SoundEarth Strategies, Inc.
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REMEDIAL INVESTIGATION REPORT

EAST WATERFRONT PROPERTY

Property:
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Prepared for:
TOC Holdings Co.
2737 West Commodore Way
Seattle, Washington

Report Date:
June 10, 2014

Remedial Investigation Report

Prepared for:

TOC Holdings Co.
2737 West Commodore Way
Seattle, Washington 98199

East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Project No.: 0440-004

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June 10, 2014

SoundEarth Strategies

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ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
µg/g	micrograms per gram
µg/kg	micrograms per kilogram dry weight
1,1-DCE	1,1-dichloroethene
ASKO Hydraulic Property	located at 2805 West Commodore Way, and encompasses King County Tax Parcel Number 423790-0405
AST	aboveground storage tank
bgs	below ground surface
BINMIC	Ballard Interbay North Manufacturing Industrial Center
BTEX	benzene, toluene, ethylbenzene, and total xylenes
Bulk Terminal Property	located at 2737 West Commodore Way, and is part of King County Tax Parcel Number 112503-9050
cis-1,2-DCE	cis-1,2-dichloroethene
COPCs	chemicals of potential concern
CSL	cleanup screening level
CSM	conceptual site model
CVOCs	chlorinated volatile organic compounds
DNR	Department of Natural Resources (Washington State)
DPD	City of Seattle Department of Planning and Development
DRPH	diesel-range petroleum hydrocarbons
East Waterfront Property	located at 2750 West Commodore Way, and is part of King County Tax Parcel Number 112503-9120
Ecology	Washington State Department of Ecology
EDB	1,2-dibromoethane
EDC	1-2-dichloroethane
GRPH	gasoline-range petroleum hydrocarbons
Hf	Holocene Fill
HCID	hydrocarbon identification
Hdf	Holocene Depression Fillings
HPAH	high molecular weight polycyclic aromatic hydrocarbon

ACRONYMS AND ABBREVIATIONS (CONTINUED)

Jobbers	Jobbers Petroleum Sales Company
LNAPL	light nonaqueous-phase liquid
LPAH	low molecular weight polycyclic aromatic hydrocarbons
mg/kg	milligrams per kilogram
mg/kg OC	milligrams per kilogram organic carbon
mg/L	milligrams per liter
MTBE	methyl tertiary-butyl ether
MTCA	Washington State Model Toxics Control Act
ORPH	oil-range petroleum hydrocarbons
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PCP	pentachlorophenol
PID	photoionization detector
PQL	practical quantitation limit
PVC	polyvinyl chloride
Qpf	Pre-Fraser age glacial deposits
Qpff	Pre-Fraser age glacial deposits, fine grained
Qpfc	Pre-Fraser age glacial deposits, coarse grained
RCRA	Resource Conservation and Recovery Act
RI Report	Remedial Investigation Report
ROW	right-of-way
Seattle Terminal Properties	includes the Bulk Terminal Property, East Waterfront Property, ASKO Hydraulic Property, West Waterfront Property, and the Washington State DNR Aquatic Lease Land Property
SG	Specific gravity
Site	encompasses the eastern, upland portion of the East Waterfront Property, with the western edge at the approximate location of monitoring well 02MW13
SoundEarth	SoundEarth Strategies, Inc.

ACRONYMS AND ABBREVIATIONS (CONTINUED)

SQV	sediment quality value
SVOC	semivolatile organic compound
TBT	tributyltins
TCE	trichloroethene
TEE	Terrestrial Ecological Evaluation
TOC	TOC Holdings Co.
TCLP	Toxicity Characteristic Leaching Procedure
TPH	total petroleum hydrocarbons
trans-1,2-DCE	trans-1,2-dichloroethene
USCS	Unified Soil Classification System
UST	underground storage tank
VOC	volatile organic compounds
WAC	Washington Administrative Code
Washington State DNR Aquatic Lease Land Property	located directly north of the East and West Waterfront Properties and overlies Salmon Bay, and encompasses King County Tax Parcel Number 112503-9113
West Commodore Way ROW	runs from east to west, and separates the Bulk Terminal Property and ASKO Hydraulic Property from the East Waterfront Property and West Waterfront Property
West Waterfront Property	located at 2800 West Commodore Way, and encompasses King County Tax Parcel Number 112503-9081

1.0 INTRODUCTION

SoundEarth Strategies, Inc. (SoundEarth; formerly Sound Environmental Strategies Corporation) has prepared this Remedial Investigation Report (RI Report) on behalf of TOC Holdings Co. (TOC; formerly Time Oil Co.) for the East Waterfront Property. The East Waterfront Property is located at 2750 West Commodore Way in Seattle, Washington (Figure 1). The East Waterfront Property is part of the Seattle Terminal Properties, currently owned by TOC. The Seattle Terminal Properties include four real properties (King County Tax Parcel Numbers 112503-9050, 112503-9120 [East Waterfront Property], 423790-0405, and 112503-9081) and one parcel leased from the Washington State Department of Natural Resources (DNR) (King County Tax Parcel Number 112503-9113). The Seattle Terminal Properties are identified as the Bulk Terminal Property, East Waterfront Property, ASKO Hydraulic Property, West Waterfront Property, and the Washington State DNR Aquatic Lease Land Property. The Seattle Terminal Properties and West Commodore Way are located in Section 11, Township 25 North, Range 3 East and the latitude and longitude of the Seattle Terminal Properties is approximately 47° 39' 41–51" North and 122° 23' 28–41" West. The layout of the Seattle Terminal Properties is shown on Figure 2. The City of Seattle West Commodore Way right-of-way (ROW) runs from east to west and separates the Bulk Terminal Property and ASKO Hydraulic Property from the East Waterfront Property and West Waterfront Property. The Seattle Terminal Properties and West Commodore Way are located within the Ballard Interbay North Manufacturing Industrial Center (BINMIC) designated by the City of Seattle in 1994.

The remedial investigation was conducted to address data gaps identified from the data presented in previous subsurface investigations and interim actions conducted by SoundEarth and others that had confirmed releases of the chemicals of potential concern (COPCs) to the environment at the East Waterfront Property. The releases of COPCs resulted in the contamination in environmental media including soil and groundwater. The confirmed and suspected sources of COPCs are associated with historical facility operations; however, the release mechanisms are unknown.

The remedial investigation was performed as part of an ongoing cleanup action in accordance with Washington State Model Toxics Control Act (MTCA) Cleanup Regulation as established in Chapter 173-340 of the Washington Administrative Code (WAC 173-340). In accordance with WAC 173-340-360(2), the final cleanup action will meet the cleanup standards at the defined points of compliance, protect human health and the environment, comply with applicable state and federal laws, provide for compliance monitoring, and provide a permanent solution, to the maximum extent practicable.

1.1 PURPOSE

The objective of the remedial investigation was to collect sufficient data for affected environmental media to adequately assess the site and to sequentially develop and evaluate cleanup action alternatives for a future feasibility study.

The purpose of this RI Report is to provide a comprehensive conceptual understanding of the site using assembled and evaluated data collected from historical and regulatory research and to provide the results from investigations and interim actions performed by SoundEarth and others. The potential cleanup action alternatives evaluated for the site and the proposed cleanup action selected are provided in the feasibility study and/or cleanup action plan under a separate cover.

1.2 PRELIMINARY SITE DEFINITION

According to Washington State Department of Ecology (Ecology) *Guidelines for Property Cleanups under the Voluntary Cleanup Program* dated July 2008, "a site is defined by the nature and extent of contamination associated with one or more releases of hazardous substances (such as the release of gasoline from a leaking underground storage tank [UST]) prior to any cleanup of that contamination" (Ecology 2008).

Based on the information gathered to date, the Site encompasses the eastern upland portion of the East Waterfront Property with the western edge at the approximate location of monitoring well 02MW13. The general boundary for the Site is shown on Figure 3.

1.3 PRELIMINARY CLEANUP LEVELS

Preliminary cleanup levels were established for individual hazardous substances in each medium during the scoping of the remedial investigation based on various phases of investigation performed by others. The preliminary cleanup levels were refined during the remedial investigation. The final cleanup levels will be defined in the subsequent Cleanup Action Plan, as additional information becomes available on the potential future land use. The current land use of the East Waterfront Property is industrial.

The East Waterfront Property is zoned industrial. However, the City of Seattle will permit commercial uses in industrial areas to the extent that they reinforce the industrial character of the region and new residential uses will not be permitted except for special types of dwellings that are related to the industrial area or that would not restrict or disrupt industrial activity.

Total petroleum hydrocarbons (TPH) are the primary suspected source(s) of potential releases of hazardous substances at the East Waterfront Property, based on the historical land use as a petroleum bulk storage facility. Based on the results of the RI, the primary COPC at the Site is TPH and associated volatile petroleum compounds (benzene, toluene, ethylbenzene, and total xylenes [BTEX]). The preliminary cleanup levels for individual hazardous substances including TPH are based on established MTCA Method A cleanup levels in accordance with WAC 173-340-720 through WAC 173-340-760. The preliminary cleanup levels for COPCs confirmed or suspected in environmental media of potential concern are provided in Table 1.

The final cleanup standards will be determined based on the selected cleanup action(s) and the current and potential future land and resource uses. The final cleanup standards for the Site including cleanup levels, points of compliance, and remediation levels, if applicable, will be defined in the Cleanup Action Plan presented under separate cover, in accordance with WAC 173-340-700.

1.4 REPORT ORGANIZATION

This RI Report has been prepared to meet the general requirements under WAC 173-340-350 and has been organized into the following sections:

- **Section 2.0, Background.** This section provides a description of general facility information and site conditions for the East Waterfront Property and surrounding properties and a summary of the environmental setting, including surface water and sediments, soils and geology, hydrogeology, and air.

- **Section 3.0, Previous Investigations, Groundwater Monitoring Events, and Interim Actions.** This section summarizes activities and results from previous investigations, groundwater monitoring events, and interim actions conducted by others at the East Waterfront Property from 1991 to 2005. A brief description of the field work performed and a discussion of the results from each phase of investigation. Details of field sampling procedures are provided in referenced documents prepared by others.
- **Section 4.0, Remedial Investigation.** This section lists the data gaps identified by SoundEarth following subsurface investigation activities conducted by others. This section also summarizes the remedial investigation field program conducted by SoundEarth from April 2006 through October 31, 2012, and provides the results of the remedial investigation field program, which addressed these data gaps.
- **Section 5.0, Conceptual Site Model.** This section provides a summary of the conceptual site model (CSM) developed for the Site based on the remedial investigation conducted by SoundEarth and previous investigations performed by others. This section includes a discussion of the confirmed and suspected sources of hazardous substances, affected environmental media and environmental media of potential concern, fate and transport mechanisms, and exposure pathways for potential receptors.
- **Section 6.0, Planned Work.** This section presents a description of work planned for the East Waterfront Property following completion of the remedial investigation.
- **Section 7.0, Bibliography.** This section provides a list of the source materials used in preparing this RI Report.
- **Section 8.0, Limitations.** This section presents SoundEarth's standard limitations associated with conducting the work reported herein and preparing this RI Report.

