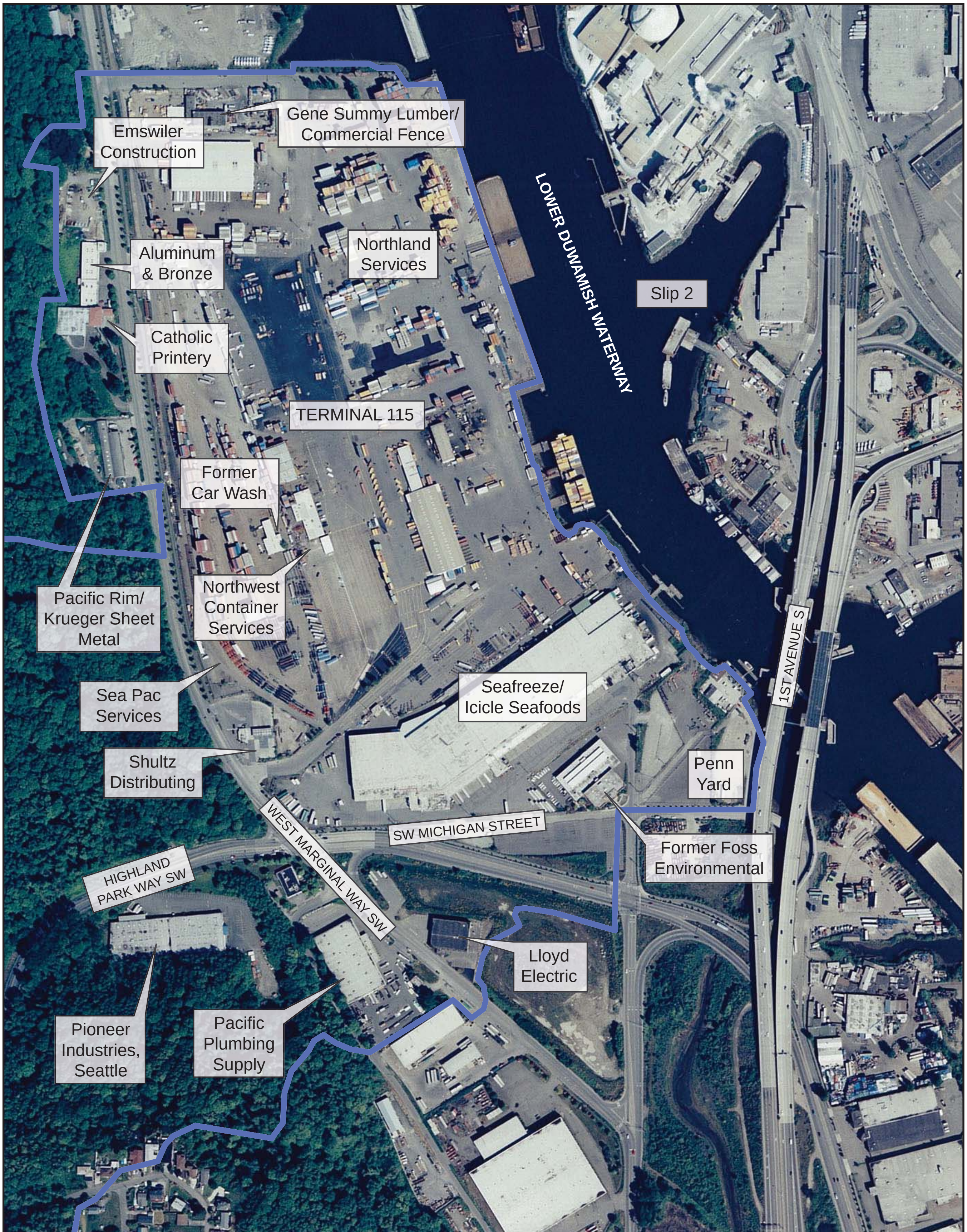
Figure B–11c. RM 1.6 to 2.1 West (Terminal 115): Shoreline Photo, 2001

Terminal 115 approximate property boundary

Tenant facility approximate boundary



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State of Washington

Figure B–12. RM 1.6 to 2.1 West (Terminal 115): 2004

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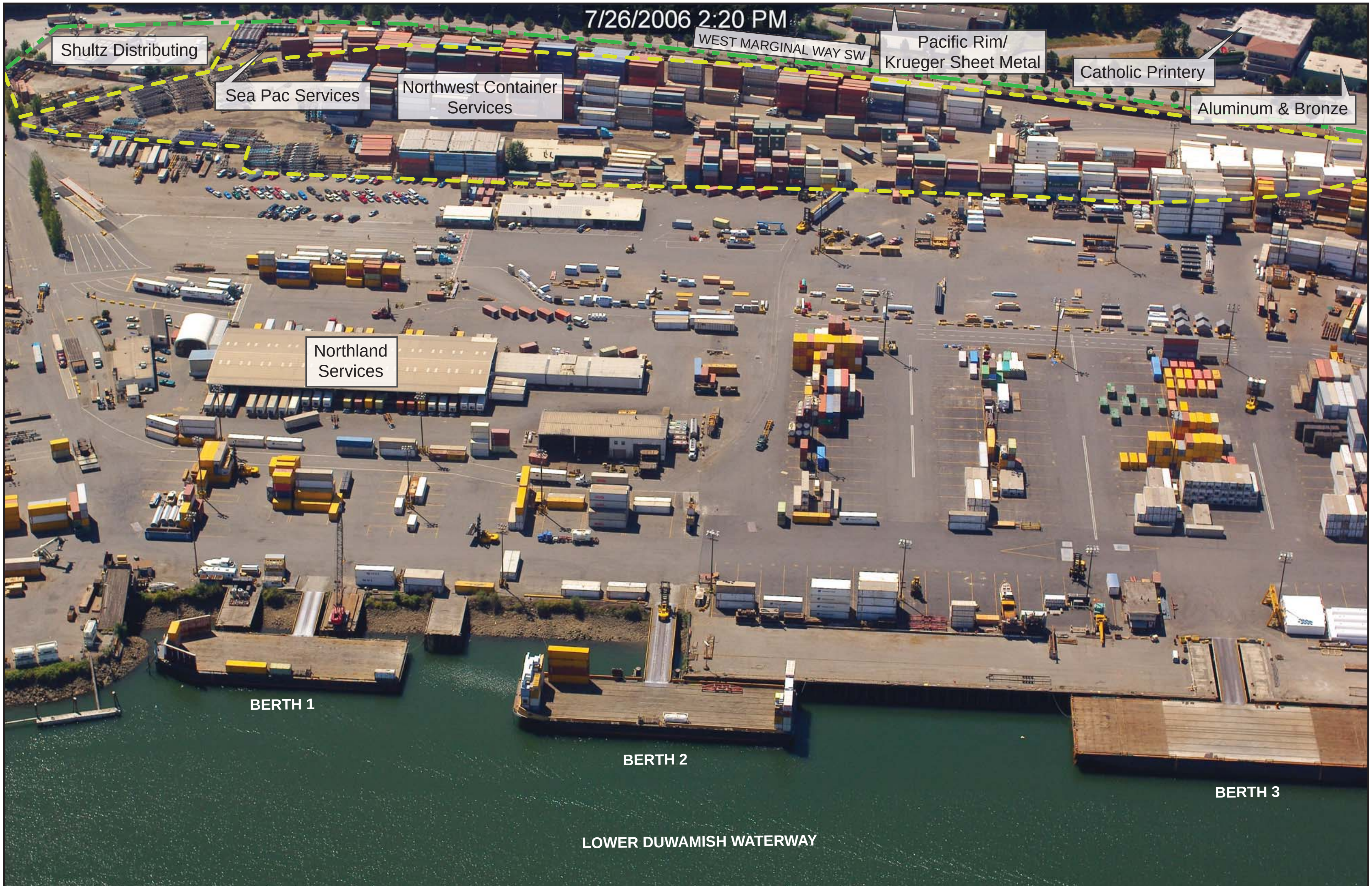
Figure B–13a. RM 1.6 to 2.1 West (Terminal 115): Shoreline Photo, 2006

Source: Washington Coastal Atlas 2011
Photo Date: 07/26/06

Terminal 115 approximate property boundary within source control area

Tenant facility approximate boundary



DEPARTMENT OF ECOLOGY State of Washington

SAIC From Science to Solutions

Figure B–13b. RM 1.6 to 2.1 West (Terminal 115): Shoreline Photo, 2006

Source: Washington Coastal Atlas 2011
Photo Date: 07/26/06

Terminal 115 approximate property boundary
Tenant facility approximate boundary

DEPARTMENT OF ECOLOGY State of Washington

SAIC From Science to Solutions

Figure B–13c. RM 1.6 to 2.1 West (Terminal 115): Shoreline Photo, 2006

Source: Washington Coastal Atlas 2011
Photo Date: 07/26/06

Terminal 115 approximate property boundary

Tenant facility approximate boundary

Appendix C

Glacier Bay Source Control Area Facility Information

Facility Information - Glacier Bay Source Control Area

Facility Name	Facility Physical Address	Facility Mailing Address	Facility Phone Number	Facility Owner	Facility Operator	Property Owner
Alaska Marine Lines	5600-5610 West Marginal Way SW	P.O. Box 24348, Seattle, WA 98124-4348	206-763-4244	Alaska Marine Lines, Inc.	Alaska Marine Lines, Inc.	Alaska Marine Lines, Inc.
Alaska Marine Lines	5423 West Marginal Way SW	P.O. Box 24348, Seattle, WA 98124-4348	206-764-8346	Alaska Marine Lines, Inc.	Alaska Marine Lines, Inc.	Alaska Marine Lines, Inc.
Alaska Marine Lines	5615 West Marginal Way SW	P.O. Box 24348, Seattle, WA 98124-4348	206-764-8346	Alaska Marine Lines, Inc.	Alaska Marine Lines, Inc.	Alaska Marine Lines, Inc.
Alaska Marine Lines	5901 West Marginal Way SW	P.O. Box 24348, Seattle, WA 98124-4348	206-764-8346	Alaska Marine Lines, Inc.	Alaska Marine Lines, Inc.	Alaska Marine Lines, Inc.
Duwamish Shipyard	5658 West Marginal Way SW	5658 West Marginal Way SW, Seattle, WA 98106	206-767-4880	Duwamish Shipyard, Inc.	Duwamish Shipyard, Inc.	Duwamish Shipyard, Inc.
Glacier Northwest	5906 West Marginal Way SW	5906 West Marginal Way SW, Seattle, WA 98106	206-764-3000	Glacier Northwest, Inc.	Glacier Northwest, Inc.	Glacier Northwest, Inc.
Port of Seattle Terminal 115/Former MRI Corporation	6000 West Marginal Way SW	6000 West Marginal Way SW, Seattle, WA 98106	206-763-3000	Port of Seattle	Northland Services	Port of Seattle
Chemithon Corporation	5430 West Marginal Way SW	5430 West Marginal Way SW, Seattle, WA 98106	206-937-9954	Chemithon Corp.	Chemithon Corp.	Chemithon Corp.
Wise Property	None Listed	4321 SW Portland St., Seattle, WA 98136	NA	Vacant	Vacant	Thomas C. and Wendi Wise
Klier DV Property	5901 West Marginal Way SW	5901 West Marginal Way SW, Seattle, WA 98106	NA	NA	NA	Klier, D.V.
Allen Property	5955 West Marginal Way SW	12260 1st Avenue S., Seattle, WA 98168	NA	NA	NA	Vance & Maxine Allen
City of Seattle Parks Department Property	None Listed	800 Maynard Ave. S. - 3rd Floor, Seattle, WA 9834	206-684-4075	Vacant	Vacant	City of Seattle Parks Department

NA - Not available

Appendix D

History of Fill Activities at Terminal 115

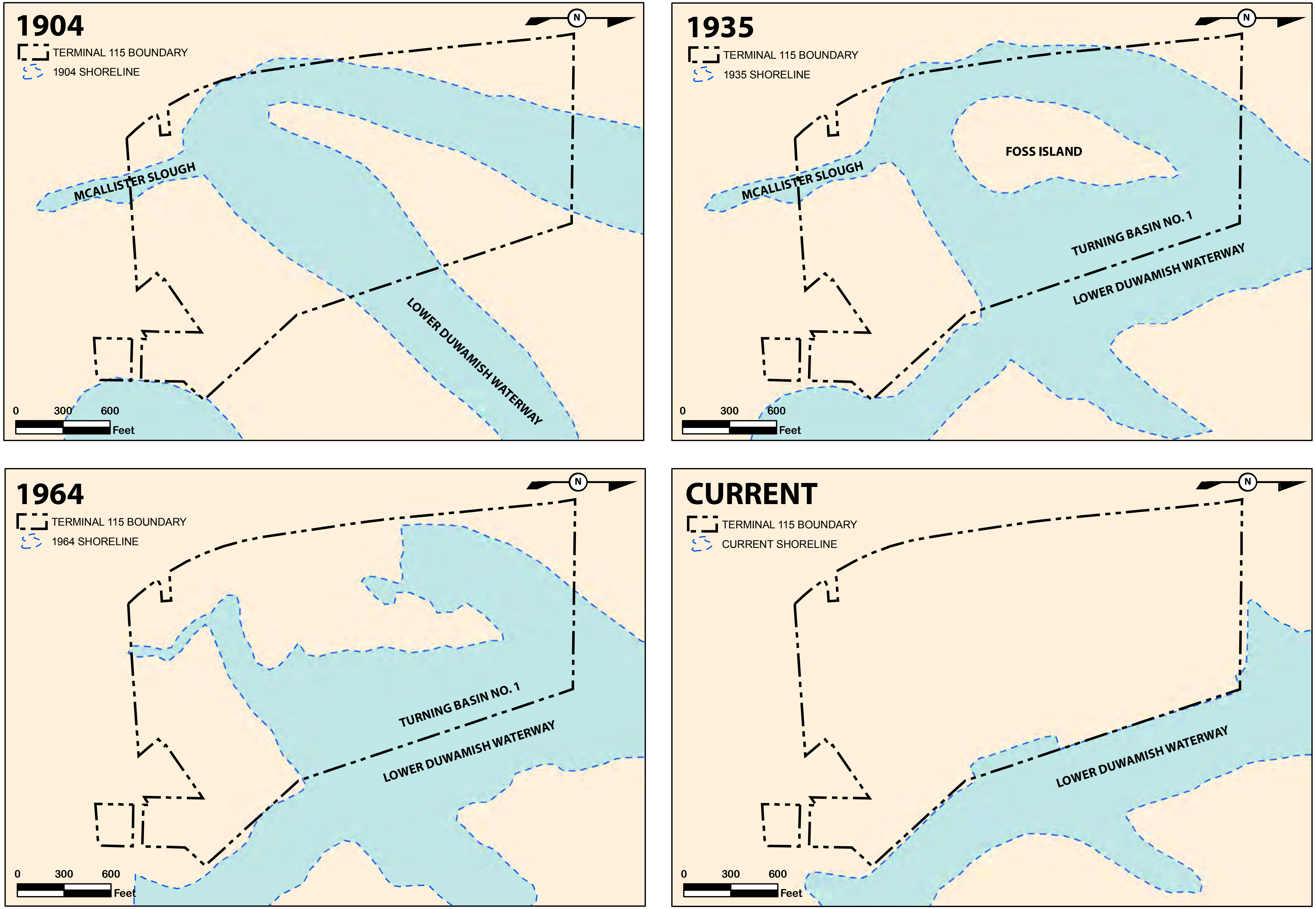


FIGURE 4B
HISTORICAL SHORELINE DIAGRAM

PROJECT NUMBER:.... 0675-001-01
ADDRESS:........................ WEST MARGINAL WAY SW
CITY, STATE:.................... SEATTLE, WASHINGTON