2.0 BACKGROUND

This section provides a description of general facility information and conditions for the East Waterfront Property, a description of current and historical land uses for the East Waterfront Property, and a summary of the environmental settings, including topography, surface water and sediments, soil and geology, hydrogeology, and air. Copies of current and historical records for the East Waterfront Property are provided in Appendices A through D.

2.1 PROPERTY DESCRIPTION

The East Waterfront Property is located at 2750 West Commodore Way, Seattle, Washington. The East Waterfront Property is comprised of a single tax parcel (King County Tax Parcel Number 112503-9120) with a total area of 3.05 acres (133,007 square feet). The legal description of the East Waterfront Property is "E 330.04 FT OF GL 5 N OF W COMMODORE WY LESS POR PLTD LESS ST & E 78.025 FT OF LOT 5 & ALL LOTS 6-7-8 & 9 BLK 7 SEATTLE TIDE LANDS ADD." The East Waterfront Property is currently vacant with the exception of the former storage warehouse on the west-central portion of the East Waterfront Property. The tenant of this building is currently ASKO Selective Plating, an electroplating company.

The northern portion of the East Waterfront Property extends into Salmon Bay. The east-central portion of the East Waterfront Property was developed in 1930 with a 6,400-square-foot Warehouse Building

which was constructed on pilings that partially extended into Salmon Bay (U.S. Appraisal Co. 1957) (Figure 4). The Warehouse Building was demolished between January and February 2012. Adjacent to the south of the Warehouse Building is a 1950-vintage, 2,250-square-foot one-walled shed/canopy, with an eastern addition in 1956. Adjacent to the south of the shed/canopy is a 1944-vintage, 1,518-square-foot garage. A 1950-vintage, 226-square-foot Laboratory Building is located near the southeast corner of the East Waterfront Property, adjacent to the north of West Commodore Way (Figure 4). The Laboratory Building was formerly used for quality testing of oil (King County Assessor 2009) and is currently used as a shed. A 1970-vintage, 1,920-square-foot storage warehouse (current ASKO Selective Plating) is located on the west-central portion of the East Waterfront Property (King County Assessor 2012) (Figure 4). The remainder of the East Waterfront Property contains the entrance to the Shipping Terminal Dock, a gravel driveway, a paved driveway, a parking lot, and low-growing vegetation.

Additional historical features on the East Waterfront Property included the northern end of the East Barrel Incline, which extended to one of two former barreling sheds (Barreling Shed #2) located on the Bulk Terminal Property and operated from approximately 1941 to 1952; the northern end of the West Barrel Incline, which extended to a former barreling shed (Barreling Shed #3) located on the ASKO Hydraulic Property; and the northern end of the Pipeline Utilidor connecting the Shipping Terminal Dock to the Lower Tank Yard on the Bulk Terminal Property (Foster Wheeler 2000b; Figure 2). The East and West Barrel Inclines merged in a tunnel underneath the West Commodore Way right-of-way (ROW) and entered the East Waterfront Property as a single component (Figure 2). The East and West Barrel Inclines were removed by 1960 (Foster Wheeler 2000b). The Pipeline Utilidor was removed from the East Waterfront Property in 2005.

The East Waterfront Property is serviced by overhead electrical, cable, and telephone utilities. A water main located beneath the north shoulder of the West Commodore Way ROW supplies water to the East Waterfront Property (former Warehouse Building and ASKO Selective Plating building). Electricity is provided to the Warehouse Building, the ASKO Selective Plating building, and garage on the East Waterfront Property. According to the City of Seattle Department of Planning and Development Side Sewer Cards, a side sewer connection equipped with a pump serves the ASKO Selective Plating building on the East Waterfront Property (Appendix B). A side sewer connection is not shown on the available Side Sewer Cards for the Warehouse Building. The Warehouse Building had a restroom and the drains were connected to side sewer line that flowed to the south towards the North Trunk Sewer. The North Trunk Sewer was constructed beneath the West Commodore Way ROW by the City of Seattle between 1909 and 1913 (Converse Davis Dixon Associates, Inc. 1976). The tunneled portions of the North Trunk Sewer located within the West Commodore Way ROW were reportedly constructed as brick crown within a timber set and lagging tunnel. The top of the tunnel is approximately 25 feet below ground surface (bgs). The diameter of the section of the North Trunk Sewer running through the West Commodore Way ROW is 144 inches.

2.2 PROPERTY LAND USE AND HISTORY

The current and historical use information presented in this RI Report for the East Waterfront Property is compiled from reviewed sources including King County Assessor's website, historical assessor records obtained from Puget Sound Regional Archives, Sanborn Fire Insurance Maps; Kroll and Baist Atlases; Polk City Directories; aerial photographs, historical records provided by TOC, and previous reports prepared by others. Historical documentation referenced in this section is provided in Appendices A through D. Pertinent historical features are shown on Figure 4.

According to the *Ballard Interbay North Manufacturing Industrial Center (BINMIC) Hydrogeologic and Environmental Settings Report* (the 2003 BINMIC Report) prepared by The Floyd Snider McCarthy Team, the East Waterfront Property within the BINMIC (Figure 2 of the 2003 BINMIC Report). The current land use of the East Waterfront Property is industrial.

The East Waterfront Property is zoned as Industrial General 1 Unlimited/45 (IG1 U/45). The Industrial General 1 Unlimited/45 zoning classification allows for a broad range of industrial and commercial uses. Typical land use includes general and heavy manufacturing, commercial, entertainment, transportation and utility services, and salvage and recycling. In addition, the City of Seattle has designated portions of the East Waterfront Property as environmentally critical areas listed for 40 percent Steep Slope, Archaeological Buffer, Heron Habitat, Shoreline Habitat Buffer, and Wildlife Preservation Area.

The East Waterfront Property was used in conjunction with the Bulk Terminal Property and the ASKO Hydraulic Property for fueling transport ships using the Pipeline Utilidor. Drums were filled with petroleum products in three former barreling sheds (Former Barreling Sheds #1 through #3), located on the ASKO Hydraulic Property and Bulk Terminal Property, and conveyed along the East and West Barrel Inclines through the East Waterfront Property to the Shipping Terminal Dock. The Warehouse Building was leased by George Broom's Sons Inc., a sail and rigging warehouse, from approximately 1972 to 2011. In 2012, the warehouse was demolished. In addition, Scow Haven, a fishing boat dock access lot, leased space in the Warehouse Building for an unknown time period. Historically, TOC used the garage south of the shed for vehicle repair and equipment lubrication activities. As many as three small docks have been located on the East Waterfront Property and removed. The date of removal is unknown.

A summary table (Table A) is provided below that includes dates and names of the owners/operators in chronological order, facility addresses (if known), reference sources, and development description based on available current and historical information. Property features discussed below are also presented on Figure 4.

TABLE A
CHRONOLOGICAL DEVELOPMENT AND USE HISTORY FOR THE EAST WATERFRONT PROPERTY

Date(s)	Owner/ Operator	Source(s)	Description
1905-1912	G. Anderson and C.F. Anderson	Baist Atlas	The earliest available records indicate that the East Waterfront Property was separated into smaller parcels owned by G. Anderson and C.F. Anderson. West Commodore Way did not extend to the south of the East Waterfront Property in the 1905 and 1908 Baist Atlases, but ended just east of the Bulk Terminal Property. The 1908 and 1912 Baist Atlases depict a single unidentified structure on the southwest portion of the East Waterfront Property.
1920-1924	G. Anderson and C.F. Anderson	Kroll Map Company	The layout of the East Waterfront Property appears unchanged from 1912.

Date(s)	Owner/ Operator	Source(s)	Description
1930-1944	Gustaf Anderson, the Rattan Furniture Mfg Co., and TOC Holdings Co.	Kroll Map Company, Sanborn Fire Insurance Map, Archived Tax Records, Aerial Photographs, and Foster Wheeler Phase I Environmental Site Assessment	The structure on the western edge of the East Waterfront Property was removed. Three new structures appear on the eastern portion of East Waterfront Property, formerly owned by C.F. Anderson, as part of the Rattan Furniture Manufacturing facility which extends onto the parcel adjacent to the east. One of the three new structures was identified as a Saw Mill and another was identified as a Dry Kiln. Three small structures have been added near the southern border of the East Waterfront Property. The Warehouse Building was formerly the warehouse of the Rattan Furniture Co. on the eastern adjacent parcel. The Warehouse Building was constructed in 1932 and was cut in half and moved to the East Waterfront Property before 1944. The Rattan Furniture Co. was reportedly purchased by from Jobbers Petroleum Sales Co. (Jobbers) in 1939. A November 17, 1941 letter from Jobbers to the County Assessor's office stated "…in regard to the property which we purchased from the Rattan Furniture Co. in 1939…the buildings which have in the past been assessed to this tax lot are no longer in existence. They were destroyed in the latter part of 1940." TOC Holdings Co. acquired the East Waterfront Property in approximately 1941. Multiple houseboats were present along the East Waterfront Property shoreline in the 1936 aerial photograph and the majority of the southern portion of the parcel was vegetated with trees and shrubs. The Shipping Terminal Dock has not yet been constructed. A large log boom was visible on the northern portion of the East Waterfront Property in Salmon Bay.
1946-1950	TOC Holdings Co.	Kroll Map Company, Sanborn Fire Insurance Map, Aerial Photographs, TOC Holdings Co. records	The East Waterfront Property appears as one parcel. The Saw Mill and another Rattan Furniture Manufacturing structure have been removed. The Dry Kiln appears to be the current garage on the East Waterfront Property. The Shipping Terminal Dock extends north of the East Waterfront Property. The Warehouse Building was visible along with a paved area to the south, extending to West Commodore Way. The houseboats were still visible along the shoreline and three small structures were added

Date(s)	Owner/ Operator	Source(s)	Description
Cont…			near the southern border of the East Waterfront Property. The path of the Pipeline Utilidor was visible at the southeast corner of the East Waterfront Property. The Pipeline Utilidor was constructed of 24-inch concrete conduit with multiple smaller pipes running through it to the Shipping Terminal Dock, including three 10-inch pipes, three 6-inch pipes, two 4-inch pipes, two 3-inch pipes, one 2-inch pipe and one 1-1/4-inch pipe.
1953-1958	TOC Holdings Co.	Sanborn Fire Insurance Map, Aerial Photograph	A building was added between the Warehouse Building and the general storage building. The Laboratory Building was visible and labeled as paint storage.
1961-1966	TOC Holdings Co.	Kroll Map Company, Sanborn Fire Insurance Map, City Directories, Aerial Photographs	A portion of the western shoreline was altered and the houseboats were no longer visible. The three small structures near the southern border of the East Waterfront Property were removed as well as the vegetation. Time Oil Co. was listed as occupying the East Waterfront Property.
1970-2005	TOC Holdings Co. and George Broom & Sons (2750)	City Directories, Aerial Photograph	George Brooms & Sons was listed as occupying the East Waterfront Property. The ASKO Selective Plating building was visible on the west central portion of the East Waterfront Property.
1977-1978	TOC Holdings Co. and George Broom & Sons (2750)	Kroll Map Company, Aerial Photograph	A small dock was added to the East Waterfront Property.
1980-1990	TOC Holdings Co., Icicle Seafoods (2752), and George Broom & Sons (2750)	City Directories, Aerial Photographs	Icicle Seafoods was listed at 2752 West Commodore Way. The name changed to Icicle Seafoods Boat Repair in 1990. Another small dock was added to the East Waterfront Property.
1986	TOC Holdings Co., Tosco Corporation (2740), and George Broom & Sons (2750)	City Directories	Tosco Corporation Whole Gas Stn was listed at 2740 West Commodore Way. This address is listed as vacant in 1990.
1991-2001	TOC Holdings Co. and George Broom & Sons (2750)	City Directories, Aerial Photographs	A third small dock was added to the East Waterfront Property. Time Oil Co. was no longer listed as occupying the East Waterfront Property in 1996.
2005	TOC Holdings Co., ASKO Selective Plating (2752), and George Broom & Sons (2750)	City Directories	ASKO Selective Plating was listed as occupying the East Waterfront Property.

2.3 SURROUNDING PROPERTY DESCRIPTIONS

The Washington State DNR Aquatic Lease Land Property and Salmon Bay are located to the north of the East Waterfront Property; the eastern portion is bounded by Port of Seattle land; the southern portion is bounded by the West Commodore Way ROW and beyond the ASKO Hydraulic Property to the southwest and the Bulk Terminal Property to the southeast; the western portion is bounded by the West Waterfront Property (Figure 2). A brief summary of surrounding parcels and their current and historical primary features and operations are provided below by direction.

2.3.1 North

The Washington State DNR Aquatic Lease Land Property is located directly north of the East Waterfront Property, overlying Salmon Bay and encompassing King County Tax Parcel Number 112503-9113. This parcel encompasses 0.55 acres (24,000 square feet) and is occupied by the Shipping Terminal Dock. The Shipping Terminal Dock extends into Salmon Bay from the eastern portion of the East Waterfront Property (Figure 2). The Shipping Terminal Dock was completed in 1943 and is an "L"-shaped structure with the base measuring 180 feet by 24 feet and the leg measuring 350 feet by 24 to 30 feet wide (U.S. Appraisal Co. 1957). Two office structures were on the Shipping Terminal Dock, a 154-square-foot aluminum shed and a 102-square-foot portable aluminum shed (U.S. Appraisal Co. 1957). The Shipping Terminal Dock had a conveyor track that ran approximately two-thirds the length of the dock to assist with drum loading onto ships for transport.

Timber was reportedly stored throughout the Salmon Bay waterway in the 1930s and was visible in historical photographs taken before the construction of the Shipping Terminal Dock in the late 1930s. TOC has leased this aquatic land from the DNR since approximately 1941. The Shipping Terminal Dock was used during the historical operations of the petroleum bulk storage facility from 1941 until 2001. The primary operations on the Shipping Terminal Dock included loading drums onto ships conveyed down the West and East Barrel Inclines from Barreling Sheds #1 and 2, located on the Bulk Terminal Property, and Barreling Shed #3, located on the ASKO Hydraulic Property, and transferring petroleum products onto transport ships through the Pipeline Utilidor from the aboveground storage tanks (ASTs) located on the Bulk Terminal Property.

2.3.2 East

The east-adjoining property is a single tax parcel (King County Tax Parcel Number 112503-9068) that encompasses 6.66 acres (290,313 square feet) of upland and tideland. The east-adjoining property is listed as 2700 West Commodore Way and is owned by the Port of Seattle and identified as the Maritime Industrial Center (King County 2013). A large three-story 1926-vintage building occupies the center of the parcel, a 1952-vintage storage warehouse is on the west side of the parcel, and three smaller structures are on the eastern side of the parcel. Three docks and a larger shipping dock extend from this parcel into Salmon Bay.

The first development of this parcel appears to be a small structure in 1912 (Kroll Map Company). From the 1930s to approximately 1940, the Rattan Furniture Manufacturing facility operated at this parcel. The United States Coast Guard occupied this parcel from at least 1950 through 1990. Miller and Miller Boatyard Company Inc., a full service boatyard, currently operates on the eastern portion of the parcel and K-Sea Transportation LLC, a provider of refined petroleum product marine transportation, distribution and logistics services, operate on the west and central portions of the parcel.

2.3.3 South

The West Commodore Way ROW runs from east to west adjacent to the south of the East Waterfront Property. The West Commodore Way ROW consists of a concrete and asphalt roadway with gravel easement. Beneath the West Commodore Way ROW is the North Trunk Sewer main, which conveys waste material to King County's Westpoint Wastewater Treatment Plant. The ASKO Hydraulic Property is located southwest of the West Commodore Way ROW and the Bulk Terminal Property is located southeast of the West Commodore Way ROW, relative to the East Waterfront Property.

2.3.3.1 Southwest

The ASKO Hydraulic Property is located at 2800 West Commodore Way and encompasses King County Tax Parcel Number 423790-0405 and a total area of 1.59 acres (69,283 square feet) of land. The west portion of the ASKO Hydraulic Property is developed with a 1964-vintage, 7,198-square-foot building, which is currently occupied by ASKO Industrial Repair, a hydraulic repair and machine shop. Additional structures include a 1952-vintage, 1,660-square-foot, open-sided building located near the southeast corner of the parcel; a reinforced concrete platform built in 1948; a portion of a 1947-vintage, 7,200-square-foot Warehouse Building, currently occupied by Marine Service & Supply, located on the southeast portion of the ASKO Hydraulic Property; an office trailer located west of the warehouse and occupied by Marine Service & Supply; and several container boxes and a trailer located west of the 1947-vintage Warehouse Building. The west portion of the 1947-vintage warehouse building described above extends onto the Bulk Terminal Property. The remainder of the parcel is covered with concrete, asphalt, gravel, or low-growing vegetation and surrounded by a chain-link fence.

The earliest available records indicate that portions of the ASKO Hydraulic Property were developed with up to two small structures in 1905. Reportedly, the land use was agricultural. From 1960 to 1974, the ASKO Hydraulic Property was also used as a truck storage area and parking lot for the petroleum bulk storage facility. The 1964-vintage warehouse building on the northwest portion of the ASKO Hydraulic Property was used to service TOC vehicles and included a 550-gallon fuel oil UST located directly northeast of the building. Three 14,000-gallon ASTs, which reportedly stored lube oil and/or used motor oil, were located on the eastern portion of the ASKO Hydraulic Property.

The ASKO Hydraulic Property was used during the historical operations of the petroleum bulk storage facility from 1941 until 2001. Four rail spurs entered the south portion of the ASKO Hydraulic Property. Distribution piping ran from three of the rail spurs to the barreling sheds (Former Barreling Shed #3 was located on the ASKO Hydraulic Property) and the Bulk Terminal Property.

In 1974, TOC leased the 1964-vintage warehouse to Precision Engineering Specialists, a marine and engine repair facility. Select Industries leased the 1964-vintage warehouse in 1976 and operated as a warehouse and machine shop. In 1989, Select Industries became ASKO Hydraulic Repair, a hydraulic repair shop that has leased the 1964-vintage warehouse from 1980 to the present. At some point, ASKO Hydraulic Repair changed its operating name to ASKO Industrial Repair.

2.3.3.2 Southeast

The Bulk Terminal Property is located at 2737 West Commodore Way and encompasses King County Tax Parcel Number 112503-9050 and a total area of 4.08 acres (177,688 square feet) of land. The Bulk Terminal Property extends from West Commodore Way to the Burlington Northern Santa Fe railroad. Several buildings exist on the western portion of the parcel, including a 13,662-square-foot office building (TOC's current Headquarters Office Building); a portion of a 7,200-square-foot Warehouse Building; and three smaller shop buildings encompassing 660 square feet (the Foamite Shed), 528 square feet (the Boiler Room), and 892 square feet (the Pump Shed) (King County Assessor 2009). The Pump Shed was removed in 2001/2002. In addition, Barreling Shed #1 was located west of the Headquarters Office Building and Barreling Shed #2 was located southwest of the Headquarters Office Building on the Bulk Terminal Property and extended west onto the ASKO Hydraulic Property. The buildings were constructed between 1939 and 1950. The eastern portion of this parcel is currently undeveloped and covered primarily with 4 to 6 inches of 2- to 4-inch-diameter gravel and cobbles.

The Bulk Terminal Property appears to have been agricultural land before 1936. According to historical assessor records, the Bulk Terminal Property was owned by Jobbers Petroleum Sales Co. (Jobbers) from at least 1939 to November 1941 (King County Assessor 2009). TOC acquired the Bulk Terminal Property in 1941.

Petroleum products including gasoline, diesel, and kerosene, were delivered to the Bulk Terminal Property via rail cars from the Burlington Northern Santa Fe railroad and were stored in 14 bulk ASTs located in the Lower and Upper Tank Yards, constructed approximately in 1946 (Figure 2). The Lower Tank Yard contained six bulk ASTs, while the Upper Tank Yard contained eight bulk ASTs that were larger in volume. The approximate capacities of the bulk ASTs ranged from 5,225 to 23,000 blue barrels. A blue barrel is estimated to contain 42 gallons. The bulk ASTs and associated piping systems were decommissioned in 2006.

Fuel was transferred onto the Bulk Terminal Property from rail tanker cars through hoses to a subsurface pipeline then pumped into the ASTs located in the Upper and Lower Tank yards. Petroleum products were transported off the Bulk Terminal Property by pumping the fuel into tanker trucks through the Former Overhead Loading Racks or by fueling ships via the Pipeline Utilidor, which extended from the Lower Tank Yard beneath West Commodore Way and angled toward the Shipping Terminal Dock located on the East Waterfront Property.

Former Barreling Shed #1 was located on the west portion of the Bulk Terminal Property immediately east of the ASKO Hydraulic Property. Former Barreling Shed #2 was located on the western portion of the Bulk Terminal Property extending onto the ASKO Hydraulic Property. Underground piping ran from ASTs on the Bulk Terminal Property to barreling sheds where 5-gallon containers and 55-gallon drums were filled with petroleum products, which were then transported beneath the West Commodore Way ROW to the East Waterfront Property via inclined gravity conveyors (Former West and East Barrel Inclines). Filled drums were conveyed down the West and East Barrel Inclines to the Shipping Terminal Dock for ship transport.

2.3.4 West

The West Waterfront Property is located at 2800 West Commodore Way and encompasses King County Tax Parcel Number 112503-9081 and a total area of 1.69 acres (73,798 square feet) of

land. The West Waterfront Property is currently owned by TOC. The northern portion of this parcel extends into Salmon Bay, while the southern portion is covered with a gravel parking lot and low-growing vegetation. Three docks extend over Salmon Bay from the West Waterfront Property. The West Waterfront Property currently provides moorage for recreational boats.