DATE: 11/1/10
DRAWN BY:......... NAC
CHECKED BY:..... CMC

SoundEarth Strategies

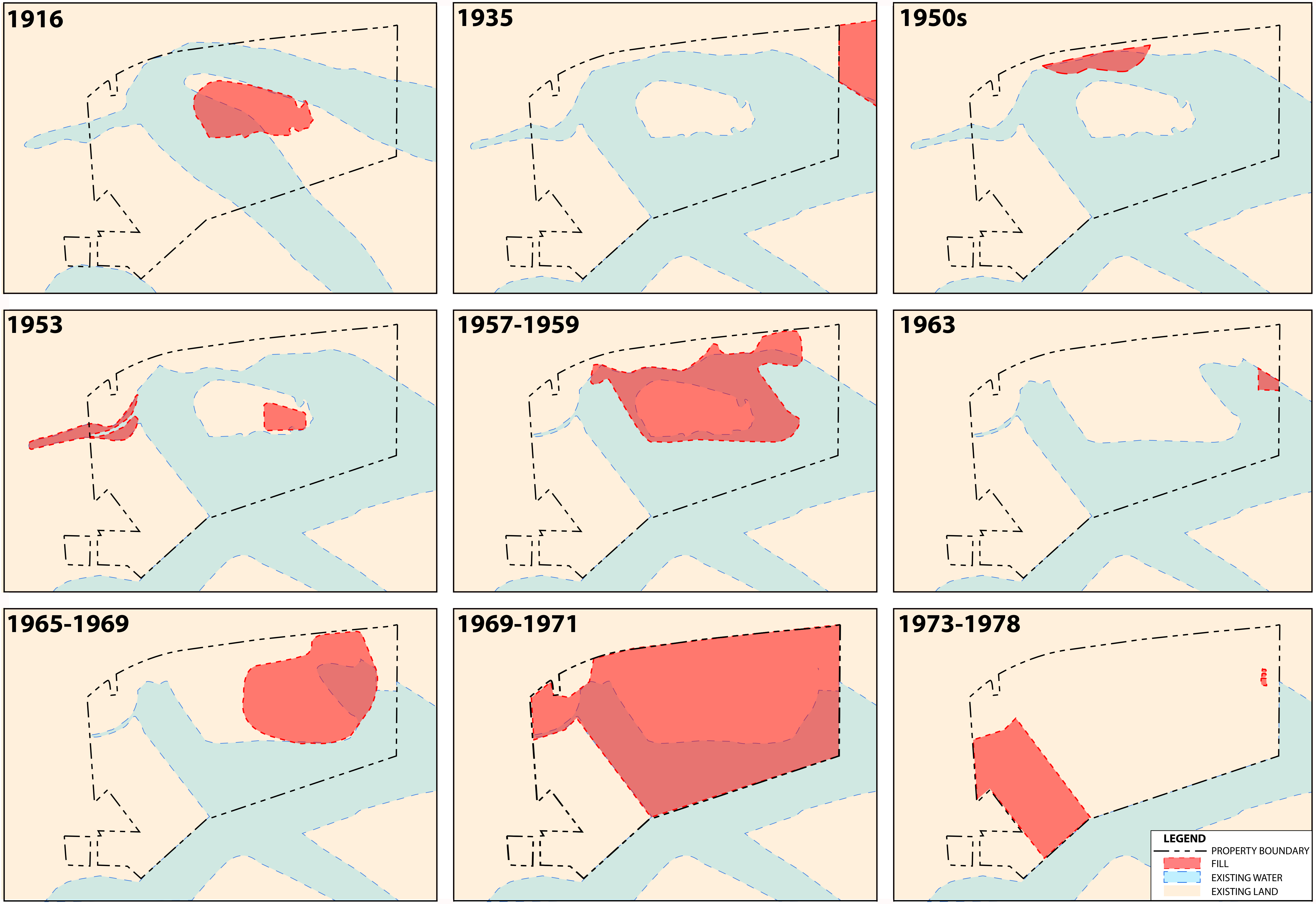
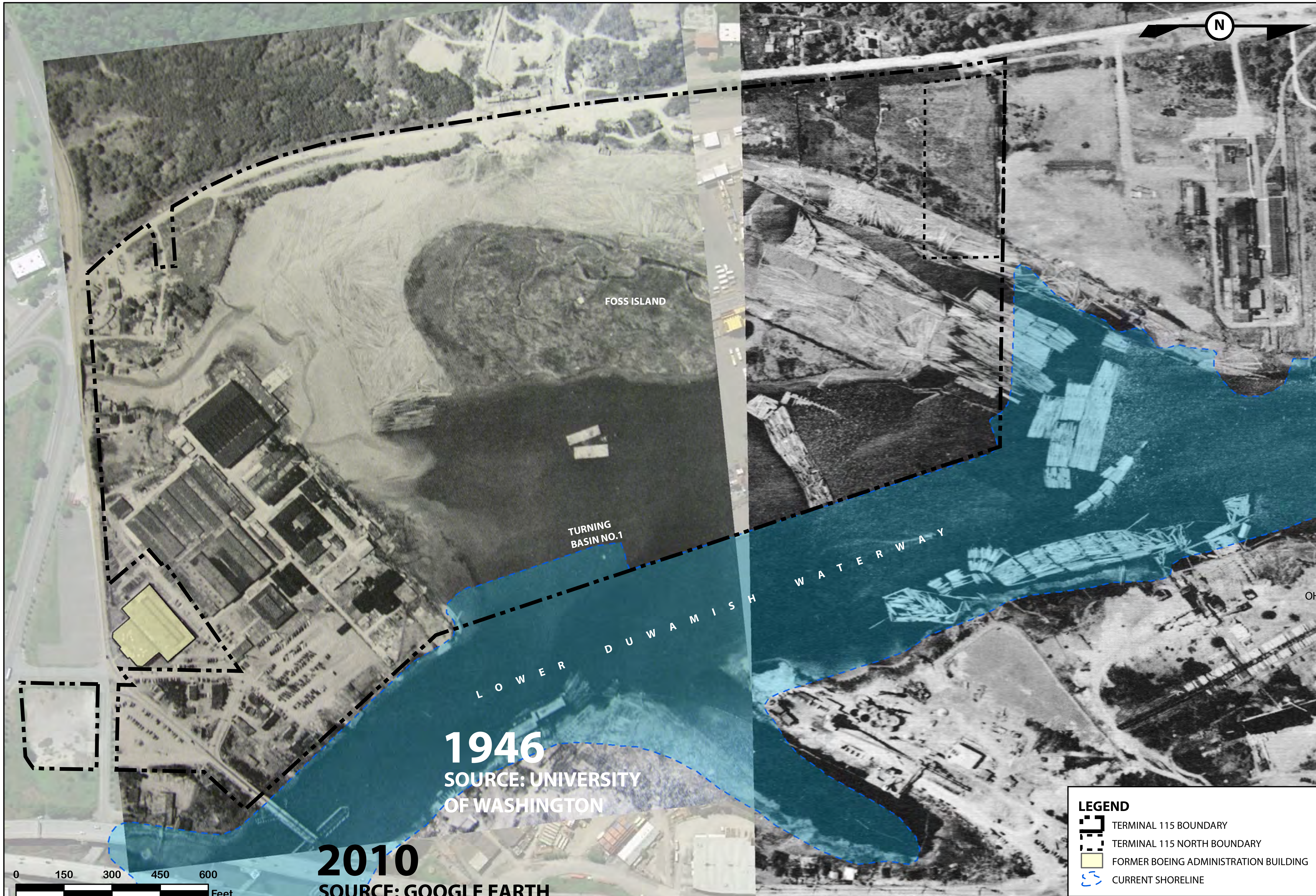


FIGURE 4C
HISTORICAL FILL AREAS

PROJECT NUMBER:..... 0675-001-01
ADDRESS:.......................... WEST MARGINAL WAY SW
CITY, STATE:...................... SEATTLE, WASHINGTON

DATE: 11/1/10
DRAWN BY:......... NAC
CHECKED BY:...... CMC

SoundEarth Strategies



APPENDIX A: PHOTO A-3

1946

PROJECT NUMBER:..... 0675-001-01
ADDRESS:..................... WEST MARGINAL WAY SW
CITY, STATE:................. SEATTLE, WASHINGTON

DATE: 11/1/10
DRAWN BY:........ NAC
CHECKED BY:..... CMC

SoundEarth Strategies

APPENDIX A: PHOTO A-5

1961

PROJECT NUMBER:..... 0675-001-01
ADDRESS:.................... WEST MARGINAL WAY SW
CITY, STATE:................ SEATTLE, WASHINGTON

DATE: 11/1/10
DRAWN BY:........ NAC
CHECKED BY:..... CMC

SoundEarth Strategies

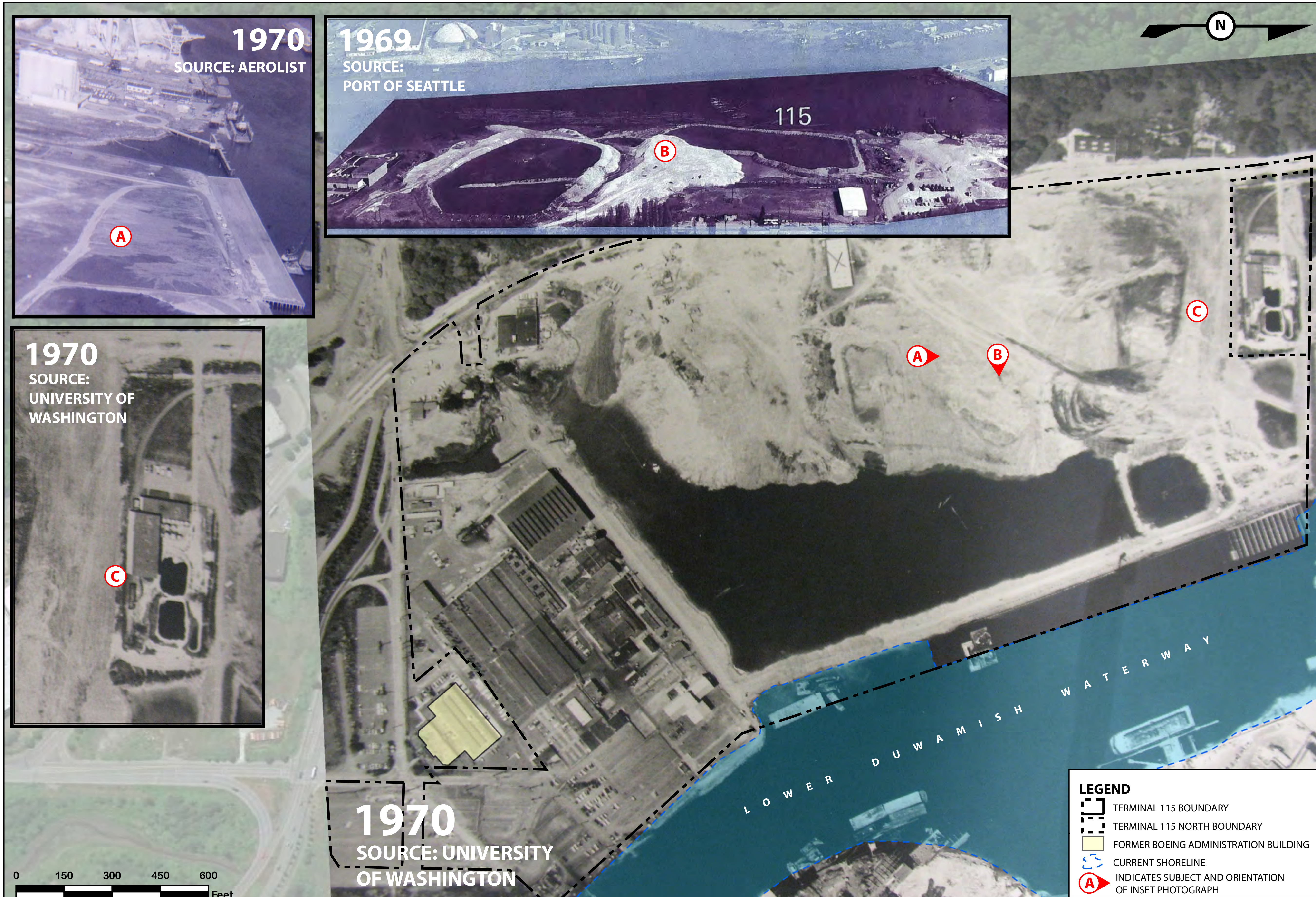
APPENDIX A: PHOTO A-6

1963-1968

PROJECT NUMBER:..... 0675-001-01
ADDRESS:.......................... WEST MARGINAL WAY SW
CITY, STATE:.................... SEATTLE, WASHINGTON

DATE: 11/1/10
DRAWN BY:......... NAC
CHECKED BY:..... CMC

SoundEarth Strategies



APPENDIX A: PHOTO A-7
1969-1970

PROJECT NUMBER:.... 0675-001-01
ADDRESS:...................... WEST MARGINAL WAY SW
CITY, STATE:................. SEATTLE, WASHINGTON

DATE: 11/1/10
DRAWN BY:........ NAC
CHECKED BY:..... CMC

SoundEarth Strategies

Appendix E

Concentrations of Chemicals Detected in Environmental Media

Table E-1
Chemicals Detected in Black Mud
Terminal 115 North

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	Maximum Toxicity Characteristic (ug/L)	Exceedance Factor
Landau 2009b	1991	L-4	Arsenic	8.0	5,000	<1
Landau 2009b	1991	L-2	Arsenic	3.0	5,000	<1
Landau 2009b	1991	L-1	Arsenic	2.0	5,000	<1
Landau 2009b	1991	L-3	Arsenic	2.0	5,000	<1
Landau 2009b	1991	L-5	Arsenic	2.0	5,000	<1
Landau 2009b	1991	L-6	Arsenic	2.0	5,000	<1
Landau 2009b	1991	L-6	Barium	189	100,000	<1
Landau 2009b	1991	L-2	Barium	188	100,000	<1
Landau 2009b	1991	L-4	Barium	182	100,000	<1
Landau 2009b	1991	L-5	Barium	164	100,000	<1
Landau 2009b	1991	L-3	Barium	85	100,000	<1
Landau 2009b	1991	L-1	Barium	75	100,000	<1
Landau 2009b	1991	L-3	Cadmium	16	1,000	<1
Landau 2009b	1991	L-1	Cadmium	5.0	1,000	<1
Landau 2009b	1991	L-4	Chromium	11	5,000	<1
Landau 2009b	1991	L-4	Lead	1,070	5,000	<1
Landau 2009b	1991	L-3	Lead	353	5,000	<1
Landau 2009b	1991	L-1	Lead	306	5,000	<1
Landau 2009b	1991	L-6	Lead	173	5,000	<1
Landau 2009b	1991	L-5	Lead	69	5,000	<1
Landau 2009b	1991	L-2	Lead	52	5,000	<1
Landau 2009b	1991	L-4	Tin	48,600		
Landau 2009b	1991	L-6	Tin	27,300		
Landau 2009b	1991	L-1	Tin	19,800		
Landau 2009b	1991	L-5	Tin	13,000		
Landau 2009b	1991	L-3	Tin	9,320		
Landau 2009b	1991	L-2	Tin	6,490		

ug/L - Milligrams per liter

Maximum Toxicity Characteristics from Washington Administrative Code 173-303-090, Dangerous Waste Characteristics

Table E-2
Chemicals Detected in Soil
Terminal 115 North

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Soil-to-Sediment Screening Level[b] (mg/kg)	Exceedance Factor
Metals								
Landau 2009b	10/29/2009	MW-3	10.5-11.5	Arsenic	11	0.67	590	16
Landau 2009b	1997	MST-1	NA	Barium	120	16,000		<1
Landau 2009b	1997	MST-2	NA	Barium	32	16,000		<1
Landau 2009b	1997	MST-3	NA	Barium	19	16,000		<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Cadmium	1.2	2	34	<1
Landau 2009b	1997	MST-1	NA	Cadmium	1	2	1.7	<1
Landau 2009b	1997	MST-2	NA	Cadmium	0.69	2	1.7	<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Chromium	72		5,400	<1
Landau 2009b	10/29/2009	MW-1	11-12	Chromium	55		5,400	<1
Landau 2009b	10/29/2009	MW-3	10.5-11.5	Chromium	55		5,400	<1
Landau 2009b	10/29/2009	MW-5	4-5	Chromium	55		270	<1
Landau 2009b	10/29/2009	DP-1	8.5-9.5	Chromium	54		5,400	<1
Landau 2009b	10/29/2009	DP-1	6-7	Chromium	46		270	<1
Landau 2009b	10/29/2009	MW-3	17-18	Chromium	42		5,400	<1
Landau 2009b	10/29/2009	MW-1	7-8	Chromium	41		270	<1
Landau 2009b	10/29/2009	MW-1	4-5	Chromium	39		5,400	<1
Landau 2009b	10/29/2009	MW-3	6.5-7	Chromium	38		5,400	<1
Landau 2009b	10/29/2009	MW-5	10-11	Chromium	34		5,400	<1
Landau 2009b	10/29/2009	MW-5	16-17	Chromium	34		5,400	<1
Landau 2009b	1997	MST-2	NA	Chromium	33		270	<1
Landau 2009b	1997	MST-1	NA	Chromium	22.0		270	<1
Landau 2009b	1997	MST-3	NA	Chromium	8.4		270	<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Copper	110	2,960	780	<1
Landau 2009b	10/29/2009	MW-3	17-18	Copper	38	2,960	780	<1
Landau 2009b	10/29/2009	MW-1	11-12	Copper	33	2,960	39	<1
Landau 2009b	10/29/2009	MW-3	10.5-11.5	Copper	33	2,960	780	<1
Landau 2009b	10/29/2009	MW-5	4-5	Copper	31	2,960	39	<1
Landau 2009b	10/29/2009	DP-1	8.5-9.5	Copper	31	2,960	780	<1
Landau 2009b	10/29/2009	DP-1	6-7	Copper	29	2,960	39	<1
Landau 2009b	10/29/2009	MW-1	7-8	Copper	28	2,960	39	<1
Landau 2009b	10/29/2009	MW-1	4-5	Copper	22	2,960	780	<1
Landau 2009b	10/29/2009	MW-5	16-17	Copper	20	2,960	780	<1

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Chemicals Detected in Soil
Terminal 115 North

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Soil-to-Sediment Screening Level[b] (mg/kg)	Exceedance Factor
Landau 2009b	10/29/2009	MW-3	6.5-7	Copper	19	2,960	39	<1
Landau 2009b	10/29/2009	MW-5	10-11	Copper	19	2,960	780	<1
Landau 2009b	1997	MST-1	NA	Lead	470	250	67	7.0
Landau 2009b	10/29/2009	DP-1	0.5-1	Lead	220	250	1,300	<1
Landau 2009b	1997	MST-2	NA	Lead	110.0	250	67	1.6
Landau 2009b	10/29/2009	MW-3	10.5-11.5	Lead	46	250	67	<1
Landau 2009b	10/29/2009	MW-1	7-8	Lead	44	250	67	<1
Landau 2009b	1997	MST-3	NA	Lead	36	250	67	<1
Landau 2009b	10/29/2009	MW-5	16-17	Lead	27	250	67	<1
Landau 2009b	10/29/2009	MW-1	4-5	Lead	19	250	1,300	<1
Landau 2009b	10/29/2009	MW-3	17-18	Lead	17	250	67	<1
Landau 2009b	10/29/2009	MW-5	10-11	Lead	13	250	67	<1
Landau 2009b	10/29/2009	MW-3	6.5-7	Lead	9.8	250	67	<1
Landau 2009b	10/29/2009	DP-1	8.5-9.5	Lead	6	250	67	<1
Landau 2009b	10/29/2009	DP-1	6-7	Lead	5.5	250	67	<1
Landau 2009b	10/29/2009	MW-1	11-12	Lead	5.5	250	67	<1
Landau 2009b	10/29/2009	MW-5	4-5	Lead	4.8	250	1,300	<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Mercury	0.11	2	0.59	<1
Landau 2009b	10/29/2009	MW-3	10.5-11.5	Mercury	0.086	2	0.03	2.9
Landau 2009b	10/29/2009	MW-3	10.5-11.5	Nickel	72			
Landau 2009b	10/29/2009	MW-5	4-5	Nickel	65			
Landau 2009b	10/29/2009	DP-1	6-7	Nickel	63			
Landau 2009b	10/29/2009	MW-1	11-12	Nickel	60			
Landau 2009b	10/29/2009	DP-1	8.5-9.5	Nickel	58			
Landau 2009b	10/29/2009	MW-1	7-8	Nickel	51			
Landau 2009b	10/29/2009	MW-1	4-5	Nickel	44			
Landau 2009b	10/29/2009	MW-3	17-18	Nickel	40			
Landau 2009b	10/29/2009	MW-5	10-11	Nickel	38			
Landau 2009b	10/29/2009	MW-3	6.5-7	Nickel	37			
Landau 2009b	10/29/2009	DP-1	0.5-1	Nickel	35			
Landau 2009b	10/29/2009	MW-5	16-17	Nickel	3.5			
Landau 2009b	1997	MST-2	NA	Tin	880	48,000		<1
Landau 2009b	1997	MST-1	NA	Tin	550	48,000		<1

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Chemicals Detected in Soil
Terminal 115 North

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Soil-to-Sediment Screening Level[b] (mg/kg)	Exceedance Factor
Landau 2009b	1997	MST-3	NA	Tin	170	48,000		<1
Landau 2009b	10/29/2009	MW-5	16-17	Tin	170	48,000		<1
Landau 2009b	10/29/2009	MW-3	17-18	Tin	77	48,000		<1
Landau 2009b	10/29/2009	MW-5	10-11	Tin	28	48,000		<1
Landau 2009b	10/29/2009	MW-5	4-5	Tin	7.7	48,000		<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Tin	780	48,000		<1
Landau 2009b	10/29/2009	MW-1	7-8	Tin	96	48,000		<1
Landau 2009b	10/29/2009	MW-1	4-5	Tin	48	48,000		<1
Landau 2009b	10/29/2009	MW-3	10.5-11.5	Tin	12	48,000		<1
Landau 2009b	10/29/2009	DP-1	6-7	Tin	3	48,000		<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Zinc	1,400	24,000	770	1.8
Landau 2009b	1997	MST-2	NA	Zinc	330	24,000	38	8.7
Landau 2009b	1997	MST-1	NA	Zinc	310	24,000	38	8.2
Landau 2009b	10/29/2009	MW-3	10.5-11.5	Zinc	83	24,000	38	2.2
Landau 2009b	10/29/2009	MW-1	7-8	Zinc	77	24,000	38	2.0
Landau 2009b	1997	MST-3	NA	Zinc	76	24,000	38	2.0
Landau 2009b	10/29/2009	DP-1	8.5-9.5	Zinc	66	24,000	38	1.7
Landau 2009b	10/29/2009	MW-1	11-12	Zinc	62	24,000	38	1.6
Landau 2009b	10/29/2009	MW-5	4-5	Zinc	59	24,000	770	<1
Landau 2009b	10/29/2009	DP-1	6-7	Zinc	57	24,000	38	1.5
Landau 2009b	10/29/2009	MW-3	17-18	Zinc	52	24,000	38	1.4
Landau 2009b	10/29/2009	MW-1	4-5	Zinc	52	24,000	770	<1
Landau 2009b	10/29/2009	MW-5	16-17	Zinc	50	24,000	38	1.3
Landau 2009b	10/29/2009	MW-5	10-11	Zinc	42	24,000	38	1.1
Landau 2009b	10/29/2009	MW-3	6.5-7	Zinc	34	24,000	38	<1
PAHs								
Landau 2009b	10/29/2009	DP-1	0.5-1	Acenaphthene	0.88	4,800	1.2	<1
Landau 2009b	10/29/2009	MW-3	17-18	Acenaphthene	0.41	4,800	0.06	6.8
Landau 2009b	10/29/2009	MW-3	6.5-7	Acenaphthene	0.18	4,800	0.06	3.0
Landau 2009b	10/29/2009	MW-1	7-8	Acenaphthene	0.13	4,800	0.06	2.2
Landau 2009b	10/29/2009	MW-5	16-17	Acenaphthene	0.099	4,800	0.06	1.7
Landau 2009b	10/29/2009	MW-5	10-11	Acenaphthene	0.05	4,800	0.06	<1
Landau 2009b	10/29/2009	MW-1	4-5	Acenaphthene	0.015	4,800	1.2	<1

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Chemicals Detected in Soil
Terminal 115 North

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Landau 2009b	10/29/2009	DP-1	0.5-1	Acenaphthylene	0.092		1.4	<1
Landau 2009b	10/29/2009	MW-1	7-8	Acenaphthylene	0.0091		0.069	<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Anthracene	0.36	24,000	24	<1
Landau 2009b	10/29/2009	MW-3	17-18	Anthracene	0.14	24,000	1.2	<1
Landau 2009b	10/29/2009	MW-5	10-11	Anthracene	0.13	24,000	1.2	<1
Landau 2009b	10/29/2009	MW-1	7-8	Anthracene	0.072	24,000	1.2	<1
Landau 2009b	10/29/2009	MW-5	16-17	Anthracene	0.019	24,000	1.2	<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Benzo(a)anthracene	0.41		5.4	<1
Landau 2009b	10/29/2009	MW-5	10-11	Benzo(a)anthracene	0.17		0.27	<1
Landau 2009b	10/29/2009	MW-3	17-18	Benzo(a)anthracene	0.086		0.27	<1
Landau 2009b	10/29/2009	MW-1	7-8	Benzo(a)anthracene	0.043		0.27	<1
Landau 2009b	10/29/2009	MW-5	16-17	Benzo(a)anthracene	0.025		0.27	<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Benzo(a)pyrene	0.35	0.1	4.2	3.5
Landau 2009b	10/29/2009	MW-5	10-11	Benzo(a)pyrene	0.14	0.1	0.21	1.4
Landau 2009b	10/29/2009	MW-5	16-17	Benzo(a)pyrene	0.023	0.1	0.21	<1
Landau 2009b	10/29/2009	MW-1	7-8	Benzo(a)pyrene	0.014	0.1	0.21	<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Benzo(b)fluoranthene	0.74		9	<1
Landau 2009b	10/29/2009	MW-5	10-11	Benzo(b)fluoranthene	0.16		0.45	<1
Landau 2009b	10/29/2009	MW-5	16-17	Benzo(b)fluoranthene	0.028		0.45	<1
Landau 2009b	10/29/2009	MW-1	7-8	Benzo(b)fluoranthene	0.023		0.45	<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Benzo(g,h,i)perylene	0.19		1.6	<1
Landau 2009b	10/29/2009	MW-5	10-11	Benzo(g,h,i)perylene	0.079		0.078	1.0
Landau 2009b	10/29/2009	MW-5	16-17	Benzo(g,h,i)perylene	0.015		0.078	<1
Landau 2009b	10/29/2009	MW-1	7-8	Benzo(g,h,i)perylene	0.014		0.078	<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Benzo(k)fluoranthene	0.19		9	<1
Landau 2009b	10/29/2009	MW-5	10-11	Benzo(k)fluoranthene	0.06		0.450	<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Chrysene	0.69		9.2	<1
Landau 2009b	10/29/2009	MW-5	10-11	Chrysene	0.16		0.46	<1
Landau 2009b	10/29/2009	MW-3	17-18	Chrysene	0.078		0.46	<1
Landau 2009b	10/29/2009	MW-1	7-8	Chrysene	0.034		0.46	<1
Landau 2009b	10/29/2009	MW-5	16-17	Chrysene	0.027		0.46	<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Dibenz(a,h)anthracene	0.055		0.66	<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Fluoranthene	1.9	3,200	24	<1

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Chemicals Detected in Soil
Terminal 115 North

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Landau 2009b	10/29/2009	MW-3	17-18	Fluoranthene	0.93	3,200	1.2	<1
Landau 2009b	10/29/2009	MW-5	10-11	Fluoranthene	0.46	3,200	1.2	<1
Landau 2009b	10/29/2009	MW-1	7-8	Fluoranthene	0.29	3,200	1.2	<1
Landau 2009b	10/29/2009	MW-5	16-17	Fluoranthene	0.087	3,200	1.2	<1
Landau 2009b	10/29/2009	MW-1	4-5	Fluoranthene	0.021	3,200	24	<1
Landau 2009b	10/29/2009	MW-3	6.5-7	Fluoranthene	0.021	3,200	1.2	<1
Landau 2009b	10/29/2009	MW-3	10.5-11.5	Fluoranthene	0.011	3,200	1.2	<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Fluorene	0.55	3,200	1.6	<1
Landau 2009b	10/29/2009	MW-3	17-18	Fluorene	0.47	3,200	0.081	5.8
Landau 2009b	10/29/2009	MW-1	7-8	Fluorene	0.13	3,200	0.081	<1
Landau 2009b	10/29/2009	MW-3	6.5-7	Fluorene	0.099	3,200	0.081	<1
Landau 2009b	10/29/2009	MW-5	10-11	Fluorene	0.06	3,200	0.081	<1
Landau 2009b	10/29/2009	MW-1	4-5	Fluorene	0.011	3,200	1.6	<1
Landau 2009b	10/29/2009	MW-5	16-17	Fluorene	0.011	3,200	0.081	<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Indeno(1,2,3-cd)pyrene	0.15		1.8	<1
Landau 2009b	10/29/2009	MW-5	10-11	Indeno(1,2,3-cd)pyrene	0.074		0.088	<1
Landau 2009b	10/29/2009	MW-5	16-17	Indeno(1,2,3-cd)pyrene	0.011		0.088	<1
Landau 2009b	10/29/2009	MW-1	7-8	Indeno(1,2,3-cd)pyrene	0.0085		0.088	<1
Landau 2009b	10/29/2009	MW-3	6.5-7	Naphthalene	0.28	5	0.2	1.4
Landau 2009b	10/29/2009	MW-3	17-18	Naphthalene	0.081	5	0.2	<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Naphthalene	0.077	5	3.8	<1
Landau 2009b	10/29/2009	MW-1	7-8	Naphthalene	0.026	5	0.2	<1
Landau 2009b	10/29/2009	MW-3	17-18	Phenenthrene	1.5		0.49	3.1
Landau 2009b	10/29/2009	DP-1	0.5-1	Phenenthrene	1.3		9.7	<1
Landau 2009b	10/29/2009	MW-5	10-11	Phenenthrene	0.53		0.49	1.1
Landau 2009b	10/29/2009	MW-1	7-8	Phenenthrene	0.38		0.49	<1
Landau 2009b	10/29/2009	MW-5	16-17	Phenenthrene	0.1		0.49	<1
Landau 2009b	10/29/2009	MW-3	6.5-7	Phenenthrene	0.098		0.49	<1
Landau 2009b	10/29/2009	MW-1	4-5	Phenenthrene	0.028		9.7	<1
Landau 2009b	10/29/2009	MW-3	10.5-11.5	Phenenthrene	0.01		0.49	<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Pyrene	2.4	2,400	28	<1
Landau 2009b	10/29/2009	MW-3	17-18	Pyrene	0.52	2,400	1.4	<1
Landau 2009b	10/29/2009	MW-5	10-11	Pyrene	0.37	2,400	1.4	<1