The West Waterfront Property was heavily vegetated in the 1930s and access to the shoreline was provided by an unpaved road that led to several docks. The majority of vegetation was cleared by 1946. The West Waterfront Property was purchased by TOC between 1946 and 1950 and several sheds were constructed during this period. The current and historical use of the West Waterfront Property is primarily for recreational boat docking and storage.

2.4 ENVIRONMENTAL SETTING AND REGULATORY CLASSIFICATIONS

A summary of the environmental setting, including topography, surface water and sediments, soils and geology, hydrogeology, and air, for the East Waterfront Property are provided below.

2.4.1 Regional Topography

The East Waterfront Property is located within the Puget Trough or Lowland portion of the Pacific Border Physiographic Province (USGS 2011). The Puget Lowland is a broad, low-lying region situated between the Cascade Range to the east and the Olympic Mountains and Willapa Hills to the west. In the north, the San Juan Islands form the division between the Puget Lowland and the Strait of Georgia in British Columbia. The province is characterized by roughly north-south-oriented valleys and ridges, with the ridges that locally form an upland plain at elevations of up to about 500 feet above sea level. The moderately to steeply sloped ridges are separated by swales, which are often occupied by wetlands, streams, and lakes. The physiographic nature of the Puget Lowland was prominently formed by the last retreat of the Vashon Stade of the Fraser Glaciation, which is estimated to have occurred between 14,000 and 18,000 years before present (Waitt Jr. and Thorson 1983). The elevation of the East Waterfront Property ranges from approximately 18 feet above mean sea level next to the shoreline to 44 feet above mean sea level at the West Commodore Way ROW.

2.4.2 Surface Water and Sediments

The East Waterfront Property is located on the south shore of Salmon Bay. Salmon Bay and the Lake Washington Ship Canal comprise a narrow body of water in Seattle, connecting Lake Union to the east with Puget Sound to the west through the Hiram M. Chittenden Locks. Salmon Bay was originally a saltwater bay, but was inundated with freshwater in 1914 when the Hiram M. Chittenden Locks were constructed to the west of Salmon Bay and connected the bay to Lake Union through the Lake Union Ship Canal. The Lake Washington Ship Canal is a narrow channel with some shallow embayments on the southern shoreline near the west end of the canal (Ecology 2000a).

2.4.2.1 Surface Water

Saltwater intrudes into Salmon Bay as a result of the operation of the Hiram M. Chittenden Locks, which connect the Lake Washington Ship Canal with Puget Sound. Depending on the levels of salinity present, sediments in certain areas may be classified as marine, low-salinity, or freshwater (Ecology 2000a). It is unlikely that Salmon Bay could be used as a drinking water source as it is known to be mildly saline as a result of mixing with seawater at the Hiram M. Chittenden Locks (Floyd Snider McCarthy 2003).

Groundwater from Salmon Bay and the Lake Washington Ship Canal upland areas moves primarily laterally from topographically higher elevations towards the lower elevations adjacent where it discharges to these surface water bodies. Locally, variations in soil conditions and engineering of shallow soils may cause groundwater to flow for short distances in other directions; however, eventually the groundwater discharges to the main surface water bodies (Floyd Snider McCarthy 2003).

The surface of the undeveloped portions of the East Waterfront Property is primarily unpaved with the exception of the driveway entrance to the Shipping Terminal Dock. During major storm events, surface water at the East Waterfront Property travels as sheet flow from the upland portions of the East Waterfront Property to Salmon Bay, infiltrates the upland soils, and/or evaporates to the ambient air. Outfalls linked to catch basins have not been observed on the East Waterfront Property. Runoff from the roofs tops is captured in gutters which flows to down spouts that discharge to the surface.

2.4.2.2 Sediments

General deposition processes for Salmon Bay include eroded soils and discharged outfall sediments from Salmon Bay and the Lake Washington Ship Canal upland areas and associated sediment transport from the Lake Washington Ship Canal. Erosion control measures at the East Waterfront Property consist of a barrier of cobbles and boulders placed along the shoreline with vegetation and/or concrete surface upgradient of the barrier. These control measures are in place to minimize the erosion of soils from the upland portion of the East Waterfront Property. The rate of sediment deposition for Salmon Bay is unknown.

2.4.3 Soils and Geology

According to the Geologic Map of Northwestern Seattle (Booth et al. 2005), the surficial geology in the vicinity of the East Waterfront Property consists of deposits corresponding to the Vashon Stade of the Fraser Glaciation and pre-Fraser glacial and interglacial periods. In the immediate property vicinity of the East Waterfront Property, surficial deposits consist of pre-Fraser Olympia beds, and modified land, which is characterized fill and/or graded natural deposits that obscure or alter the original deposit.

The youngest pre-Fraser deposits in the Seattle area, known as the Olympia beds, were deposited during the last interglacial period, approximately 18,000 to 70,000 years ago. The Olympia beds consist of very dense, fine to medium, clean to silty sands and intermittent gravel channel deposits, interbedded with hard silts and peats (Booth et al. 2005; Galster and Laprade 1991). Organic matter and localized iron-oxide horizons are common. The Olympia beds have known thicknesses of up to 80 feet. Beneath the Olympia beds are various older deposits of glacial and nonglacial origin. In general, deposits from older interglacial and glacial periods are similar to deposits from the most recent glacial cycle, due to similar topographic and climactic conditions (Booth et al. 2005).

The Vashon ice-contact deposits are located on the hillside above the south adjacent ASKO Hydraulic Property and are generally discontinuous, highly variable in thickness and lateral extent, and consist of loose to very dense, intermixed glacial till and glacial outwash deposits. The till typically consists of sandy silts with gravel. The outwash consists of sands and gravels, with variable amounts of silt (Booth et al. 2005).

The Vashon advance outwash deposits are located on the hillside above the south adjacent ASKO Hydraulic Property, and are generally discontinuous and consist of loose to very dense, layered sands and gravels, which are generally well-sorted (poorly graded). Layers of silty sands and silts are less common. The Vashon recessional lacustrine deposits consist of layered silts and clays, which range in plasticity from low to high, and may contain localized intervals of sand or peat. The recessional lacustrine deposits may grade into recessional outwash deposits (Booth et al. 2005).

The undeveloped portions of the East Waterfront Property are either covered with grasses, small shrubs, or gravel. The location of the former Warehouse Building is covered with quarry spalls, gravel, and sand. According to geologic cross sections in the 2003 BINMIC Report; Galster and Laprade (1991); Booth et al. (2005); boring logs and cross sections in the Fort Lawton Parallel Tunnel Project, Geotechnical Report (Municipality of Metropolitan Seattle 1989); and subsurface investigations conducted at the Seattle Terminal Properties, the uppermost soil layer in the vicinity of the Seattle Terminal Properties and the West Commodore Way ROW typically consists of fine- to coarse-grained soils classified as the Holocene Fill (Hf) geologic unit. The Hf geologic unit ranges from approximately 5 to greater than 20 feet thick, and consists of very loose to very dense, highly variable engineered and non-engineered fill material. Underlying the Hf geologic unit is the Holocene Depression Fillings (Hdf) geologic unit that consists of very soft to medium stiff fine-grained sand, silt, and clay, with scattered organic particles and very soft peat deposits. The Hf and Hdf geologic units are not depicted on the BINMIC geologic cross section B-B', which shows the Seattle Terminal Properties and the West Commodore Way ROW underlain by an approximate 35-foot thickness of "Unknown Outwash" that overlies clay or glaciolacustrine deposits; however, based on boring logs from the vicinity of the Seattle Terminal Properties, the "unknown Outwash" could be interpreted as the Hf and Hdf geologic units. Underlying the Hf and Hdf geologic units are the pre-Fraser-age glacial deposits (Qpf). The Qpf geologic unit consists of dense to hard, interbedded sand, gravel, and silt. These deposits can be further subdivided into fine- (Qpff) and coarse-grained (Qpfc) deposits.

2.4.4 Hydrogeology

Regional groundwater flow typically discharges to the closest major surface water body. Salmon Bay is located directly offshore of the East Waterfront Property and within the entire Washington State DNR Aquatic Lease Land Property. The general direction of groundwater flow has been toward the north/northwest.

A shallow water-bearing zone was observed beneath the Seattle Terminal Properties from approximately 15 to 40 feet above mean sea level in soils that consist of poorly graded sand and silty sand. Generally, the shallow water-bearing zone is encountered beneath the East Waterfront Property at approximately 1 to 25 feet bgs. The large change in water level is attributed to the topography of the East Waterfront Property and the proximity to Salmon Bay. The shallow water-bearing zone is underlain by two semi-confined to confined water-bearing zones with characteristics similar to soils within the shallow water-bearing zone. The intermediate water-bearing zone was observed beneath the East Waterfront Property at approximately 20 to 25 feet bgs. The two water-bearing zones are separated by silt and clay with silty sand layers that act as regional confining units that partially confine or confine the groundwater stored within the shallow and intermediate water-bearing zones. A third water-bearing zone identified as the deep water-bearing zone was observed at the ASKO Hydraulic Property located hydraulically upgradient of the East Waterfront Property. The deep water-

bearing zone is located from approximately 52 to 62 feet bgs at the ASKO Hydraulic Property, which topographically is approximately 2 feet above the southern property line of the East Waterfront Property. The general groundwater flow direction for the shallow water-bearing zone is to the northwest-north (Figure 5). A rose diagram depicting the general groundwater flow direction for the shallow water-bearing zones from groundwater monitoring events conducted between June 2006 and October 2012 is provided as Figure 6.

According to the BINMIC Hydrogeologic and Environmental Settings Report, three water supply wells were located in the BINMIC area. Two of the wells are located north of Salmon Bay and the East Waterfront Property, and the third was reportedly located 0.85 miles southeast of the East Waterfront Property. The wells were reportedly all used for industrial or commercial purposes and are thought to be abandoned.

Seattle Public Utilities provides the potable water supply to Seattle. Seattle Public Utilities' main source of water is derived from surface water reservoirs located within the Cedar and South Fork Tolt River watersheds. According to King County's Interactive Map for the County's Groundwater Program, there are no designated aquifer recharge or wellhead protection areas within several miles of the East Waterfront Property.

2.4.5 Air

Climate in the Seattle area is generally mild and experiences moderate seasonal fluctuations in temperature. Average temperatures range from the 60s in the summer to the 40s in the winter. The warmest month of the year is August, which has an average maximum temperature of 74.9 degrees Fahrenheit (°F), while the coldest month of the year is January, which has an average minimum temperature of 36.0 °F. The annual average rainfall in the Seattle area is 38.25 inches, with December as the wettest month of the year, when the area receives an average rainfall total of 6.06 inches (IDcide 2013). The prevailing wind direction in the Seattle area is from the south in winter and spring, northwest in the summer and early fall, and south-southeast in the fall and early (Western Regional Climate Center 2013).