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Chemicals Detected in Soil
Terminal 115 North

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Soil-to-Sediment Screening Level[b] (mg/kg)	Exceedance Factor
Landau 2009b	10/29/2009	MW-1	7-8	Pyrene	0.18	2,400	1.4	<1
Landau 2009b	10/29/2009	MW-5	16-17	Pyrene	0.086	2,400	1.4	<1
Landau 2009b	10/29/2009	MW-1	4-5	Pyrene	0.019	2,400	28	<1
Landau 2009b	10/29/2009	MW-3	6.5-7	Pyrene	0.013	2,400	1.4	<1
Phthalates								
Landau 2009b	10/29/2009	DP-1	0.5-1	bis(2-Ethylhexyl)phthalate	0.18	71	1.60	<1
Landau 2009b	10/29/2009	MW-1	7-8	bis(2-Ethylhexyl)phthalate	0.042	71	0.078	<1
Other SVOCs								
Landau 2009b	10/29/2009	MW-5	4-5	(3+4)-Methylphenol (m,p-Cresol)	0.11	4,000	0.98	<1
Landau 2009b	10/29/2009	MW-3	6.5-7	1- Methylnaphthalene	0.11			
Landau 2009b	10/29/2009	MW-3	17-18	1- Methylnaphthalene	0.094			
Landau 2009b	10/29/2009	DP-1	0.5-1	1- Methylnaphthalene	0.078			
Landau 2009b	10/29/2009	MW-1	7-8	1- Methylnaphthalene	0.042			
Landau 2009b	10/29/2009	MW-3	17-18	2- Methylnaphthalene	0.2	320	0.073	2.7
Landau 2009b	10/29/2009	MW-3	6.5-7	2- Methylnaphthalene	0.17	320	0.073	2.3
Landau 2009b	10/29/2009	DP-1	0.5-1	2- Methylnaphthalene	0.13	320	1.4	<1
Landau 2009b	10/29/2009	MW-1	7-8	2- Methylnaphthalene	0.066	320	0.073	<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Carbazole	0.2	50		<1
Landau 2009b	10/29/2009	MW-3	6.5-7	Carbazole	0.069	50		<1
Landau 2009b	10/29/2009	MW-5	10-11	Carbazole	0.052	50		<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Dibenzofuran	0.33	160	1.2	<1
Landau 2009b	10/29/2009	MW-3	17-18	Dibenzofuran	0.31	160	0.059	5.3
Landau 2009b	10/29/2009	MW-3	6.5-7	Dibenzofuran	0.096	160	0.059	1.6
Landau 2009b	10/29/2009	MW-1	7-8	Dibenzofuran	0.087	160	0.059	1.5
Landau 2009b	10/29/2009	MW-3	17-18	Hexachlorocyclopentadiene	0.42	480		<1
Landau 2009b	10/29/2009	DP-1	0.5-1	Hexachlorocyclopentadiene	0.4	480		<1
Landau 2009b	10/29/2009	MW-3	10.5-11.5	Hexachlorocyclopentadiene	0.1	480		<1
Landau 2009b	10/29/2009	MW-1	4-5	Hexachlorocyclopentadiene	0.09	480		<1
Landau 2009b	10/29/2009	MW-5	4-5	Hexachlorocyclopentadiene	0.09	480		<1
Landau 2009b	10/29/2009	MW-5	16-17	Hexachlorocyclopentadiene	0.088	480		<1
Landau 2009b	10/29/2009	MW-3	6.5-7	Hexachlorocyclopentadiene	0.084	480		<1
Petroleum Hydrocarbons								
Landau 2009b	10/29/2009	MW-1	7-8	Heavy Oil-range hydrocarbons	83	500		<1

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Chemicals Detected in Soil
Terminal 115 North

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Soil-to-Sediment Screening Level[b] (mg/kg)	Exceedance Factor

ft bgs - feet below ground surface
CSL - Cleanup Screening Level from Washington Sediment Management Standards
mg/kg - Milligrams per kilogram

MTCA - Model Toxics Control Act
SVOCs - Semi-volatile orgranic compounds

a - The lower of MTCA Method A or B cleanup levels was selected, from CLARC database.
b - Based on CSL. Where two screening levels are listed for a single chemical, the higher screening levels are for soil samples collected from the vadose zone and the lower screening levels are for soil samples collected from the saturated zone (SAIC 2006).
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level or Soil-to-Sediment Screening Level, whichever is lower.
Chemicals and samples with exceedance factors greater than 1 are shaded light yellow.

Table E-3
Chemicals Detected Above Screening Levels in Groundwater
Terminal 115 North

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)		MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Metals								
Landau 2009b	11/4/2009	MW-7	Antimony	39		6.4		6.1
Landau 2009b	11/5/2009	MW-4	Antimony	38		6.4		5.9
Landau 2009b	11/4/2009	MW-7	Antimony	37		6.4		5.8
Landau 2009b	11/5/2009	MW-4	Antimony	13		6.4		2.0
Landau 2009b	11/6/2009	MW-5	Antimony	13	D	6.4		2.0
Landau 2009b	11/5/2009	MW-5	Antimony	12		6.4		1.9
Landau 2009b	11/5/2009	MW-5	Antimony	11	J	6.4		1.7
Landau 2009b	11/5/2009	MW-5	Antimony	6.9	D, J	6.4		1.1
Landau 2009b	10/29/2009	DP-1-GW	Antimony	2.6		6.4		<1
Landau 2009b	10/29/2009	DP-1-GW	Antimony	1.6		6.4		<1
Landau 2009b	11/6-12/2009	MW-1	Antimony	1.5		6.4		<1
Landau 2009b	11/4/2009	MW-10	Antimony	1.5		6.4		<1
Landau 2009b	11/6-12/2009	MW-1	Antimony	1.4		6.4		<1
Landau 2009b	11/4/2009	MW-8	Antimony	1.1		6.4		<1
Landau 2009b	11/5/2009	MW-4	Arsenic	1,900		0.06	370	31,667
Landau 2009b	11/5/2009	MW-4	Arsenic	1,400		0.06	370	23,333
Landau 2009b	11/5/2009	MW-25	Arsenic	1,400		0.06	370	23,333
Landau 2009b	11/5/2009	MW-25	Arsenic	1,200		0.06	370	20,000
Landau 2009b	11/5/2009	MW-5	Arsenic	820	J	0.06	370	13,667
Landau 2009b	11/6/2009	MW-5	Arsenic	790	D	0.06	370	13,167
Landau 2009b	11/5/2009	MW-5	Arsenic	760		0.06	370	12,667
Landau 2009b	11/5/2009	MW-5	Arsenic	640	D, J	0.06	370	10,667
Landau 2009b	11/4/2009	MW-7	Arsenic	620		0.06	370	10,333
Landau 2009b	11/4/2009	MW-7	Arsenic	590		0.06	370	9,833
Landau 2009b	11/5/2009	MW-26	Arsenic	400		0.06	370	6,667
Landau 2009b	11/5/2009	MW-26	Arsenic	370		0.06	370	6,167
Landau 2009b	11/4/2009	MW-9	Arsenic	180		0.06	370	3,000
Landau 2009b	11/4/2009	MW-9	Arsenic	160		0.06	370	2,667
Landau 2009b	11/4/2009	MW-27	Arsenic	26		0.06	370	433
Landau 2009b	11/4/2009	MW-27	Arsenic	25		0.06	370	417
Landau 2009b	11/5/2009	MW-6	Arsenic	21		0.06	370	350

Table E-3
Chemicals Detected Above Screening Levels in Groundwater
Terminal 115 North

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Landau 2009b	11/5/2009	MW-2	Arsenic	20	0.06	370	333
Landau 2009b	11/5/2009	MW-2	Arsenic	19	0.06	370	317
Landau 2009b	11/6-12/2009	MW-1	Arsenic	19	0.06	370	317
Landau 2009b	11/5/2009	MW-6	Arsenic	18	0.06	370	300
Landau 2009b	11/6-12/2009	MW-1	Arsenic	17	0.06	370	283
Landau 2009b	11/6/2009	MW-3	Arsenic	15	0.06	370	250
Landau 2009b	11/4/2009	MW-8	Arsenic	12	0.06	370	200
Landau 2009b	11/6/2009	MW-3	Arsenic	11	0.06	370	183
Landau 2009b	11/4/2009	MW-8	Arsenic	11	0.06	370	183
Landau 2009b	10/29/2009	DP-1-GW	Arsenic	10	0.06	370	167
Landau 2009b	11/4/2009	MW-10	Arsenic	6.9	0.06	370	115
Landau 2009b	11/4/2009	MW-10	Arsenic	6	0.06	370	100
Landau 2009b	10/29/2009	DP-1-GW	Arsenic	5.1	0.06	370	85
Landau 2009b	11/5/2009	MW-4	Cadmium	520	5	320	104
Landau 2009b	11/5/2009	MW-5	Cadmium	460 D	5	320	92
Landau 2009b	11/5/2009	MW-5	Cadmium	410	5	320	82
Landau 2009b	11/4/2009	MW-7	Cadmium	69	5	320	14
Landau 2009b	11/5/2009	MW-6	Cadmium	13	5	320	2.6
Landau 2009b	11/6/2009	MW-3	Cadmium	11	5	320	2.2
Landau 2009b	11/4/2009	MW-27	Cadmium	8.3	5	320	1.7
Landau 2009b	11/5/2009	MW-4	Cadmium	7.3	5	320	1.5
Landau 2009b	11/6-12/2009	MW-1	Cadmium	6.6	5	320	1.3
Landau 2009b	11/5/2009	MW-4	Cadmium	4.2	5	320	<1
Landau 2009b	11/4/2009	MW-8	Cadmium	3.2	5	320	<1
Landau 2009b	11/4/2009	MW-9	Cadmium	2.5	5	320	<1
Landau 2009b	11/5/2009	MW-4	Chromium	1,100	50	320	22
Landau 2009b	11/6/2009	MW-5	Chromium	430 D	50	320	8.6
Landau 2009b	11/5/2009	MW-5	Chromium	410	50	320	8.2
Landau 2009b	11/4/2009	MW-7	Chromium	101	50	320	2.0
Landau 2009b	11/5/2009	MW-6	Chromium	44	50	320	<1
Landau 2009b	10/29/2009	DP-1-GW	Chromium	44	50	320	<1
Landau 2009b	11/5/2009	MW-2	Chromium	13	50	320	<1

Table E-3
Chemicals Detected Above Screening Levels in Groundwater
Terminal 115 North

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Landau 2009b	11/6-12/2009	MW-1	Chromium	11	50	320	<1
Landau 2009b	11/6/2009	MW-3	Chromium	8.2	50	320	<1
Landau 2009b	11/4/2009	MW-10	Chromium	5.4	50	320	<1
Landau 2009b	11/4/2009	MW-27	Chromium	5	50	320	<1
Landau 2009b	11/4/2009	MW-8	Chromium	2.8	50	320	<1
Landau 2009b	11/5/2009	MW-4	Copper	310	592	120	2.6
Landau 2009b	10/29/2009	DP-1-GW	Copper	170	592	120	1.4
Landau 2009b	11/5/2009	MW-4	Copper	120	592	120	1.0
Landau 2009b	11/5/2009	MW-5	Copper	77 D, J	592	120	<1
Landau 2009b	11/5/2009	MW-2	Copper	59	592	120	<1
Landau 2009b	11/6/2009	MW-5	Copper	55 D	592	120	<1
Landau 2009b	11/5/2009	MW-5	Copper	53	592	120	<1
Landau 2009b	11/5/2009	MW-5	Copper	49 J	592	120	<1
Landau 2009b	11/4/2009	MW-7	Copper	40	592	120	<1
Landau 2009b	11/6-12/2009	MW-1	Copper	22	592	120	<1
Landau 2009b	11/4/2009	MW-10	Copper	13	592	120	<1
Landau 2009b	11/5/2009	MW-6	Copper	8.9	592	120	<1
Landau 2009b	10/29/2009	DP-1-GW	Copper	5.9	592	120	<1
Landau 2009b	11/4/2009	MW-10	Copper	5.9	592	120	<1
Landau 2009b	11/5/2009	MW-6	Copper	6.2	592	120	<1
Landau 2009b	11/6/2009	MW-3	Copper	5.7	592	120	<1
Landau 2009b	11/4/2009	MW-7	Copper	4.8	592	120	<1
Landau 2009b	11/6-12/2009	MW-1	Copper	4	592	120	<1
Landau 2009b	11/5/2009	MW-26	Copper	2.8	592	120	<1
Landau 2009b	11/4/2009	MW-8	Copper	2.1	592	120	<1
Landau 2009b	11/6/2009	MW-3	Copper	1.7	592	120	<1
Landau 2009b	11/5/2009	MW-25	Copper	1.5	592	120	<1
Landau 2009b	11/4/2009	MW-9	Copper	1.3	592	120	<1
Landau 2009b	11/5/2009	MW-4	Lead	470	15	13	36
Landau 2009b	11/5/2009	MW-4	Lead	460	15	13	35
Landau 2009b	11/4/2009	MW-7	Lead	220	15	13	17
Landau 2009b	10/29/2009	DP-1-GW	Lead	180	15	13	14

Table E-3
Chemicals Detected Above Screening Levels in Groundwater
Terminal 115 North