The main underlying sources for ambient air pollutants in Seattle are motor vehicle traffic and residential wood burning. Airborne pollutants can reach the terrestrial surfaces and sediment directly, through the deposition of airborne chemicals, primarily in the form of particulate matter onto the water surface, and indirectly, through the deposition of particulate matter on terrestrial surfaces from which they are conveyed via surface water runoff and stormwater to water bodies (Anchor QEA 2012).

3.0 PREVIOUS INVESTIGATIONS, GROUNDWATER MONITORING EVENTS, AND INTERIM ACTIONS

This section summarizes activities and results from previous investigations, groundwater monitoring events, and interim actions conducted by others at the East Waterfront Property from 1991 to 2005. Additional information on the previous investigations and the groundwater monitoring and interim actions, procedures, and results are provided in the referenced reports, which are included in a compact disk as Appendix D. Preliminary cleanup levels for affected environmental media identified from these previous activities are provided in Table 1. Affected environmental media include soil and groundwater and are defined in Section 5.2.

Advanced soil boring and monitoring well locations are shown on Figure 7. Soil analytical results for diesel-, oil-, and gasoline- range petroleum hydrocarbons (DRPH, ORPH and GRPH) and benzene are shown on Figures 8 and 9, respectively. Groundwater analytical results for DRPH, ORPH, GRPH, and BTEX are shown on Figure 10. Soil analytical results are summarized on Tables 2 through 8 and reconnaissance groundwater analytical results are summarized on Tables 9 through 11. Groundwater analytical results are summarized on Tables 12 through 14.

3.1 PREVIOUS INVESTIGATIONS

Previous investigations conducted at the East Waterfront Property are discussed below.

3.1.1 1995 and 1997 Sediment Quality Investigations

Ecology conducted sediment quality investigations within Salmon Bay in 1995 and 1997. A summary of the results is presented below. Further details of the investigations are provided in the technical memorandum titled *Sediment Quality* prepared by SoundEarth dated June 17, 2008 (SES 2008; Appendix D).

A sediment quality investigation was conducted by Ecology in 1995. The sediment quality investigation was divided into two phases. Phase I of the sediment quality investigation consisted of an evaluation for the potential for contamination based on visual observation of sediments. Phase II of the investigation consisted of the collection of sediment samples from 29 locations in Salmon Bay and analyzing the samples for metals including arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc; semivolatile organic compounds (SVOCs); polychlorinated biphenyls (PCBs); and tributyltins (TBT). One sediment sample from the 29 locations (sediment sample 3B) was collected between the Shipping Terminal Dock and shore of the East Waterfront Property (Figure 7). A detailed summary of the two phases of the sediment quality investigation is presented in *Chemical Contaminants in Salmon Bay Sediments, Results of Phase II Sampling* (Ecology 1996).

No sediment quality values (SQVs) for freshwater have been developed specifically for Salmon Bay. In September 2003, guidelines for SQVs for freshwater were presented in the *Phase II Report: Development and Recommendations for SQVs for Freshwater Sediments in Washington State* by Avocet Consulting for Ecology (Avocet 2003). Provided below is a summary of chemical test results for the sediment samples from the 1995 sediment quality investigation compared to the example cleanup screening level (CSL), based on a floating percentile approach, developed by Avocet for Washington State (Avocet 2003):

- All eight metals were detected in the 29 sediment samples with the exception of cadmium which was not detected at concentrations above the laboratory reporting limit in 5 sediment samples. Sediment sample 3B ranked number 4 out of 29 in overall metals concentrations for all sediment samples collected. The lower the ranking number, the higher the concentrations of metals are in a sediment sample relative to the other sediment samples. Analytical results for metals are reported as dry weight concentrations, and the 29 sediment samples indicate the following:
  - Concentrations of arsenic in sediment samples ranged from 1.6 to 210 milligrams per kilogram (mg/kg). The median concentration of arsenic in sediment samples was 20 mg/kg. Sediment Sample 3B had a detectable concentration of arsenic of 44 mg/kg, which was below the CSL.

- Concentrations of cadmium in sediment samples were not-detectable at practical laboratory reporting limits to 3.2 mg/kg. The median concentration of cadmium in sediment samples was 0.6 mg/kg. Sample 3B had a detectable concentration of cadmium of 1.2 mg/kg, which exceeded the CSL.
- Concentrations of chromium in sediment samples ranged from 14 to 380 mg/kg. The median concentration of chromium in sediment samples was 60 mg/kg. Sample 3B had a detectable concentration of chromium of 88 mg/kg, which was below the CSL.
- Concentrations of copper in sediment samples ranged from 7.7 to 2,200 mg/kg. The median concentration of copper in sediment samples was 319 mg/kg. Sample 3B had a detectable concentration of copper of 318 mg/kg, which was below the CSL.
- Concentrations of lead in sediment samples ranged from 3.5 to 530 mg/kg. The median concentration of lead in sediment samples was 151 mg/kg. Sample 3B had a detectable concentration of lead of 318 mg/kg, which was below the CSL.
- Concentrations of mercury in sediment samples ranged from 0.01 to 5.0 mg/kg. The median concentration of mercury in sediment samples was 0.8 mg/kg. Sample 3B had a detectable concentration of mercury of 1.8 mg/kg, which exceeded the CSL.
- Concentrations of nickel in sediment samples ranged from 21 to 480 mg/kg. The median concentration of nickel in sediment samples was 48 mg/kg. Sample 3B had a detectable concentration of nickel of 66 mg/kg, which was below the CSL.
- Concentrations of zinc in sediment samples ranged from 27 to 2,000 mg/kg. The median concentration of zinc in sediment samples was 319 mg/kg. Sample 3B had a detectable concentration of zinc of 619 mg/kg, which exceeded the CSL.

- The 29 sediment samples were analyzed for SVOCs, and less than half had detectable concentrations of SVOCs above their laboratory reporting limits (Ecology 1996). The Ecology 1996 report states that polycyclic aromatic hydrocarbons (PAH) were the most frequently detected SVOCs. A summary of the results for PAHs is provided below:
  - Total PAH organic carbon normalized concentrations ranged from 107 to 2,300 milligrams per kilogram organic carbon (mg/kg OC). The median concentration of total PAH in sediment samples was 490 mg/kg OC. Sediment sample 3B had detectable concentrations of total PAHs of 586 mg/kg OC. CSLs were not developed for total PAHs.
  - The majority of sediment samples had detectable concentrations of all ten high molecular weight polycyclic aromatic hydrocarbons (HPAHs). Concentrations of HPAHs ranged from 50 mg/kg OC to 1,941 mg/kg OC. The median concentration of HPAHs in sediment samples was 417 mg/kg OC. Sediment sample 3B had a detectable concentration of HPAHs of 479 mg/kg OC. CSLs were not developed for PAHs.

- According to the Ecology 1996 report, almost all of the sediment samples had detectable concentrations of the seven low molecular weight polycyclic aromatic hydrocarbons (LPAHs). Concentrations of LPAHs ranged from 49 to 513 mg/kg OC. The median concentration of LPAHs in sediment samples was 107 mg/kg OC. Sediment sample 3B had a detectable concentration of LPAHs of 107 mg /kg OC. CSLs were not developed for PAHs.
- Concentrations of the remaining SVOCs in sediment samples were above the applicable CSL in 27 or more samples. Concentrations of the remaining SVOCs in sediment sample 3B that exceeded the applicable CSLs included acenaphthylene, naphthalene, bis(2-ethylhexyl)phthalate, and butylbenzy phalate.
- Total PCBs were detected in 26 of the 29 sediment samples with concentrations of total PCBs ranging from not detected to 150 mg/kg OC. The median concentration of total PCBs in sediment samples was 4.8 mg/kg OC. The concentration of total PCBs in sediment sample 3B was 1.8 mg/kg OC, which is below the CSL.
- TBT was detected in most of the sediment samples collected by Ecology in Salmon Bay with the exception of the sediment sample 5B. Concentrations of TBT in the sediment samples ranged from not detected to 6,500 micrograms per kilogram dry weight (µg/kg). The median concentration of TBT in sediment samples was 326 µg/kg. The concentration of TBT in sediment sample 3B was 263 µg/kg, which exceeded the CSL.

In 1997, Ecology performed a second sediment quality investigation and collected sediment samples from 27 areas in Salmon Bay. As part of the 1997 sediment quality investigation, Ecology collected two additional sediment samples from the tidelands in close proximity or at the East Waterfront Property (Figure 7). Sediment sample 3B2 was collected south of the west end of the Shipping Terminal Dock, and sediment sample 3B3 was collected east of the Shipping Terminal Dock.

The 27 sediment samples were analyzed for the same eight metals as the 1995 investigation, SVOCs, and TBTs. Six of the 27 samples were also analyzed for PCBs, which did not include samples 3B2 or 3B3. Bioassays were conducted on 20 sediment samples collected, including sample 3B3. The bioassay test included 10-day *Hyalella azteca* survival, 10-day *Chironomus tentans* growth and survival, and 15-minute *Vibrio fischeri* luminescence.

Provided below is a summary of chemical and biological test results for the sediment samples from the 1997 sediment quality investigation compared to the CSLs for Washington State presented in Avocet 2003:

- All eight metals were detected in the 27 sediment samples with the exception of cadmium which was not detected at concentrations above the laboratory reporting limit in two sediment samples. Sediment sample 3B3 ranked 3 out of 27 and sediment sample 3B2 ranked 10 out of 27 in overall metals concentrations for all sediment samples collected. The lower the ranking number, the higher the concentrations of metals are in a sediment sample relative to the other sediment

samples. Analytical results for metals for the 27 sediment samples indicate the following:

- Concentrations of arsenic in sediment samples ranged from 5 to 209 micrograms per gram (µg/g). The median concentration of arsenic in sediment samples was 20 µg/g. Sediment sample 3B2 had a detectable concentration of arsenic of 25 µg/g, which was below the CSL. Sediment sample 3B3 had a detectable concentration of arsenic of 175 µg/g, which exceeded the CSL.
- Concentrations of cadmium in sediment samples were not-detectable at practical laboratory reporting limits to 5 µg/g. The median concentration of cadmium in sediment samples was 1.4 µg/g. Sediment samples 3B2 and 3B3 had detectable concentrations of cadmium of 1.8 and 3.0 µg/g, which exceeded the CSL.
- Concentrations of chromium in sediment samples ranged from 24 to 620 µg/g. The median concentration of chromium in sediment samples was 66 µg/g. Sample 3B2 and 3B3 had detectable concentrations of chromium of 66 and 81 µg/g, which was below the CSL.
- Concentrations of copper in sediment samples ranged from 48 to 11,000 µg/g. The median concentration of copper in sediment samples was 370 µg/g. Sediment samples 3B2 and 3B3 had detectable concentrations of copper of 314 and 651 µg/g, which were below the CSL.
- Concentrations of lead in sediment samples ranged from 12 to 1,300 µg/g. The median concentration of lead in sediment samples was 190 µg/g. Sediment sample 3B2 had a detectable concentration of lead of 311 µg/g, which was below the CSL. Sediment sample 3B3 had a detectable concentration of lead of 436 µg/g, which exceeded the CSL.
- Concentrations of mercury in sediment samples ranged from 0.10 to 43 µg/g. The median concentration of mercury in sediment samples was 20 µg/g. Sediment samples 3B2 and 3B3 had detectable concentrations of mercury of 2.1 and 2.7 µg/g, which exceeded the CSL.
- Concentrations of nickel in sediment samples ranged from 30 to 640 µg/g. The median concentration of nickel in sediment samples was 53 µg/g. Sediment samples 3B2 and 3B3 had detectable concentrations of nickel of 53 and 48 µg/g, which were below the CSL.
- Concentrations of zinc in sediment samples ranged from 84 to 4,200 µg/g. The median concentration of zinc in sediment samples was 420 µg/g. Sediment samples 3B2 and 3B3 had detectable concentrations of zinc of 497 and 1,770 µg/g, which exceeded the CSL.

- The 75 sediment samples were analyzed for SVOCs (Ecology 2000b). The Ecology 2000b report states that polycyclic aromatic hydrocarbons (PAHs) were the most frequently detected SVOC. A summary of the results for PAHs is provided below:

- SVOC concentrations in sediment samples 3B2 and 3B3 indicated that sample 3B2 ranked above the median concentrations for SVOCs and sample 3B3 ranked below the median concentrations for SVOCs, as described below:
  - Total PAH organic carbon normalized concentrations ranged from 1,300 to 330,000 µg/kg. The median concentration of total PAH in sediment samples was 18,000 µg/kg. Sediment sample 3B2 had detectable concentrations of total PAHs of 34,300 µg/kg. Sediment sample 3B3 had detectable concentrations of total PAHs of 16,500 µg/kg. CSLs were not developed for total PAHs.
  - All of the 27 sediment samples had detectable concentrations of HPAHs. Concentrations of HPAHs ranged from 1,200 µg/kg to 250,000 µg/kg. The median concentration of HPAHs in sediment samples was 15,000 mg/kg. Sediment sample 3B2 had detectable concentrations of HPAHs of 29,400 µg/kg. Sediment sample 3B3 had detectable concentrations of HPAHs of 13,700 µg/kg. CSLs were not developed for HPAHs.
  - According to the Ecology 2000b report, all of the sediment samples had detectable concentrations of the seven LPAHs. Concentrations of LPAHs ranged from 70 to 78,000 µg/kg. The median concentration of LPAHs in sediment samples was 4,400 mg/kg. Sediment sample 3B2 had detectable concentrations of LPAHs of 4,900 µg/kg. Sediment sample 3B3 had detectable concentrations of LPAHs of 2,800 µg/kg. CSLs were not developed for LPAHs.
  - Concentrations of the remaining SVOCs in sediment samples were above the applicable CSL in 29 or more samples. Concentrations of the remaining SVOCs in sediment sample 3B2 that exceeded the applicable CSLs included acenaphthene, acenaphthylene, anthracene, fluorine, naphthalene, bis(2-ethylhexyl)phthalate, and di-n-octyl phthalate. Concentrations of the remaining SVOCs in sediment sample 3B3 that exceeded the applicable CSLs included bis(2-ethylhexyl)phthalate and di-n-octyl phthalate.
  - Total PCBs were detected in 6 sediment samples with concentrations of total PCBs ranging from 66 µg/kg to 2,090 µg/kg. The median concentration of total PCBs in sediment samples was 542 µg/kg. According to the Ecology 2000b report, stations 3B2 and 3B3 were not sampled for PCBs in 1997.
  - TBT was detected in all of the sediment samples with concentrations ranging from 40 µg/kg to 64,000 µg/kg. The median concentration of TBT in sediment samples was 1,080 µg/kg. The concentration of TBT in sediment sample 3B2 was 866 µg/kg, which exceeded the CSL. The concentration of TBT in sediment sample 3B3 was 696 µg/kg, which exceeded the CSL.
  - The sediment samples which had bioassays performed had statistically significant bioassay responses for one or more tests relative to the reference sediment sample. Sediment sample 3B3 showed significant test results in three of four bioassays. Bioassays were not performed on sediment sample 3B2.

3.1.2 1999 Subsurface Investigation

Subsurface investigations were conducted at the East Waterfront Property in June and September 1999 (IT Corporation 2000). The subsurface investigations were performed to assess the nature and extent of petroleum contamination in the vicinity of a former waste oil UST located west of the Warehouse Building. A summary of the initial waste oil UST removal and soil excavation is provided in Section 3.3.1. The subsurface investigation consisted of the following (Figure 7):

- Advancing nine borings (02SB01 through 02SB09) using a hollow-stem auger drill rig to depths ranging from 9 to 26.5 feet bgs.
- Advancing five borings, completed as monitoring wells 02MW01 through 02MW05, using a hollow-stem auger drill rig to depths ranging from 10 to 35 feet bgs.
- Analyzing 43 soil samples and eight reconnaissance groundwater samples from the borings 02SB02 through 02SB09.
- Performing a groundwater monitoring and sampling event, which included wells 02MW01 through 02MW05.

Soil observed by IT Corporation in the borings consisted of sands and silts with varying amounts of clay and gravel from the ground surface to 10 to 15 feet bgs underlain by clay. Groundwater was encountered at approximately 2 to 20 feet bgs in the borings at the time of drilling, with the exception of boring 02SB01 where no groundwater was encountered.

A total of 43 soil samples and eight reconnaissance groundwater samples were submitted for laboratory analyses of DRPH, ORPH, GRPH, BTEX, and/or total and dissolved lead. Select soil samples were further analyzed for volatile organic compounds (VOC), pesticides, PCBs, arsenic, barium, cadmium, chromium, lead, selenium, and silver. Soil and reconnaissance groundwater sample analytical results are summarized in Tables 2 through 5, 9, and 11, and shown on Figures 8 through 10. Soil samples from borings 02MW02 and 02MW03 were not analyzed. The results of the groundwater monitoring event are summarized in Section 3.2.

The analytical results of soil samples and reconnaissance groundwater samples collected from borings 02SB01 through 02SB09 during the subsurface investigation indicated the following:

- A concentration of GRPH exceeding the preliminary cleanup level was detected in the soil sample collected from boring 02SB08 at 3.5 feet bgs. This boring was located in the vicinity of the former waste oil UST excavation.
- A concentration of benzene exceeding the preliminary cleanup level was detected in the soil sample collected from boring 02MW05 at 25 feet bgs, which is below the water table. This boring was located south and upgradient of the former waste oil UST.
- Concentrations of DRPH and/or ORPH exceeding the preliminary cleanup levels were detected in the reconnaissance groundwater samples collected from borings 02SB02 through 02SB05 and 02SB07 through 02SB09. These borings were located in the vicinity of the former waste oil UST excavation, with the exception of boring 02SB09, which was located upgradient of the former waste oil UST.

- Concentrations of GRPH exceeding the preliminary cleanup level was detected in the reconnaissance groundwater samples collected from borings 02SB02 and 02SB09.
- Concentrations of benzene exceeding the preliminary cleanup levels were detected in the reconnaissance groundwater samples collected from borings 02SB02 through 02SB05, and 02SB09.
- A concentration of total xylenes exceeding the preliminary cleanup level was detected in the reconnaissance groundwater sample collected from boring 02SB02.
- Concentrations of the COPCs were not detected above the preliminary cleanup levels in soil samples collected from borings 02SB01 through 02SB07, 02SB09, 02MW01, or 02MW04.

3.1.3 2000 Phase I Environmental Site Assessment

Foster Wheeler completed a Phase I ESA for the East Waterfront Property which was reportedly used for light industrial activities since 1974 (Foster Wheeler 2000a). Interim actions performed at the parcel indicated petroleum-contaminated soil and groundwater were present beneath the East Waterfront Property and that additional investigation would be necessary to assess the extent of soil and groundwater contamination (Foster Wheeler 2000a). Specific recommendations included performing a groundwater monitoring event and collecting groundwater samples from monitoring wells 02MW01 through 02MW05, and analyzing the samples for GRPH, DRPH, ORPH, VOCs, and dissolved lead.

3.1.4 2001 Subsurface Investigations

A specific report detailing the advancement and installation of boring 02MW06 and 02MW07 at the East Waterfront Property was not available for review; however, the following summary was obtained from a 2001 report prepared by Foster Wheeler 2001. Based on the initial groundwater sampling date of July 2001, borings 02MW06 and 02MW07 were advanced in 2001 and converted to monitoring wells. Boring 02MW06 was advanced to approximately 20 feet bgs in the shed, and well boring 02MW07 was advanced to approximately 12 feet bgs near the shoreline. No soil analytical results were available for these borings.

3.2 GROUNDWATER MONITORING EVENTS

A summary of groundwater monitoring events conducted by others before 2006 at the East Waterfront Property is provided below. The results of the groundwater monitoring events are provided in the following groundwater monitoring reports:

- Final Quarterly Groundwater Sampling Report for July 2004, dated November 2004, prepared by Tetra Tech.
- Draft Quarterly Groundwater Sampling Report for November 2004, dated March 2005, prepared by Tetra Tech.
- Annual Event/Fourth Quarter 2005, Groundwater Monitoring Event, dated December 20, 2005, prepared by Landau Associates.

In addition, several of the groundwater monitoring events were conducted as part of previous subsurface investigations or interim actions and are included in the summary below. Detailed

information regarding field activities, procedures, and results are provided in the referenced reports prepared by others (Appendix D).

Typical groundwater monitoring events included the following work elements:

- Measuring the depth to water and/or light nonaqueous phase liquid (LNAPL), if present.
- Purging a minimum of three to five monitoring well casing volumes from each well, or purging groundwater using low-flow sampling methods before sampling the monitoring wells.
- Measuring groundwater quality parameters, including temperature, pH, specific conductance, dissolved oxygen, turbidity, and oxidation-reduction potential, and collecting groundwater samples from each monitoring well for selected laboratory analysis.

The groundwater elevation measurements are presented in the referenced reports (Appendix D). The data indicates that groundwater flow direction is generally to the north for the East Waterfront Property and consistent with the measurements obtained by SoundEarth (Figure 5). The groundwater sample analytical results are summarized in Tables 12 through 14.