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)		MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Landau 2009b	11/4/2009	MW-10	Lead	86		15	13	6.6
Landau 2009b	11/6-12/2009	MW-1	Lead	68		15	13	5.2
Landau 2009b	11/4/2009	MW-7	Lead	40		15	13	3.1
Landau 2009b	11/6/2009	MW-5	Lead	34	D	15	13	2.6
Landau 2009b	11/5/2009	MW-5	Lead	32		15	13	2.5
Landau 2009b	11/5/2009	MW-5	Lead	32		15	13	2.5
Landau 2009b	11/5/2009	MW-5	Lead	27	D	15	13	2.1
Landau 2009b	11/5/2009	MW-6	Lead	22		15	13	1.7
Landau 2009b	11/5/2009	MW-2	Lead	9.4		15	13	<1
Landau 2009b	11/6/2009	MW-3	Lead	5.5		15	13	<1
Landau 2009b	11/5/2009	MW-6	Lead	4.1		15	13	<1
Landau 2009b	11/6-12/2009	MW-1	Lead	3		15	13	<1
Landau 2009b	11/4/2009	MW-8	Lead	2.8		15	13	<1
Landau 2009b	11/4/2009	MW-10	Lead	2.5		15	13	<1
Landau 2009b	11/4/2009	MW-27	Lead	1.2		15	13	<1
Landau 2009b	10/29/2009	DP-1-GW	Lead	1.1		15	13	<1
Landau 2009b	11/4/2009	MW-8	Lead	1.1		15	13	<1
Landau 2009b	11/5/2009	MW-4	Mercury	0.94		2	0.0074	127
Landau 2009b	11/5/2009	MW-4	Mercury	0.79		2	0.0074	107
Landau 2009b	11/6/2009	MW-5	Mercury	0.31	D	2	0.0074	42
Landau 2009b	11/5/2009	MW-5	Mercury	0.27		2	0.0074	36
Landau 2009b	11/5/2009	MW-5	Mercury	0.26		2	0.0074	35
Landau 2009b	11/5/2009	MW-5	Mercury	0.19	D	2	0.0074	26
Landau 2009b	11/5/2009	MW-5	Nickel	1,400	J			
Landau 2009b	11/6/2009	MW-5	Nickel	1,200	D			
Landau 2009b	11/5/2009	MW-5	Nickel	1,000				
Landau 2009b	11/5/2009	MW-5	Nickel	970	D, J			
Landau 2009b	11/5/2009	MW-4	Nickel	500				
Landau 2009b	11/5/2009	MW-4	Nickel	410				
Landau 2009b	10/29/2009	DP-1-GW	Nickel	78				
Landau 2009b	11/4/2009	MW-7	Nickel	64				
Landau 2009b	11/5/2009	MW-2	Nickel	54				

Table E-3
Chemicals Detected Above Screening Levels in Groundwater
Terminal 115 North

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)		MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Landau 2009b	11/4/2009	MW-7	Nickel	52				
Landau 2009b	11/5/2009	MW-6	Nickel	41				
Landau 2009b	11/6/2009	MW-3	Nickel	26				
Landau 2009b	11/6/2009	MW-3	Nickel	26				
Landau 2009b	11/5/2009	MW-6	Nickel	16				
Landau 2009b	11/6/2009	MW-5	Tin	1,300	D, J	9,600		<1
Landau 2009b	11/5/2009	MW-5	Tin	990	J	9,600		<1
Landau 2009b	11/5/2009	MW-5	Tin	640	J	9,600		<1
Landau 2009b	11/4/2009	MW-10	Tin	480		9,600		<1
Landau 2009b	11/5/2009	MW-5	Tin	400	D, J	9,600		<1
Landau 2009b	11/5/2009	MW-4	Tin	390		9,600		<1
Landau 2009b	11/6-12/2009	MW-1	Tin	160		9,600		<1
Landau 2009b	11/5/2009	MW-4	Tin	57		9,600		<1
Landau 2009b	10/29/2009	DP-1-GW	Tin	49		9,600		<1
Landau 2009b	11/6/2009	MW-3	Tin	32		9,600		<1
Landau 2009b	11/4/2009	MW-10	Tin	12		9,600		<1
Landau 2009b	11/4/2009	MW-7	Tin	8.1		9,600		<1
Landau 2009b	11/5/2009	MW-4	Zinc	760		4,800	76	10
Landau 2009b	10/29/2009	DP-1-GW	Zinc	480		4,800	76	6.3
Landau 2009b	11/5/2009	MW-4	Zinc	460		4,800	76	6.1
Landau 2009b	11/4/2009	MW-7	Zinc	230		4,800	76	3.0
Landau 2009b	11/5/2009	MW-6	Zinc	140		4,800	76	1.8
Landau 2009b	11/5/2009	MW-5	Zinc	81	D, J	4,800	76	1.1
Landau 2009b	11/6-12/2009	MW-1	Zinc	78		4,800	76	1.0
Landau 2009b	11/6/2009	MW-5	Zinc	75	D	4,800	76	<1
Landau 2009b	11/5/2009	MW-2	Zinc	69		4,800	76	<1
Landau 2009b	11/4/2009	MW-7	Zinc	66		4,800	76	<1
Landau 2009b	11/5/2009	MW-5	Zinc	63		4,800	76	<1
Landau 2009b	11/5/2009	MW-5	Zinc	61	J	4,800	76	<1
Landau 2009b	11/4/2009	MW-10	Zinc	53		4,800	76	<1
Landau 2009b	11/6/2009	MW-3	Zinc	40		4,800	76	<1
Landau 2009b	11/6/2009	MW-3	Zinc	39		4,800	76	<1

Table E-3
Chemicals Detected Above Screening Levels in Groundwater
Terminal 115 North

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Landau 2009b	11/4/2009	MW-8	Zinc	32	4,800	76	<1
Landau 2009b	11/5/2009	MW-6	Zinc	26	4,800	76	<1
Landau 2009b	11/5/2009	MW-25	Zinc	19	4,800	76	<1
Landau 2009b	11/5/2009	MW-26	Zinc	17	4,800	76	<1
Landau 2009b	11/4/2009	MW-27	Zinc	16	4,800	76	<1
Landau 2009b	11/4/2009	MW-9	Zinc	13	4,800	76	<1
Landau 2009b	10/29/2009	DP-1-GW	Zinc	12	4,800	76	<1
Landau 2009b	11/4/2009	MW-8	Zinc	10	4,800	76	<1
Landau 2009b	11/6-12/2009	MW-1	Zinc	7.8	4,800	76	<1
Landau 2009b	11/5/2009	MW-2	Zinc	7.8	4,800	76	<1
PAHs							
Landau 2009b	11/5/2009	MW-6	Acenaphthene	13	960	9.3	1.4
Landau 2009b	11/6-12/2009	MW-1	Acenaphthene	2.2	960	9.3	<1
Landau 2009b	11/4/2009	MW-7	Acenaphthene	0.7	960	9.3	<1
Landau 2009b	10/29/2009	DP-1-GW	Acenaphthene	0.42	960	9.3	<1
Landau 2009b	10/29/2009	DP-1-GW	Anthracene	0.24	4,800	59	<1
Landau 2009b	11/4/2009	MW-7	Anthracene	0.12	4,800	59	<1
Landau 2009b	11/5/2009	MW-5	Benzo(a)anthracene	2		0.63	3.2
Landau 2009b	11/6/2009	MW-5	Benzo(a)anthracene	1.5 D		0.63	2.4
Landau 2009b	11/6/2009	MW-3	Benzo(a)anthracene	1.3		0.63	2.1
Landau 2009b	10/29/2009	DP-1-GW	Benzo(a)anthracene	0.14		0.63	<1
Landau 2009b	11/4/2009	MW-7	Benzo(a)anthracene	0.061		0.63	<1
Landau 2009b	11/5/2009	MW-6	Benzo(a)anthracene	0.014		0.63	<1
Landau 2009b	11/6-12/2009	MW-1	Benzo(a)anthracene	0.012		0.63	<1
Landau 2009b	10/29/2009	DP-1-GW	Benzo(a)pyrene	0.11	0.012	0.27	9.2
Landau 2009b	11/4/2009	MW-7	Benzo(a)pyrene	0.037	0.012		3.1
Landau 2009b	11/6/2009	MW-3	Benzo(b)fluoranthene	2.1		0.56	3.8
Landau 2009b	11/5/2009	MW-5	Benzo(b)fluoranthene	1.1		0.56	2.0
Landau 2009b	10/29/2009	DP-1-GW	Benzo(b)fluoranthene	0.24		0.56	<1
Landau 2009b	11/4/2009	MW-7	Benzo(b)fluoranthene	0.071		0.56	<1
Landau 2009b	11/5/2009	MW-6	Benzo(b)fluoranthene	0.014		0.56	<1
Landau 2009b	10/29/2009	DP-1-GW	Benzo(g,h,i)perylene	0.14		0.029	4.8

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Chemicals Detected Above Screening Levels in Groundwater
Terminal 115 North

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Landau 2009b	11/5/2009	MW-6	Benzo(g,h,i)perylene	0.11		0.029	3.8
Landau 2009b	11/4/2009	MW-7	Benzo(g,h,i)perylene	0.041		0.029	1.4
Landau 2009b	10/29/2009	DP-1-GW	Benzo(k)fluoranthene	0.062		0.57	<1
Landau 2009b	11/4/2009	MW-7	Benzo(k)fluoranthene	0.017		0.57	<1
Landau 2009b	11/5/2009	MW-5	Chrysene	1.8		1.9	<1
Landau 2009b	11/6/2009	MW-5	Chrysene	1.3 D		1.9	<1
Landau 2009b	10/29/2009	DP-1-GW	Chrysene	0.25		1.9	<1
Landau 2009b	11/4/2009	MW-7	Chrysene	0.061		1.9	<1
Landau 2009b	11/5/2009	MW-6	Chrysene	0.014		1.9	<1
Landau 2009b	10/29/2009	DP-1-GW	Dibenz(a,h)anthracene	0.044		0.013	3.4
Landau 2009b	11/4/2009	MW-7	Dibenz(a,h)anthracene	0.012			
Landau 2009b	10/29/2009	DP-1-GW	Fluoranthene	0.67	640	17	<1
Landau 2009b	11/4/2009	MW-7	Fluoranthene	0.23	640	17	<1
Landau 2009b	11/6-12/2009	MW-1	Fluoranthene	0.16	640	17	<1
Landau 2009b	11/6/2009	MW-3	Fluorene	11	640	7	1.6
Landau 2009b	10/29/2009	DP-1-GW	Fluorene	0.31	640	7	<1
Landau 2009b	11/4/2009	MW-7	Fluorene	0.29	640	7	<1
Landau 2009b	11/6-12/2009	MW-1	Fluorene	0.12	640	7	<1
Landau 2009b	10/29/2009	DP-1-GW	Indeno(1,2,3-cd)pyrene	0.085		0.033	2.6
Landau 2009b	11/4/2009	MW-7	Indeno(1,2,3-cd)pyrene	0.024		0.033	<1
Landau 2009b	11/5/2009	MW-6	Naphthalene	43	160	92	<1
Landau 2009b	11/4/2009	MW-7	Naphthalene	37	160	92	<1
Landau 2009b	11/6/2009	MW-3	Naphthalene	17	160	92	<1
Landau 2009b	11/4/2009	MW-7	Naphthalene	12	160	92	<1
Landau 2009b	11/5/2009	MW-5	Naphthalene	5	160	92	<1
Landau 2009b	11/6/2009	MW-5	Naphthalene	5 D	160	92	<1
Landau 2009b	11/6-12/2009	MW-1	Naphthalene	3.4	160	92	<1
Landau 2009b	11/5/2009	MW-6	Naphthalene	3.4	160	92	<1
Landau 2009b	11/5/2009	MW-4	Naphthalene	2.8	160	92	<1
Landau 2009b	11/6/2009	MW-3	Naphthalene	1.4	160	92	<1
Landau 2009b	11/5/2009	MW-2	Naphthalene	0.1	160	92	<1
Landau 2009b	11/5/2009	MW-5	Phenanthrene	18		23	<1

Table E-3
Chemicals Detected Above Screening Levels in Groundwater
Terminal 115 North

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Landau 2009b	11/6/2009	MW-5	Phenanthrene	10 D		23	<1
Landau 2009b	10/29/2009	DP-1-GW	Phenanthrene	0.63		23	<1
Landau 2009b	11/4/2009	MW-7	Phenanthrene	0.3		23	<1
Landau 2009b	10/29/2009	DP-1-GW	Pyrene	0.56	480	20	<1
Landau 2009b	11/4/2009	MW-7	Pyrene	0.28	480	20	<1
Phthalates							
Landau 2009b	10/29/2009	DP-1-GW	bis(2-Ethylhexyl)phthalate	4.2	6.3	0.47	8.9
Landau 2009b	11/4/2009	MW-7	bis(2-Ethylhexyl)phthalate	1.6	6.3		<1
Landau 2009b	11/5/2009	MW-6	bis(2-Ethylhexyl)phthalate	1.3	6.3		<1
Landau 2009b	11/6/2009	MW-3	Diethylphthalate	190	12,800	870	<1
Landau 2009b	11/6-12/2009	MW-1	Diethylphthalate	1.2	12,800	870	<1
Landau 2009b	10/29/2009	DP-1-GW	Diethylphthalate	0.98	12,800	870	<1
Landau 2009b	11/5/2009	MW-6	Diethylphthalate	0.21	12,800	870	<1
Other SVOCs							
Landau 2009b	11/5/2009	MW-4	(3+4)-Methylphenol (m,p-Cresol)	1,600	40	77	40
Landau 2009b	11/4/2009	MW-7	(3+4)-Methylphenol (m,p-Cresol)	10	40	77	<1
Landau 2009b	11/5/2009	MW-6	(3+4)-Methylphenol (m,p-Cresol)	1.9	40	77	<1
Landau 2009b	11/5/2009	MW-4	1,2,4-Trimethylbenzene	0.74	400		<1
Landau 2009b	11/5/2009	MW-6	1,2,4-Trimethylbenzene	0.54	400		<1
Landau 2009b	11/4/2009	MW-7	1,2,4-Trimethylbenzene	0.28	400		<1
Landau 2009b	11/4/2009	MW-8	1,2,4-Trimethylbenzene	0.23	400		<1
Landau 2009b	11/6-12/2009	MW-1	1,2,4-Trimethylbenzene	0.22	400		<1
Landau 2009b	11/5/2009	MW-2	1,2,4-Trimethylbenzene	0.22	400		<1
Landau 2009b	11/5/2009	MW-4	1,3,5-Trimethylbenzene	0.47	400		<1
Landau 2009b	11/5/2009	MW-6	1,3,5-Trimethylbenzene	0.38	400		<1
Landau 2009b	11/5/2009	MW-6	1-Methylnaphthalene	7.4			
Landau 2009b	11/4/2009	MW-7	1-Methylnaphthalene	0.9			
Landau 2009b	11/5/2009	MW-6	2,4-Dimethylphenol	11	160		<1
Landau 2009b	11/4/2009	MW-7	2,4-Dimethylphenol	2.9	160		<1
Landau 2009b	11/6/2009	MW-3	2-Methylnaphthalene	13	32		<1
Landau 2009b	11/5/2009	MW-6	2-Methylnaphthalene	1.5	32		<1
Landau 2009b	11/4/2009	MW-7	2-Methylnaphthalene	1.2	32		<1

Table E-3
Chemicals Detected Above Screening Levels in Groundwater
Terminal 115 North