A total of 19 monitoring events were conducted at the East Waterfront Property between September 1999 and October 2005. The number of wells sampled per event was based on individual scopes of work to assess groundwater quality trends. In general, each monitoring event included wells 02MW01 through 02MW07, and groundwater samples were analyzed for the following: DRPH, ORPH, GRPH, BTEX, pentachlorophenol (PCP), and/or total and dissolved lead. Based on the three groundwater reports listed above, groundwater elevations in the shallow water-bearing zone ranged from 17.43 (well 02MW02) feet above mean sea level to 18.80 (well 02MW03) feet above mean sea level. Analytical results indicated the following:

- Concentrations of DRPH exceeding the preliminary cleanup level were detected during one or more monitoring event in the groundwater samples collected from wells 02MW03 through 02MW06.
- Concentrations of GRPH exceeding the preliminary cleanup level were detected in the groundwater sample collected from monitoring well 02MW04 for each monitoring event.
- Concentrations of benzene exceeding the preliminary cleanup level were detected during one or more monitoring events in the groundwater samples collected from wells 02MW01, 02MW03, and 02MW04.
- Concentrations of total xylenes and ethylbenzene exceeding the preliminary cleanup levels were detected in the groundwater sample collected from well 02MW04 during the April 2004 monitoring event.
- Concentrations of PCP exceeding the preliminary cleanup level were detected during monitoring events in October 2001, January 2002, or April 2002 in the groundwater samples collected from wells 02MW02, 02MW06, and 02MW07. Concentrations of PCP were below the laboratory practical detection limits and former cleanup level in the next two to three proceeding events, conducted in January, April, July, or October 2002.
- Concentrations of total lead exceeding the preliminary cleanup level were detected in the groundwater samples collected from wells 02MW01, 02MW02, 02MW04, and 02MW05 during the September 1999 monitoring event.

- Concentrations of ORPH, toluene, and dissolved lead were not detected above the laboratory practical detection limits or preliminary cleanup levels in the analyzed groundwater samples collected during the monitoring events.
- Concentrations of DRPH, GRPH, benzene, total xylenes, ethylbenzene, PCP, and total lead were not detected above the laboratory practical detection limits or preliminary cleanup levels, with the exception of the wells listed above.

3.3 INTERIM ACTIONS

A summary of the interim actions conducted at the East Waterfront Property is provided below. Figure 11 illustrates the location of the interim actions conducted at the East Waterfront Property by others.

3.3.1 1991 Waste Oil Underground Storage Tank Removal

According to a December 1991 letter from Time Oil Co. to Ecology regarding *Underground Storage Tank Site Check/Site Assessment at Seattle Terminal*, Lee Morse Construction removed an approximately 300-gallon waste oil UST on September 16, 1991. The UST was located west of the Warehouse Building (Time Oil Co. 1991; Figure 4). The date of installation of the UST is unknown. The UST was reportedly used for storing waste oil collected during servicing of Time Oil Co. fleet vehicles, and it was removed as part of an upgrade of the facility. As part of the interim action approximately 100 cubic yards of petroleum-contaminated soil was removed from the East Waterfront Property in September and October 1991. The soil was stockpiled at the East Waterfront Property.

Areas of rusting and pitting and a pin-sized hole were observed on the UST after removal. Soil within the excavation appeared to be stained and a petroleum hydrocarbon odor was observed. The excavation measured approximately 35 feet by 15 feet, and extended to approximately 6 feet deep. Four soil samples were collected from the south, west, and east sidewalls and the bottom of the excavation. A sample was not collected from the north sidewall due to observed residual petroleum contamination. A test pit was excavated between the UST excavation and the Salmon Bay shoreline to assess the lateral extent of perceived impacts, and a soil sample was collected from the test pit. A single composite sample was collected from the soil stockpile.

The excavation, test pit, and soil stockpile samples were submitted for laboratory analysis of DRPH and ORPH. The stockpile sample was further analyzed for chlorinated volatile organic compounds (CVOC), PCBs, and the Toxicity Characteristic Leachate Procedure (TCLP) for lead.

Fill material was encountered within the excavation from ground surface to approximately 4.5 feet bgs at the south end of the excavation and 1 foot bgs at the north end. Native soil underlying the fill consisted of silty, fine to medium sand. Depth to water in the excavation ranged from 2 to 6 feet bgs. A heavy sheen was observed on the water table. Analytical results from the soil samples collected from the excavation (TI-N-4, TI-E-4, TI-F-6, TI-W-4), test pit (TPI-3), and stockpile (1228-0927-S1, -S2, -S3, and –S4) indicated that concentrations of DRPH and ORPH were below the preliminary cleanup levels in the analyzed samples (Table 6). In addition, concentrations of CVOCs and PCBs were below the laboratory practical quantitation limits (PQL) (Tables 7 and 8). TCLP results indicated a concentration of lead of less than 0.5 milligrams per liter (mg/L; Table 8).

3.3.2 1992 Petroleum-Contaminated Soil Removal

According to a letter dated September 22, 1992, from Time Oil Co. to Ecology regarding *Excavating Activities Conducted at Former Waste Oil Tank Location*, additional excavation was conducted on July 28 and 29, 1992, in the area of the former waste oil UST that was removed in 1991 (Time Oil Co. 1992; Figure 11). An additional 150 cubic yards were excavated from the vicinity of the former waste oil UST. The excavation was backfilled with crushed rock, which was covered with visqueen to reduce surface water infiltration, and the visqueen was covered with a layer of sand. The excavated soil was stockpiled on a neighboring parcel owned by Time Oil Co. for soil profiling prior to proper disposal.

Six soil samples (A1 through A6) were collected from the northern and eastern sidewalls of the excavation, at depths ranging from 3 to 9 feet bgs, and two additional soil samples (WO-W/C and WO@5') were collected from the south end of the excavation for waste profiling purposes. The soil samples were submitted for hydrocarbon identification (HCID) analysis. Based on detections from the HCID analysis, three excavation samples were further analyzed for GRPH, ORPH, DRPH, mineral spirits, and BTEX. In addition, one of the two waste profiling samples was further analyzed for DRPH. Analytical results indicated the following (Table 6):

- Concentrations of GRPH exceeding the preliminary cleanup level were detected in a soil sample collected from the northwest sidewall of the excavation at 3 feet bgs and in two soil samples collected from the southeast sidewall at 8 and 9 feet bgs.
- Concentrations of ORPH and benzene exceeding the preliminary cleanup levels were detected in a soil sample collected from the northwest sidewall of the excavation at 3 feet bgs.
- A DRPH concentration exceeding preliminary cleanup levels of 2,800 milligrams per kilogram was detected in the waste profile soil sample collected from 2 feet bgs.

4.0 REMEDIAL INVESTIGATION

SoundEarth performed several phases of remedial investigation field work at the East Waterfront Property between April 2006 and October 31, 2012, to evaluate the data gaps identified during previous investigations, to assess the extent of COPCs, and to provide sufficient information to support the evaluation of technically feasible cleanup alternatives for the Site. A summary of the data gaps, field activities, and remedial investigation results are provided below. A digital copy of laboratory analytical reports is provided on a compact disk in Appendix E.

4.1 DATA GAPS

The previous investigations performed by others did not provide sufficient information to meet the requirements under MTCA for a remedial investigation. Specific data gaps included the following:

- The condition of an unleaded gasoline UST south of ASKO Selective Plating. A ground-penetrating radar survey conducted in 2009 identified an area where the UST was located on a historical plan provided by TOC Holdings Co. (Time Oil Co. 1980). The extent of the COPCs in soil in the vicinity of the UST, if present, was unknown.
- The quality of groundwater flowing from the West Commodore Way ROW, the ASKO Hydraulic Property and the Bulk Terminal Property onto the East Waterfront Property was unknown.

- The upgradient extent of residual COPCs in soil and groundwater from the 1991 and 1992 UST-related excavations had not been delineated.
- Delineation of the extent of soil and groundwater with concentrations of the COPCs exceeding preliminary cleanup levels at the eastern border, in the vicinity of the Pipeline Utilidor, and within the footprint of the former Warehouse Building, which was inaccessible before demolition.

4.2 REMEDIAL INVESTIGATION FIELD PROGRAM

The remedial investigation field program was performed between April 2006 and October 31, 2012, and was comprised of the following six work elements: utility reconnaissance, ground-penetrating radar survey, a UST site assessment, soil and reconnaissance groundwater sample collection, monitoring well installation and development, and groundwater monitoring. A summary of the scope of work completed for each work element, as well as the results of the remedial investigation activities, is provided below.

4.2.1 Utility Reconnaissance

Underground Detection Service, Inc. of Seattle, Washington, or Applied Professional Service, Inc. of North Bend, Washington, performed private utility locate surveys before each subsurface investigation and located utilities in the vicinity of the proposed boring locations. Northwest Utility Notification Center was also contacted to locate utilities within the public ROWs of the East Waterfront Property.

4.2.2 Ground-Penetrating Radar Survey

SoundEarth observed a ground-penetrating radar survey performed by Geo-Recon International Ltd. of Seattle, Washington on July 22, 2009 (Geo-Recon International Ltd. 2009). The purpose of the survey was to investigate an area where a UST was previously located according to a historical figure proved by TOC (Time Oil Co. 1980). The UST formerly contained unleaded gasoline, based on a drawing titled Plot Plan and U.G. Fuel Tank Location dated March 6, 1980 (Time Oil Co. 1980).

The survey was comprised of 80 survey lines covering 6,250 feet of traverse. A potential single UST was identified south of ASKO Selective Plating on the East Waterfront Property (Geo-Recon International Ltd. 2009). The potential UST was located underneath the shed connected to ASKO Industrial Repair and was estimated to measure approximately 10.67 feet by 4 feet. A concrete pad covered the western portion of the potential UST.

4.2.3 Underground Storage Tank Site Assessment

A site assessment was conducted in June 2011 with the purpose of documenting the decommissioning and removal of the potential UST and evaluating the subsurface conditions in the vicinity of the UST. Decommissioning activities were performed by Clearcreek Contractors, Inc. of Everett, Washington and included demolishing the compressor shed located south of ASKO Selective Plating; excavating in the vicinity of the apparent UST; advancing a test pit in the area of the former pump island; and rebuilding the compressor shed. SoundEarth provided an International Fire Code Institute-certified UST Site Assessor (Certificate No. 5267709-U7) to observe and document the UST decommissioning and removal activities.

A 1980 plot plan (Time Oil Co. 1980) and results from the 2009 ground-penetrating radar survey were used to locate the approximate locations of the potential UST, former pump island, and

product piping associated with the UST. The final limits of the UST excavation measured approximately 10 feet by 5 feet by 10 feet bgs. A UST was not encountered in the area. Test pit TP01 was excavated east of the UST excavation to investigate soil conditions in the vicinity of the former pump island. The final limits of the test pit measured approximately 8 feet by 3 feet by 8 feet bgs. No evidence of the former pump island or product piping was observed.

Six soil samples each were collected from the sidewalls and base of the UST excavation and the test pit, and two composite soil samples were collected from the two soil stockpiles (SP01 and SP02) resulting from the excavation and test pit. Each soil sample collected was submitted for laboratory analysis for GRPH, DRPH, ORPH, and BTEX. Stockpile soil samples were further analyzed for methyl tertiary-butyl ether (MTBE) and the Resource Conservation and Recovery Act (RCRA) 8 metals including arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

4.2.3.1 Results

The top 4.5 feet of soil encountered in the UST excavation contained fill material, consisting of silty sand with gravel, rootlets, brick fragments, and plastic lining to approximately 4 feet bgs. The fill material was underlain by silty fine sand to the maximum depth excavated of approximately 10 feet bgs. Soil encountered in the test pit consisted of silty sand with gravel to an approximate depth of 2 feet bgs. Fill material consisting of silt and sand was observed from 2 feet bgs to the maximum depth explored of 8 feet bgs. Groundwater was observed infiltrating both excavations at a depth of approximately 7 feet bgs.