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)		MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Landau 2009b	11/5/2009	MW-4	2-Methylphenol (o-Cresol)	120		400	7.1	17
Landau 2009b	11/5/2009	MW-6	2-Methylphenol (o-Cresol)	1		400	7.1	<1
Landau 2009b	11/4/2009	MW-7	Benzyl Alcohol	1.1		2,400		<1
Landau 2009b	11/5/2009	MW-6	Carbazole	2.2		4.4		<1
Landau 2009b	11/5/2009	MW-6	Dibenzofuran	2.5		32		<1
Landau 2009b	11/5/2009	MW-4	Phenol	120		4,800		<1
Landau 2009b	11/4/2009	MW-7	Phenol	51		4,800		<1
Petroleum Hydrocarbons								
Landau 2009b	10/29/2009	DP-1-GW	Heavy Oil-range hydrocarbons	1,800		500		3.6
VOCs								
Landau 2009b	11/5/2009	MW-4	2-Butanone	240		4,800		<1
Landau 2009b	11/6/2009	MW-5	2-Butanone	51	D	4,800		<1
Landau 2009b	11/5/2009	MW-5	2-Butanone	50		4,800		<1
Landau 2009b	11/4/2009	MW-7	2-Butanone	11		4,800		<1
Landau 2009b	11/5/2009	MW-4	2-Hexanone	20				
Landau 2009b	11/5/2009	MW-5	2-Hexanone	11				
Landau 2009b	11/6/2009	MW-5	2-Hexanone	10	D			
Landau 2009b	11/5/2009	MW-4	Acetone	2,400		800		3.0
Landau 2009b	11/5/2009	MW-5	Acetone	650	J	800		<1
Landau 2009b	11/6/2009	MW-5	Acetone	530	D, J	800		<1
Landau 2009b	11/4/2009	MW-7	Acetone	160		800		<1
Landau 2009b	10/29/2009	DP-1-GW	Acetone	47		800		<1
Landau 2009b	11/6/2009	MW-3	Acetone	18		800		<1
Landau 2009b	11/6-12/2009	MW-1	Acetone	17		800		<1
Landau 2009b	11/5/2009	MW-2	Acetone	9.8		800		<1
Landau 2009b	11/4/2009	MW-8	Acetone	8.8		800		<1
Landau 2009b	11/5/2009	MW-4	Benzene	1.7		0.8		2.1
Landau 2009b	11/5/2009	MW-6	Benzene	0.29		0.8		<1
Landau 2009b	11/4/2009	MW-7	Benzene	0.24		0.8		<1
Landau 2009b	11/4/2009	MW-8	Benzene	0.22		0.8		<1
Landau 2009b	11/5/2009	MW-5	Isopropylbenzene	1.3				
Landau 2009b	11/6/2009	MW-5	Isopropylbenzene	1.3	D			

Table E-3
Chemicals Detected Above Screening Levels in Groundwater
Terminal 115 North

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Landau 2009b	11/4/2009	MW-8	m,p-Xylene	0.49	16,000		<1
Landau 2009b	11/5/2009	MW-6	m,p-Xylene	0.47	16,000		<1
Landau 2009b	11/5/2009	MW-4	Methyl Isobutyl Ketone	46	640		<1
Landau 2009b	11/5/2009	MW-5	Methyl Isobutyl Ketone	17	640		<1
Landau 2009b	11/6/2009	MW-5	Methyl Isobutyl Ketone	17 D	640		<1
Landau 2009b	11/5/2009	MW-6	o-Xylene	0.47	16,000		<1
Landau 2009b	11/5/2009	MW-5	p-Isopropylbenzene	6.1			
Landau 2009b	11/6/2009	MW-5	p-Isopropylbenzene	5.5 D			
Landau 2009b	11/5/2009	MW-4	p-Isopropylbenzene	0.67			
Landau 2009b	11/5/2009	MW-6	p-Isopropylbenzene	0.36			
Landau 2009b	11/4/2009	MW-7	p-Isopropylbenzene	0.32			
Landau 2009b	10/29/2009	DP-1-GW	p-Isopropylbenzene	0.28			
Landau 2009b	11/6-12/2009	MW-1	p-Isopropylbenzene	0.26			
Landau 2009b	11/5/2009	MW-4	Toluene	8	640		<1

CSL - Cleanup Screening Level from Washington Sediment Management Standards
ug/L - Micrograms per liter
MTCA - Model Toxics Control Act
J - Estimated concentration between the method detection limit and laboratory reporting limit.
D - Duplicate sample
PAHs - Polycyclic aromatic hydrocarbons
SVOCs - Semi-volatile organic compounds
VOCs - Volatile organic compounds

a - The lower of MTCA Method A or B cleanup levels was selected, from CLARC database
b - Based on CSL (SAIC 2006).
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level or Groundwater-to-Sediment Screening Value, whichever is lower.
Chemicals and samples with exceedance factors greater than 1 are shaded light yellow.

Table E-4
Chemicals Detected in Catch Basin Solids
Terminal 115 North

Source	Sample Date	Sample Location	Chemical	Catch Basin Solids (mg/kg)	SQS/LAET (mg/kg)	CSL/2LAET (mg/kg)	SQS Exceedance Factor	CSL Exceedance Factor
Metals								
Landau 2009b	11/19/2009	CB-1	Chromium	34	260	270	<1	<1
Landau 2009b	11/19/2009	CB-1	Copper	150	390	390	<1	<1
Landau 2009b	11/19/2009	CB-1	Lead	59	450	530	<1	<1
Landau 2009b	11/19/2009	CB-1	Tin	640				
Landau 2009b	11/19/2009	CB-1	Zinc	580	410	960	1.4	<1
PAHs								
Landau 2009b	11/19/2009	CB-1	Benzo(a)anthracene	0.03	1.3	1.6	<1	<1
Landau 2009b	11/19/2009	CB-1	Benzo(a)pyrene	0.028	1.6	3	<1	<1
Landau 2009b	11/19/2009	CB-1	Benzo(b)fluoranthene	0.047				
Landau 2009b	11/19/2009	CB-1	Benzo(g,h,i)perylene	0.044	0.67	0.72	<1	<1
Landau 2009b	11/19/2009	CB-1	Benzo(k)fluoranthene	0.031				
Landau 2009b	11/19/2009	CB-1	Total Benzofluoranthenes	0.078	3.2	3.6	<1	<1
Landau 2009b	11/19/2009	CB-1	Chrysene	0.072	1.4	2.8	<1	<1
Landau 2009b	11/19/2009	CB-1	Fluoranthene	0.077	1.7	2.5	<1	<1
Landau 2009b	11/19/2009	CB-1	Phenanthrene	0.025	1.5	5.4	<1	<1
Landau 2009b	11/19/2009	CB-1	Pyrene	0.072	2.6	3.3	<1	<1
Phthalates								
Landau 2009b	11/19/2009	CB-1	bis(2-Ethylhexyl)phthalate	2.5	1.3	1.9	1.9	1.3

mg/kg - Milligram per kilogram
CSL - SMS Cleanup Screening Level
SQS - SMS Sediment Quality Standard
LAET - Lowest Apparent Effects Threshold
2LAET - Second LAET
PAHs - Polycyclic aromatic hydrocarbons

Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentrations to the CSL/2LAET or SQS/LAET.
Total organic carbon was not analyzed for the catch basin samples; therefore, PAH and phthalates results were compared to the LAET and the 2LAET value rather than the SQS and CSL. The LAET is functionally equivalent to the SQS and the 2LAET is functionally equivalent to the CSL.
Chemicals and samples with exceedance factors greater than 1 are shaded light yellow.

Table E-5
Chemicals Detected in Soil
Building M-2 Area

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Soil Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Exceedance Factor
Coastal Tank Services 1993	4/29/1993	# 7	NA	Diesel-range hydrocarbons	31,000	2,000	16
Coastal Tank Services 1993	4/29/1993	# 2	NA	Diesel-range hydrocarbons	8,900	2,000	4.5
Coastal Tank Services 1993	4/29/1993	# 3	NA	Diesel-range hydrocarbons	1000	2,000	<1
Coastal Tank Services 1993	4/29/1993	# 6	NA	Diesel-range hydrocarbons	450	2,000	<1
Coastal Tank Services 1993	4/29/1993	# 4	NA	Diesel-range hydrocarbons	380	2,000	<1
Coastal Tank Services 1993	5/9/1993	North Wall	NA	Diesel-range hydrocarbons	30	2,000	<1
Coastal Tank Services 1993	5/9/1993	South Wall	NA	Diesel-range hydrocarbons	30	2,000	<1
Coastal Tank Services 1993	4/29/1993	# 1	NA	Diesel-range hydrocarbons	10	2,000	<1

ft bgs - feet below ground surface
mg/kg - Milligrams per kilogram
MTCA - Model Toxics Control Act
NA - Not available
D - Duplicate

a - MTCA Method A cleanup level
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level.
Chemicals and samples with exceedance factors greater than 1 are shaded light yellow.

Table E-6
Chemicals Detected in Groundwater
Building M-2 Area

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	Exceedance Factor
Coastal Tank Services 1993	5/20/1993	UST Pit	Diesel-range hydrocarbons	8,000	500	16
ESE 1994	4/13/1994	MW5	Diesel-range hydrocarbons	310	500	<1
ESE 1994	4/13/1994	MW6	Diesel-range hydrocarbons	220	500	<1
ESE 1994	4/13/1994	MW7	Diesel-range hydrocarbons	160 D	500	<1
ESE 1994	4/13/1994	MW7	Diesel-range hydrocarbons	150	500	<1
ESE 1994	4/13/1994	MW5	Heavy Oil-range hydrocarbons	310	500	<1

ug/L - Micrograms per liter
MTCA - Model Toxics Control Act
D - Duplicate

a - MTCA Method A cleanup level
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level.
Chemicals and samples with exceedance factors greater than 1 are shaded light yellow.

Table E-7
Chemicals Detected in Soil
Building C-1 Former Car Wash Area

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Exceedance Factor
Harding Lawson 1990	1990	B-115-7-3	13	Diesel fuel #1/Kerosene	20,000	2,000	10
Harding Lawson 1990	1990	B-115-6-2	8	Diesel fuel #1/Kerosene	3,800	2,000	1.9
Harding Lawson 1990	1990	B-115-7-1	3.5	Diesel fuel #1/Kerosene	2,900	2,000	1.5
Harding Lawson 1990	1990	SB-2	13	Diesel fuel #1/Kerosene	1,300	2,000	<1
Harding Lawson 1990	1990	SB-1	13	Diesel fuel #1/Kerosene	1,000	2,000	<1
Harding Lawson 1990	1990	MW-115-4-1	3.5	Diesel fuel #1/Kerosene	17	2,000	<1
Harding Lawson 1990	1990	B-115-7-3	13.5	Diesel fuel #1/Kerosene	12	2,000	<1
Harding Lawson 1990	1990	B-115-7-3	13	Total Petroleum Hydrocarbons	31,360	2,000	16
Harding Lawson 1990	1990	SB-2	13	Total Petroleum Hydrocarbons	3,856	2,000	1.9
Harding Lawson 1990	1990	B-115-6-2	8	Total Petroleum Hydrocarbons	2,126	2,000	1.1
Harding Lawson 1990	1990	SB-1	13	Total Petroleum Hydrocarbons	751	2,000	<1

ft bgs - feet below ground surface
mg/kg - Milligrams per kilogram
MTCA - Model Toxics Control Act

a - MTCA Method A cleanup level
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level.
Chemicals and samples with exceedance factors greater than 1 are shaded light yellow.

Table E-8
Chemicals Detected Above Screening Levels in Soil
Southwest Tank Yard/Cardlock Facility/Shultz Distributing Facility

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Exceedance Factor
Columbia Environmental 1997	1996	MW21-1	6	Diesel-range hydrocarbons	9,600	2,000	4.8
GeoScience Management 1995a	3/22/1995	HB-5	4	Diesel-range hydrocarbons	8,600	2,000	4.3
GeoScience Management 1996b	1996	Wwall	9	Diesel-range hydrocarbons	5,810	2,000	2.9
GeoScience Management 1995a	3/22/1995	HB-8	4.5	Diesel-range hydrocarbons	3,300	2,000	1.7
GeoScience Management 1996b	1996	SS-2	NA	Diesel-range hydrocarbons	2,690	2,000	1.3
Columbia Environmental 1995	1995	S11	9	Diesel-range hydrocarbons	2,100	2,000	1.1
GeoScience Management 1996b	1996	SS-1	NA	Diesel-range hydrocarbons	1,740	2,000	<1
GeoScience Management 1995a	3/22/1995	HB-2	7	Diesel-range hydrocarbons	900	2,000	<1
GeoScience Management 1996b	1996	Floor	NA	Diesel-range hydrocarbons	846	2,000	<1
GeoScience Management 1996b	1996	Ewall	8	Diesel-range hydrocarbons	263	2,000	<1
GeoScience Management 1995a	11/1994	MW-12	6	Diesel-range hydrocarbons	200	2,000	<1
Columbia Environmental 1997	1996	Comp-2	Composite MW20	Diesel-range hydrocarbons	77	2,000	<1
GeoScience Management 1995a	3/22/1995	HB-12	4.5	Diesel-range hydrocarbons	52	2,000	<1
Columbia Environmental 1997	1996	Comp-1	Composite MW22	Diesel-range hydrocarbons	41	2,000	<1
Columbia Environmental 1997	1996	Comp-3	Composite MW19	Diesel-range hydrocarbons	27	2,000	<1
GeoScience Management 1995a	4/7/1995	(MW-16)	5	Diesel-range hydrocarbons	21	2,000	<1
GeoScience Management 1995a	11/1994	MW-12	6	Gasoline-range hydrocarbons	66	30	2.2
GeoScience Management 1996b	1996	Wwall	9	Heavy Oil-range hydrocarbons	223	2,000	<1
GeoScience Management 1996b	1996	Ewall	8	Heavy Oil-range hydrocarbons	45.7	2,000	<1
GeoScience Management 1995a	11/1994	MW-12	6	Heavy Oil-range hydrocarbons	41	2,000	<1
GeoScience Management 1996b	1996	SS-1	NA	Heavy Oil-range hydrocarbons	38.5	2,000	<1
GeoScience Management 1996b	1996	Floor	NA	Heavy Oil-range hydrocarbons	28.6	2,000	<1

ft bgs - feet below ground surface
mg/kg - Milligrams per kilogram
MTCA - Model Toxics Control Act

a - MTCA Method A cleanup level
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level.
Chemicals and samples with exceedance factors greater than 1 are shaded light yellow.

Table E-9
Chemicals Detected in Groundwater
Southwest Tank Yard/Cardlock Facility/Shultz Distributing Facility Area

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Metals							
Onsite Environmental 2009b	12/4/2009	MW-15	Arsenic	64	0.06	370	1,067
Onsite Environmental 2009a	10/7/2009	MW-15	Arsenic	42	0.06	370	700
Onsite Environmental 2009b	12/4/2009	MW-19	Arsenic	16	0.06	370	267
Onsite Environmental 2009b	12/4/2009	MW-19	Arsenic	14	0.06	370	233
Onsite Environmental 2009a	10/7/2009	MW-19	Arsenic	5.5	0.06	370	92
Onsite Environmental 2009a	10/7/2009	MW-19	Arsenic	5	0.06	370	83
Onsite Environmental 2009a	10/7/2009	MW-21	Arsenic	3.6	0.06	370	60
Onsite Environmental 2009a	10/7/2009	MW-16	Barium	200	3,200		<1
Onsite Environmental 2009b	12/4/2009	MW-16	Barium	200	3,200		<1
Onsite Environmental 2009b	12/4/2009	MW-15	Barium	69	3,200		<1
Onsite Environmental 2009b	12/4/2009	MW-21	Barium	61	3,200		<1
Onsite Environmental 2009b	12/4/2009	MW-17	Barium	55	3,200		<1
Onsite Environmental 2009a	10/7/2009	MW-17	Barium	46	3,200		<1
Onsite Environmental 2009b	12/4/2009	MW-19	Barium	35	3,200		<1
Onsite Environmental 2009a	10/7/2009	MW-15	Barium	31	3,200		<1
Onsite Environmental 2009a	10/7/2009	MW-21	Barium	26	3,200		<1
Onsite Environmental 2009b	12/4/2009	MW-19	Barium	0.037	3,200		<1
Onsite Environmental 2009b	12/4/2009	MW-15	Cadmium	4.5	5	3.4	1.3
Onsite Environmental 2009b	12/4/2009	MW-15	Chromium	39	50	320	<1
Onsite Environmental 2009b	12/4/2009	MW-15	Lead	56	15	13	4.3
Onsite Environmental 2009a	10/7/2009	MW-15	Lead	9.8	15	13	<1
Onsite Environmental 2009b	12/4/2009	MW-15	Selenium	5.9	80		<1
Petroleum Hydrocarbons							
GeoScience Management 1996a	8/2/1995	MW-14	Diesel-range hydrocarbons	180,000	500		360
GeoScience Management 1996a	8/2/1995	MW-14	Diesel-range hydrocarbons	110,000 D	500		220
GeoScience Management 1996a	12/1/1995	MW-14	Diesel-range hydrocarbons	92,000 D	500		184
GeoScience Management 1996a	12/1/1995	MW-14	Diesel-range hydrocarbons	91,000	500		182
GeoScience Management 1996a	10/22/1996	MW-14	Diesel-range hydrocarbons	80,200	500		160
GeoScience Management 1996a	3/28/1996	MW-14	Diesel-range hydrocarbons	40,000	500		80

Table E-9
Chemicals Detected in Groundwater
Southwest Tank Yard/Cardlock Facility/Shultz Distributing Facility Area

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
GeoScience Management 1996a	3/28/1996	MW-14	Diesel-range hydrocarbons	40,000 D	500		80
GeoScience Management 1996a	6/25/1996	MW-14	Diesel-range hydrocarbons	38,900	500		78
GeoScience Management 1995a	4/14/1995	MW-14	Diesel-range hydrocarbons	5,400	500		11
GeoScience Management 1995a	4/14/1995	MW-16	Diesel-range hydrocarbons	1,700	500		3.4
GeoScience Management 1996a	12/1/1995	MW-13	Diesel-range hydrocarbons	1,500	500		3.0
GeoScience Management 1996a	12/1/1995	MW-15	Diesel-range hydrocarbons	1,500	500		3.0
GeoScience Management 1995a	4/14/1995	MW-15	Diesel-range hydrocarbons	1,300	500		2.6
GeoScience Management 1996a	8/2/1995	MW-15	Diesel-range hydrocarbons	1,100	500		2.2
GeoScience Management 1996a	6/25/1996	MW-15	Diesel-range hydrocarbons	1,030	500		2.1
GeoScience Management 1996a	6/25/1996	MW-15	Diesel-range hydrocarbons	984	500		2.0
GeoScience Management 1996a	3/28/1996	MW-15	Diesel-range hydrocarbons	980	500		2.0
Columbia Environmental 1997	01/1997	MW-21	Diesel-range hydrocarbons	970	500		1.9
GeoScience Management 1996a	12/2/1996	MW-16	Diesel-range hydrocarbons	873 D	500		1.7
GeoScience Management 1996a	12/2/1996	MW-15	Diesel-range hydrocarbons	820	500		1.6
GeoScience Management 1996a	10/22/1996	MW-15	Diesel-range hydrocarbons	802	500		1.6
Onsite Environmental 2009a	10/7/2009	MW-19	Diesel-range hydrocarbons	760	500		1.5
GeoScience Management 1996a	8/2/1995	MW-17	Diesel-range hydrocarbons	680	500		1.4
GeoScience Management 1996a	12/2/1996	MW-16	Diesel-range hydrocarbons	641	500		1.3
Onsite Environmental 2009a	10/7/2009	MW-19	Diesel-range hydrocarbons	640	500		1.3
GeoScience Management 1996a	8/2/1995	MW-13	Diesel-range hydrocarbons	620	500		1.2
GeoScience Management 1995a	4/14/1995	MW-17	Diesel-range hydrocarbons	570	500		1.1
GeoScience Management 1996a	12/1/1995	MW-16	Diesel-range hydrocarbons	540	500		1.1
Onsite Environmental 2009b	12/4/2009	MW-19	Diesel-range hydrocarbons	490	500		<1
Onsite Environmental 2009b	12/4/2009	MW-19	Diesel-range hydrocarbons	480	500		<1
GeoScience Management 1996a	8/2/1995	MW-16	Diesel-range hydrocarbons	460	500		<1
GeoScience Management 1996a	10/22/1996	MW-17	Diesel-range hydrocarbons	451	500		<1
GeoScience Management 1996a	12/1/1995	MW-17	Diesel-range hydrocarbons	420	500		<1
GeoScience Management 1996a	3/28/1996	MW-17	Diesel-range hydrocarbons	420	500		<1

Table E-9
Chemicals Detected in Groundwater
Southwest Tank Yard/Cardlock Facility/Shultz Distributing Facility Area

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
GeoScience Management 1996a	10/22/1996	MW-16	Diesel-range hydrocarbons	376	500		<1
GeoScience Management 1996a	12/2/1996	MW-17	Diesel-range hydrocarbons	370	500		<1
GeoScience Management 1995a	4/14/1995	HB-6	Diesel-range hydrocarbons	340	500		<1
GeoScience Management 1996a	6/25/1996	MW-13	Diesel-range hydrocarbons	330	500		<1
GeoScience Management 1996a	6/25/1996	MW-16	Diesel-range hydrocarbons	311	500		<1
GeoScience Management 1995a	4/14/1995	MW-13	Diesel-range hydrocarbons	310	500		<1
GeoScience Management 1996a	3/28/1996	MW-16	Diesel-range hydrocarbons	300	500		<1
GeoScience Management 1996a	3/28/1996	MW-13	Diesel-range hydrocarbons	290	500		<1
GeoScience Management 1996a	6/25/1996	MW-17	Diesel-range hydrocarbons	266	500		<1
GeoScience Management 1996a	8/2/1995	MW-14	Heavy Oil-range hydrocarbons	45,000	500		90
GeoScience Management 1996a	8/2/1995	MW-14	Heavy Oil-range hydrocarbons	3,800 D	500		7.6
GeoScience Management 1996a	8/2/1995	MW-17	Heavy Oil-range hydrocarbons	1,600	500		3.2
GeoScience Management 1996a	12/1/1995	MW-17	Heavy Oil-range hydrocarbons	1,600	500		3.2
GeoScience Management 1996a	8/2/1995	MW-15	Heavy Oil-range hydrocarbons	1,500	500		3.0
GeoScience Management 1996a	12/1/1995	MW-15	Heavy Oil-range hydrocarbons	1,400	500		2.8
GeoScience Management 1996a	12/1/1995	MW-13	Heavy Oil-range hydrocarbons	1,100	500		2.2
GeoScience Management 1996a	3/28/1996	MW-14	Heavy Oil-range hydrocarbons	910 D	500		1.8
GeoScience Management 1996a	3/28/1996	MW-14	Heavy Oil-range hydrocarbons	880	500		1.8
GeoScience Management 1996a	8/2/1995	MW-13	Heavy Oil-range hydrocarbons	820	500		1.6
GeoScience Management 1996a	3/28/1996	MW-17	Heavy Oil-range hydrocarbons	820	500		1.6
GeoScience Management 1996a	3/28/1996	MW-15	Heavy Oil-range hydrocarbons	750	500		1.5

CSL - Cleanup Screening Level from Washington Sediment Management Standards
ug/L - Micrograms per liter

MTCA - Model Toxics Control Act
D - Duplicate sample

a - The lower of MTCA Method A or B cleanup levels was selected, from CLARC database.
b - Based on CSL (SAIC 2006).
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level or Groundwater-to-Sediment Screening Value, whichever is lower.
Chemicals and samples with exceedance factors greater than 1 are shaded light yellow.

Table E-10
Chemicals Detected in Soil
Seafreeze Facility Area

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Soil Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Exceedance Factor
Petroleum Hydrocarbons							
EMCON 1995a	5/10/1994	UST1nw-8	8	Diesel-range hydrocarbons	5,050	2,000	2.5
EMCON 1995a	5/10/1994	UST1sw-8	8	Diesel-range hydrocarbons	4,530	2,000	2.3
EMCON 1995a	5/10/1994	UST3ewa-8	8	Diesel-range hydrocarbons	4,050	2,000	2.0
EMCON 1995a	5/10/1994	UST3sw-8	8	Diesel-range hydrocarbons	2,900	2,000	1.5
EMCON 1995a	5/10/1994	UST1wwa-8	8	Diesel-range hydrocarbons	1,620	2,000	<1
EMCON 1995a	4/26/1994	Comp 2 (SP-3 & SP-4)	Composite	Diesel-range hydrocarbons	506	2,000	<1
EMCON 1995a	4/26/1994	Comp 1 (SP-1 & SP-2)	Composite	Diesel-range hydrocarbons	378	2,000	<1
EMCON 1995a	5/10/1994	UST3ewb-8	8	Diesel-range hydrocarbons	157	2,000	<1
EMCON 1995b	10/28/1994	MW-10	10	Diesel-range hydrocarbons	102	2,000	<1
EMCON 1995a	5/10/1994	UST1wwc-4	4	Diesel-range hydrocarbons	55	2,000	<1
EMCON 1995b	10/27/1994	MW-8	10	Diesel-range hydrocarbons	44	2,000	<1
EMCON 1995b	10/28/1994	MW-11	10	Diesel-range hydrocarbons	29	2,000	<1
EMCON 1995b	10/28/1994	HB7-2.5	2.5	Diesel-range hydrocarbons	29	2,000	<1
EMCON 1995a	5/10/1994	UST3ewa-8	8	Gasoline-range hydrocarbons	9,600	30	320
EMCON 1995a	5/10/1994	UST3sw-8	8	Gasoline-range hydrocarbons	6,700	30	223
EMCON 1995a	5/10/1994	UST1sw-8	8	Gasoline-range hydrocarbons	6,200	30	207
EMCON 1995a	5/10/1994	UST1nw-8	8	Gasoline-range hydrocarbons	4,900	30	163
EMCON 1995a	5/10/1994	UST1wwa-8	8	Gasoline-range hydrocarbons	2,350	30	78
EMCON 1995a	4/26/1994	Comp 2 (SP-3 & SP-4)	Composite	Gasoline-range hydrocarbons	595	30	20
EMCON 1995a	4/26/1994	Comp 1 (SP-1 & SP-2)	Composite	Gasoline-range hydrocarbons	495	30	17
EMCON 1995a	5/10/1994	UST3ewc-4	4	Gasoline-range hydrocarbons	37	30	1.2
EMCON 1995a	5/10/1994	UST3ewb-8	8	Gasoline-range hydrocarbons	20	30	<1
EMCON 1995b	10/27/1994	MW-8	10	Gasoline-range hydrocarbons	16	30	<1
EMCON 1995b	10/28/1994	MW-10	10	Heavy Oil-range hydrocarbons	534	2,000	<1
EMCON 1995a	5/10/1994	UST1nw-8	8	Heavy Oil-range hydrocarbons	470	2,000	<1
EMCON 1995b	10/28/1994	MW-11	10	Heavy Oil-range hydrocarbons	410	2,000	<1
EMCON 1995a	4/26/1994	Comp 2 (SP-3 & SP-4)	Composite	Heavy Oil-range hydrocarbons	310	2,000	<1
EMCON 1995a	5/10/1994	UST3ewb-8	8	Heavy Oil-range hydrocarbons	300	2,000	<1
EMCON 1995a	5/10/1994	UST1wwc-4	4	Heavy Oil-range hydrocarbons	270	2,000	<1
EMCON 1995b	10/28/1994	MW-11	7.5	Heavy Oil-range hydrocarbons	270	2,000	<1
EMCON 1995a	4/26/1994	Comp 1 (SP-1 & SP-2)	Composite	Heavy Oil-range hydrocarbons	220	2,000	<1
EMCON 1995b	10/28/1994	HB2-1.75	1.8	Heavy Oil-range hydrocarbons	220	2,000	<1

Table E-10
Chemicals Detected in Soil
Seafreeze Facility Area

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Soil Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Exceedance Factor
EMCON 1995b	10/27/1994	MW-8	10	Heavy Oil-range hydrocarbons	190	2,000	<1
EMCON 1995b	10/27/1994	MW-8	15	Heavy Oil-range hydrocarbons	170	2,000	<1
EMCON 1995a	5/10/1994	UST3ewa-8	8	Heavy Oil-range hydrocarbons	150	2,000	<1
EMCON 1995a	5/10/1994	UST2sw-4	4	Heavy Oil-range hydrocarbons	120	2,000	<1
EMCON 1995b	10/28/1994	MW-9	7.5	Heavy Oil-range hydrocarbons	120	2,000	<1
EMCON 1995b	10/28/1994	HB1-4.75	4.8	Heavy Oil-range hydrocarbons	120	2,000	<1
VOCs							
EMCON 1995a	5/10/1994	UST1wwa-8	8	Benzene	0.06	0.03	2.0
EMCON 1995a	5/10/1994	UST3ewa-8	8	Ethylbenzene	3.3	6	<1
EMCON 1995a	5/10/1994	UST3sw-8	8	Ethylbenzene	2.3	6	<1
EMCON 1995a	5/10/1994	UST1sw-8	8	Ethylbenzene	2	6	<1
EMCON 1995a	5/10/1994	UST1nw-8	8	Ethylbenzene	1.4	6	<1
EMCON 1995a	5/10/1994	UST1wwa-8	8	Ethylbenzene	1	6	<1
EMCON 1995a	5/10/1994	UST3ewa-8	8	Total Xylenes	22.9	9	2.5
EMCON 1995a	5/10/1994	UST3sw-8	8	Total Xylenes	17.5	9	1.9
EMCON 1995a	5/10/1994	UST1sw-8	8	Total Xylenes	14.5	9	1.6
EMCON 1995a	5/10/1994	UST1nw-8	8	Total Xylenes	11.2	9	1.2
EMCON 1995a	5/10/1994	UST1wwa-8	8	Total Xylenes	8	9	<1

ft bgs - feet below ground surface
mg/kg - Milligrams per kilogram
MTCA - Model Toxics Control Act
VOCs - Volatile organic compounds

a - The lower of MTCA Method A or B cleanup levels was selected, from CLARC database
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level.
Chemicals and samples with exceedance factors greater than 1 are shaded light yellow.

Table E-11
Chemicals Detected in Groundwater
Seafreeze Facility Area

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Metals							
Port of Seattle 1996	10/23/1995	MW-11	Lead	108	15	13	8.3
Port of Seattle 1996	4/25/1995	MW-8	Lead	66	15	13	5.1
Port of Seattle 1996	4/25/1995	MW-11	Lead	61	15	13	4.7
Port of Seattle 1996	7/28/1995	MW-11	Lead	58	15	13	4.5
EMCON 1995b	11/4/1994	MW-10	Lead	54 D	15	13	4.2
Port of Seattle 1997	2/25/1997	MW-11	Lead	41 D	15	13	3.2
Port of Seattle 1996	10/23/1995	MW-8	Lead	40	15	13	3.1
EMCON 1995b	11/4/1994	MW-10	Lead	39	15	13	3.0
Port of Seattle 1997	2/25/1997	MW-11	Lead	34 D	15	13	2.6
Port of Seattle 1996	10/23/1995	MW-9	Lead	27	15	13	2.1
Port of Seattle 1996	10/23/1995	MW-10	Lead	25	15	13	1.9
Port of Seattle 1996	7/28/1995	MW-10	Lead	22	15	13	1.7
Port of Seattle 1996	7/28/1995	MW-8	Lead	22	15	13	1.7
Port of Seattle 1996	4/25/1995	MW-10	Lead	20	15	13	1.5
Port of Seattle 1996	4/25/1995	MW-9	Lead	19	15	13	1.5
Port of Seattle 1996	2/7/1996	MW-8	Lead	17	15	13	1.3
Port of Seattle 1996	2/7/1996	MW-9	Lead	16	15	13	1.2
EMCON 1995b	11/4/1994	MW-11	Lead	15	15	13	1.2
EMCON 1995b	11/4/1994	MW-9	Lead	13	15	13	1.0
EMCON 1995b	11/4/1994	MW-8	Lead	12	15	13	<1
Port of Seattle 1996	2/7/1996	MW-8	Lead	12	15	13	<1
Port of Seattle 1996	2/7/1996	MW-11	Lead	11	15	13	<1
Port of Seattle 1996	2/7/1996	MW-10	Lead	9	15	13	<1
Port of Seattle 1996	7/28/1995	MW-9	Lead	7	15	13	<1
Port of Seattle 1997	2/25/1997	MW-9	Lead	5 D	15	13	<1
Petroleum Hydrocarbons							
EMCON 1995b	11/4/1994	MW-8	Diesel-range hydrocarbons	3,170	500		6.3
EMCON 1995b	11/4/1994	MW-9	Diesel-range hydrocarbons	1,420	500		2.8

Table E-11
Chemicals Detected in Groundwater
Seafreeze Facility Area

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Port of Seattle 1996	2/7/1996	MW-8	Diesel-range hydrocarbons	1,400 D	500		2.8
Port of Seattle 1996	2/7/1996	MW-8	Diesel-range hydrocarbons	1,300	500		2.6
Port of Seattle 1996	7/28/1995	MW-8	Diesel-range hydrocarbons	1,100	500		2.2
Port of Seattle 1996	4/25/1995	MW-8	Diesel-range hydrocarbons	800	500		1.6
EMCON 1995b	11/4/1994	MW-11	Diesel-range hydrocarbons	750	500		1.5
Port of Seattle 1996	7/28/1995	MW-9	Diesel-range hydrocarbons	540	500		1.1
Port of Seattle 1996	10/23/1995	MW-8	Diesel-range hydrocarbons	530	500		1.1
EMCON 1995b	11/4/1994	MW-10	Diesel-range hydrocarbons	340	500		<1
EMCON 1995b	11/4/1994	MW-10	Diesel-range hydrocarbons	320 D	500		<1
EMCON 1995b	11/4/1994	MW-8	Gasoline-range hydrocarbons	440	800		<1
EMCON 1995b	11/4/1994	MW-8	Heavy Oil-range hydrocarbons	830	500		1.7
SVOCs							
EMCON 1995b	11/4/1994	MW-8	Naphthalene	14	160	92	<1
VOCs							
Port of Seattle 1996	7/28/1995	MW-9	1,2,4-Trimethylbenzene	5.1	400		<1
Port of Seattle 1996	10/23/1995	MW-8	1,2,4-Trimethylbenzene	4.5	400		<1
Port of Seattle 1996	10/23/1995	MW-9	1,2,4-Trimethylbenzene	1.4	400		<1
Port of Seattle 1996	7/28/1995	MW-9	1,3,5-Trimethylbenzene	1.8	400		<1
Port of Seattle 1996	7/28/1995	MW-11	2-Butanone	5.1	4,800		<1
Port of Seattle 1996	7/28/1995	MW-8	Acetone	15	800		<1
Port of Seattle 1996	7/28/1995	MW-10	Acetone	12	800		<1
Port of Seattle 1996	7/28/1995	MW-9	Acetone	9.3	800		<1
Port of Seattle 1996	10/23/1995	MW-10	Acetone	8.3	800		<1
Port of Seattle 1996	10/23/1995	MW-11	Acetone	7.8	800		<1
Port of Seattle 1996	2/7/1996	MW-10	Acetone	7.1	800		<1
Port of Seattle 1996	2/7/1996	MW-8	Acetone	6.7	800		<1
Port of Seattle 1996	2/7/1996	MW-8	Acetone	5.6 D	800		<1
Port of Seattle 1996	2/7/1996	MW-9	Benzene	78	0.8		98
Port of Seattle 1996	4/25/1995	MW-9	Benzene	74	0.8		93

Table E-11
Chemicals Detected in Groundwater
Seafreeze Facility Area

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Port of Seattle 1997	2/25/1997	MW-9	Benzene	32	0.8		40
Port of Seattle 1997	2/25/1997	MW-9	Benzene	30 D	0.8		38
Port of Seattle 1996	7/28/1995	MW-9	Benzene	16	0.8		20
Port of Seattle 1996	10/23/1995	MW-9	Benzene	14	0.8		18
EMCON 1995b	11/4/1994	MW-9	Benzene	10	0.8		13
Port of Seattle 1996	10/23/1995	MW-8	Benzene	2.6	0.8		3.3
Port of Seattle 1996	10/23/1995	MW-8	Benzene	2.3	0.8		2.9
Port of Seattle 1996	2/7/1996	MW-8	Benzene	2.2	0.8		2.8
Port of Seattle 1996	2/7/1996	MW-8	Benzene	2.2 D	0.8		2.8
Port of Seattle 1996	7/28/1995	MW-8	Benzene	2.1	0.8		2.6
EMCON 1995b	11/4/1994	MW-8	Benzene	2.0	0.8		2.5
Port of Seattle 1997	2/25/1997	MW-11	Benzene	1.2	0.8		1.5
EMCON 1995b	11/4/1994	MW-10	Benzene	0.8 D	0.8		1.0
EMCON 1995b	11/4/1994	MW-11	Benzene	0.8	0.8		1.0
EMCON 1995b	11/4/1994	MW-10	Benzene	0.7	0.8		<1
Port of Seattle 1997	2/25/1997	MW-11	Benzene	0.53 D	0.8		<1
Port of Seattle 1997	2/25/1997	MW-11	Benzene	0.51 D	0.8		<1
EMCON 1995b	11/4/1994	MW-8	Ethylbenzene	0.8	700		<1
EMCON 1995b	11/4/1994	MW-8	Isopropylbenzene	2			
EMCON 1995b	11/4/1994	MW-8	Methylene chloride	2.1	5		<1
Port of Seattle 1996	4/25/1995	MW-8	n-Butylbenzene	8.7			
Port of Seattle 1996	7/28/1995	MW-8	n-Butylbenzene	5.4			
Port of Seattle 1996	2/7/1996	MW-8	n-Butylbenzene	3.4			
Port of Seattle 1996	2/7/1996	MW-8	n-Butylbenzene	3 D			
Port of Seattle 1996	10/23/1995	MW-8	n-Butylbenzene	2.9			
Port of Seattle 1996	10/23/1995	MW-9	n-Butylbenzene	1.4			
Port of Seattle 1996	7/28/1995	MW-9	n-Butylbenzene	1.2			
Port of Seattle 1996	4/25/1995	MW-8	n-Propylbenzene	16			
Port of Seattle 1996	7/28/1995	MW-8	n-Propylbenzene	9.2			

Table E-11
Chemicals Detected in Groundwater
Seafreeze Facility Area

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor
Port of Seattle 1996	2/7/1996	MW-8	n-Propylbenzene	4.3			
Port of Seattle 1996	10/23/1995	MW-8	n-Propylbenzene	3.2 D			
Port of Seattle 1996	10/23/1995	MW-9	n-Propylbenzene	3.1			
EMCON 1995b	11/4/1994	MW-8	n-Propylbenzene	3			
Port of Seattle 1996	7/28/1995	MW-9	n-Propylbenzene	2.6			
Port of Seattle 1996	10/23/1995	MW-8	n-Propylbenzene	1.9			
Port of Seattle 1996	4/25/1995	MW-9	n-Propylbenzene	1.8			
Port of Seattle 1996	4/25/1995	MW-8	sec-Butylbenzene	7.2			
Port of Seattle 1996	7/28/1995	MW-8	sec-Butylbenzene	5.2			
Port of Seattle 1996	10/23/1995	MW-8	sec-Butylbenzene	4.5			
Port of Seattle 1996	2/7/1996	MW-8	sec-Butylbenzene	4.3			
Port of Seattle 1996	2/7/1996	MW-8	sec-Butylbenzene	4.3 D			
Port of Seattle 1996	10/23/1995	MW-9	sec-Butylbenzene	1.4			
Port of Seattle 1996	7/28/1995	MW-9	sec-Butylbenzene	1.3			
Port of Seattle 1996	4/25/1995	MW-9	sec-Butylbenzene	1			
Port of Seattle 1997	2/25/1997	MW-9	Toluene	1.9	640		<1
Port of Seattle 1997	2/25/1997	MW-11	Toluene	1.5	640		<1
Port of Seattle 1997	2/25/1997	MW-9	Total Xylenes	2.3	1,000		<1
Port of Seattle 1997	2/25/1997	MW-11	Total Xylenes	2.2	1,000		<1
EMCON 1995b	11/4/1994	MW-9	Total Xylenes	1	1,000		<1
EMCON 1995b	11/4/1994	MW-8	Vinyl chloride	0.6	0.029		21

CSL - Cleanup Screening Level from Washington Sediment Management Standards
ug/L - Micrograms per liter
MTCA - Model Toxics Control Act
J - Estimated concentration between the method detection limit and laboratory reporting limit.
D - Duplicate sample
SVOCs - Semi-volatile organic compounds
VOCs - Volatile organic compounds

Table E-11
Chemicals Detected in Groundwater
Seafreeze Facility Area

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	GW-to-Sediment Screening Level[b] (ug/L)	Exceedance Factor

a - The lower of MTCA Method A or B cleanup levels was selected, from CLARC database
b - Based on CSL (SAIC 2006).
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level or Groundwater-to-Sediment Screening Value, whichever is lower.
Chemicals and samples with exceedance factors greater than 1 are shaded light yellow.

Table E-12
Chemicals Detected in Soil
Former Foss Environmental Facility

Source	Sample Date	Sample Location	Sample Depth (ft bgs)	Chemical	Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Exceedance Factor
SD&C 1998	4/2/1998	1,000 EW	5	Diesel-range hydrocarbons	83,900	2,000	42
SD&C 1998	4/2/1998	1,000 NW	5	Diesel-range hydrocarbons	28,400	2,000	14
Urban Redevelopment 2002	10/26/2002	SW-SW-2	11-12	Diesel-range hydrocarbons	>23,000	2,000	>12
Urban Redevelopment 2002	10/26/2002	SW-NW2	10-11	Diesel-range hydrocarbons	20,000	2,000	10
Urban Redevelopment 2002	10/26/2002	SW-SW	11-12	Diesel-range hydrocarbons	19,000	2,000	10
Urban Redevelopment 2002	9/10/2002	B-7	12-13	Diesel-range hydrocarbons	17,000	2,000	8.5
IVI Environmental 2002	9/12/2002	B-7	8-16	Diesel-range hydrocarbons	17,000	2,000	8.5
Urban Redevelopment 2002	10/26/2002	SW-NW	10-11	Diesel-range hydrocarbons	10,000	2,000	5.0
SD&C 1998	4/2/1998	1,000 EW	5	Diesel-range hydrocarbons	9,970	2,000	5.0
IVI Environmental 2002	9/13/2002	b-8	8-16	Diesel-range hydrocarbons	4,100	2,000	2.1
SD&C 1998	4/2/1998	1,000 NW	5	Diesel-range hydrocarbons	3,810	2,000	1.9
Urban Redevelopment 2002	9/10/2002	B-4	7.5-8	Diesel-range hydrocarbons	3,700	2,000	1.9
IVI Environmental 2002	9/12/2002	B-4	8-16	Diesel-range hydrocarbons	3,700	2,000	1.9
Urban Redevelopment 2002	9/10/2002	B-1	11-13	Diesel-range hydrocarbons	2,300	2,000	1.2
IVI Environmental 2002	9/12/2002	B-1	8-16	Diesel-range hydrocarbons	2,300	2,000	1.2
Urban Redevelopment 2002	9/10/2002	B-2	10-11	Diesel-range hydrocarbons	2,200	2,000	1.1
IVI Environmental 2002	9/12/2002	B-2	8-16	Diesel-range hydrocarbons	2,200	2,000	1.1
Urban Redevelopment 2002	10/26/2002	SW-SE	12-13	Diesel-range hydrocarbons	1,800	2,000	<1
Urban Redevelopment 2002	9/10/2002	B-8	12	Diesel-range hydrocarbons	1,400	2,000	<1
IVI Environmental 2002	9/12/2002	B-8	8-16	Diesel-range hydrocarbons	1,400	2,000	<1
Urban Redevelopment 2002	10/26/2002	SW-SE	9-11	Diesel-range hydrocarbons	880	2,000	<1
Urban Redevelopment 2002	10/26/2002	B-M	11	Diesel-range hydrocarbons	560	2,000	<1
Urban Redevelopment 2002	10/26/2002	SW-NWC	7-8	Diesel-range hydrocarbons	480	2,000	<1
SD&C 1998	4/2/1998	3,000 SW	3.5	Diesel-range hydrocarbons	92.1	2,000	<1
SD&C 1998	4/2/1998	3,000 SW	3.5	Diesel-range hydrocarbons	29.6	2,000	<1

ft bgs - feet below ground surface
mg/kg - Milligrams per kilogram
MTCA - Model Toxics Control Act

a - MTCA Method A cleanup level
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level.
Chemicals and samples with exceedance factors greater than 1 are shaded light yellow.

Table E-13
Chemicals Detected in Groundwater
Former Foss Environmental Facility

Source	Sample Date	Sample Location	Chemical	Conc'n (ug/L)	MTCA Cleanup Level[a] (ug/L)	Exceedance Factor
Urban Revdevelopment 2003a	8/7/2002	GP-5	Diesel-range hydrocarbons	14,000	500	28
Urban Revdevelopment 2003a	9/11/2002	B-8	Diesel-range hydrocarbons	4,100	500	8.2
Urban Revdevelopment 2003a	4/2/1998	RW-1	Diesel-range hydrocarbons	3,390	500	6.8
Urban Revdevelopment 2003a	8/7/2002	GP-4	Diesel-range hydrocarbons	700	500	1.4
SD&C 1998	4/2/1998	3,000 Gal Bunker	Diesel-range hydrocarbons	398	500	<1

ug/L - Micrograms per liter
MTCA - Model Toxics Control Act

a - MTCA Method A cleanup level
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level.
Chemicals and samples with exceedance factors greater than 1 are shaded light yellow.

Table E-14
Chemicals Detected in Soil
Pacific Rim/Krueger Sheet Metal Property

Source	Sample Date	Sample Location	Sample Depth	Chemical	Conc'n (mg/kg)	MTCA Cleanup Level[a] (mg/kg)	Exceedance Factor
Petroleum Hydrocarbons							
Filco 2006	3/9/2006	South End	NA	Gasoline-range hydrocarbons	31	100	<1
Filco 2006	3/9/2006	Stockpile 1	NA	Gasoline-range hydrocarbons	11	100	<1
Filco 2006	3/9/2006	Stockpile 2	NA	Gasoline-range hydrocarbons	5.0	100	<1
VOCs							
Filco 2006	3/9/2006	Stockpile 1	NA	Ethylbenzene	0.036	6	<1
Filco 2006	3/9/2006	Stockpile 1	NA	Total Xylenes	0.23	9	<1

mg/kg - Milligrams per kilogram
MTCA - Model Toxics Control Act
VOCs - Volatile organic compounds

a - MTCA Method A cleanup level.
Table presents detected chemicals only.
Exceedance factors are the ratio of the detected concentration to the MTCA Cleanup Level.