No evidence of a UST, pump island, or product piping were observed during excavation activities. Concentrations of GRPH, DRPH, ORPH, BTEX, MTBE, and the RCRA 8 metals in soil samples collected from the UST excavation, test pit excavations, and soil stockpiles were not detected above the preliminary cleanup levels or the laboratory reporting limits (Tables 6 and 8, Figure 12). Based on laboratory analytical results, the UST system did not release petroleum hydrocarbons to the environment. The excavations were backfilled with the soil from stockpile SP02, and compacted. The compressor shed was rebuilt on June 16, 2011.

4.2.4 Soil and Reconnaissance Groundwater Sample Collection

This remedial investigation scope of work included the advancement of direct-push and hollow-stem auger borings between April 2006 and October 31, 2012, and the collection of soil and reconnaissance groundwater samples from select direct-push borings at various depths. The boring locations are shown on Figure 7.

Drilling services were provided by Cascade Drilling, Inc. of Woodinville, Washington. A SoundEarth geologist observed drilling activities and collected soil and/or reconnaissance groundwater samples for potential laboratory analysis at each boring location. Field activities were conducted in accordance with a site-specific Health and Safety Plan as required by Part 1910 of Title 29 of the Code of Federal Regulations and WAC 296-843. A summary of the locations of the remedial investigation borings and associated monitoring wells completed during the remedial investigation, and the rationale for their locations, is provided below. The boring and well locations are shown on Figure 7.

- One boring (B02) was advanced within the former East and West Barrel Inclines on the East Waterfront Property on April 21, 2006. The boring was converted into monitoring well 02MW08. The well was screened in the shallow water-bearing zone

(20 to 30 feet bgs) to evaluate if a release of TPH had occurred to subsurface soil and groundwater from the historical operations of the former East and West Barrel Inclines.

- On October 11 and 12, 2007, six borings (GP21 through GP26) were advanced in the East Waterfront Property. Borings GP21 and GP23 through GP25 were converted into monitoring wells 02MW09 through 02MW12, respectively. The monitoring wells were screened in the shallow water-bearing zone. The locations of the borings and monitoring wells were selected to assess the quality of soil and groundwater near the West and East Barrel Inclines and Pipeline Utilidor.
- Boring B74 was advanced and converted into monitoring well 02MW13 on December 5, 2007. The well was screened in the shallow water-bearing zone. Monitoring well 02MW13 was located on the East Waterfront Property, downgradient of the North Trunk Sewer and the ASKO Hydraulic Property, to evaluate the quality of soil and groundwater for TPH and trichloroethene (TCE).
- Ten borings (B226 through B233, Temp01, and Temp02) were advanced on the East Waterfront Property in March and April 2012, to investigate soil and groundwater data gaps at locations adjacent to the 1991 and 1992 UST excavations (B226), by the Pipeline Utilidor (B227 and B232), and within the footprint of the former Warehouse Building, which was previously inaccessible (B228 through B231, B233, Temp01, and Temp02).

Direct-push borings were continually sampled from the ground surface to the maximum depth explored, typically using a 4- or 5-foot probe rod driven with a 140-pound-per-square-inch hydraulic hammer powered by pressurized hydraulic fluid or nitrogen gas. The sampler was lined with disposable acetate sleeves that were removed and opened to reveal the sample after each sample interval driven. Hollow-stem auger borings were sampled at varying intervals ranging from continuous to every 10 feet to the maximum depths explored using a split-spoon sampler advanced through the hollow-stem augers. Blow counts and sample recovery percentages were logged at each sample interval.

Soil samples were described in accordance with the Unified Soil Classification System (USCS) and screened in the field for potential evidence of contamination by using visual observations and notations of odor and by conducting headspace analysis using a photoionization detector (PID) to detect the presence of volatile organic vapors. Headspace analysis was conducted by placing soil from each sample interval into a sealable plastic bag and allowing the sample to warm for several minutes. The probe of the PID was then inserted into the bag, and the highest reading obtained over an approximately 30-second interval was recorded. The USCS symbol, visual and olfactory notations for the samples, and PID readings were recorded on boring log forms. The boring log forms are provided in Appendix F.

A total of 12 reconnaissance groundwater samples were collected at the East Waterfront Property by SoundEarth as part of the remedial investigation field program. The reconnaissance groundwater samples were collected in October 2007 and April 2012, to further assess groundwater quality in the vicinity of the Pipeline Utilidor, waste oil UST excavations, and within the footprint of the former Warehouse Building.

Reconnaissance groundwater samples were typically collected by driving a 2-inch-diameter stainless steel casing to 1 to 3 feet below the depth of the first encountered groundwater. The outer casing was then partially withdrawn, exposing a discrete portion of the water-bearing unit. Groundwater was purged through 0.25-inch-diameter tubing inserted down the 2-inch-diameter casing using a peristaltic pump until the groundwater no longer appeared turbid or a minimum of 0.5 gallons were removed. Following the temporary well purging, SoundEarth collected the reconnaissance groundwater samples from the following intervals in the borings:

- Boring GP22 was screened from 12 to 16 feet bgs, and groundwater was encountered at approximately 15 feet bgs.
- Boring GP26 was screened from 8 to 12 feet bgs, and groundwater was encountered at approximately 8.5 feet bgs.
- B226 was screened from 15 to 20 feet bgs, and groundwater was encountered at approximately 11.5 feet bgs.
- B227 was screened from 12 to 17 feet bgs, and groundwater was encountered at approximately 11.5 feet bgs.
- B228 was screened from 4 to 9 feet bgs, and groundwater was encountered at approximately 3 feet bgs.
- B229, B230, B231, and B232 were screened from 5 to 10 feet bgs, and groundwater was encountered at approximately 0.5, 2.0, 2.0, and 5.5 feet bgs, respectively.
- B233 was screened from 10 to 15 feet bgs, and groundwater was encountered at approximately 12 feet bgs.
- Temp01 and Temp02 were screened from approximately 0 to 5 feet bgs, and groundwater was encountered at approximately 1.0 foot bgs.

Soil and reconnaissance groundwater samples were placed directly into laboratory-prepared sample containers. The containers were placed in an iced cooler and transported for laboratory analysis to TestAmerica Laboratories, Inc., formerly North Creek Analytical, of Bothell, Washington, or Friedman & Bruya, Inc. of Seattle, Washington, under standard chain-of-custody protocols.

After completion, direct-push borings were backfilled with bentonite and completed with an appropriate surface seal unless converted into a monitoring well location. Soil cuttings were placed into appropriately labeled 55-gallon steel drums and transported to the designated staging area along the south portion of the paved parking in front of the Barreling Shed #3 at the ASKO Hydraulic Property or the Bulk Terminal Property pending proper disposal to a permitted TSD facility. Wastewater was placed into the groundwater pretreatment system located on the Bulk Terminal Property. Water was treated and discharged to the sanitary sewer system in accordance with the King County Industrial Waste Discharge Permit Nos. 7689-05 and 7689-06.

The soil and reconnaissance groundwater samples were submitted for laboratory analysis for the following: DRPH, ORPH, GRPH, BTEX, CVOCs, and/or total lead.

A summary of the soil profile observed from soil samples collected from borings advanced during the remedial investigation field program and the soil and reconnaissance groundwater sample analytical data is provided below. Analytical results for soil samples are presented in

Tables 2 through 4, 6, and 8. Analytical results for reconnaissance groundwater samples are presented in Tables 9 and 10. The analytical results for COPCs in soil are illustrated on Figures 8 and 9. The analytical results for COPCs in reconnaissance groundwater samples are illustrated on Figure 10. Laboratory analytical reports for the soil and reconnaissance groundwater samples collected during the remedial investigation are included in Appendix E.

4.2.4.1 Soil Profile

The soil profile observed in borings advanced on the East Waterfront Property by SoundEarth and others consisted of fill material from ground surface to depths ranging from approximately 1 to 9 feet bgs, underlain by native deposits to a depth greater than 35 feet bgs. The fill material and native deposits observed included fine- to coarse-grained soil layers comprised of varying amounts of sand, silty sand, silt and clay, and gravel. Figure 13 shows the cross section prepared for this RI Report to illustrate the general soil profile, suspected and confirmed source areas, and the analytical results of soil and groundwater samples collected at the East Waterfront Property. Boring logs are provided in Appendix F.

Two distinct soil layers consisting of fill material were observed on the East Waterfront Property. The first fill layer consists of sandy, dredge-like material present at the Salmon Bay shoreline and extending approximately 105 feet south, with fill material decreasing in depth with distance from the shoreline. The second fill layer consists of fine to coarse grained soils that include very loose to very dense silt sand, sand, and gravel from ground surface to approximately 4 feet bgs. These soil types exhibit characteristics of the Hf geologic unit. Underlying the Hf geologic unit are generally sand, silty sand, and sand and clay layers at depths ranging from ground surface to the maximum depth explored on the East Waterfront Property of 35 feet bgs that are characteristic of the Hdf geologic unit.

4.2.4.2 Soil Sample Analytical Results

Analytical results for soil samples collected from the East Waterfront Property during the remedial investigation indicated the following:

- Concentrations of GRPH exceeded the preliminary cleanup level in soil samples collected from borings 02MW11/GP24 and 02MW12/GP25 at depths ranging from 4 to 9 feet bgs.
- Concentrations of benzene exceeded the preliminary cleanup level in soil samples collected from boring 02MW12/GP25 at depths of 6 and 13 feet bgs.
- Concentrations of ethylbenzene exceeded the preliminary cleanup level in soil samples collected from borings 02MW11/GP24 and 02MW12/GP25 at depths of 9 and 6 feet bgs, respectively.
- Concentrations of DRPH, ORPH, toluene, total xylenes, 1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC), MTBE, lead, and VOCs were not detected above laboratory PQLs or preliminary cleanup levels in the analyzed soil samples.
- Soil samples from borings 02MW08/B02 through 02MW10/GP23, GP22, GP26, 02MW13/B74, and B226 through B233, did not contain concentrations of the analyzed COPCs in exceedance of preliminary cleanup levels.

4.2.4.3 Reconnaissance Groundwater Sample Analytical Results

During drilling, groundwater was encountered at depths ranging from approximately 0.5 to 16 feet bgs. These observations correlate with the surface topography where deeper measurements were upslope near-roadway and shallow measurements were near the shoreline. Analytical results for reconnaissance groundwater samples collected within the East Waterfront Property indicated the following:

- Concentrations of DRPH exceeded the preliminary cleanup level in the reconnaissance groundwater samples collected from borings GP26, B232, Temp01, and Temp02.
- A concentration of ORPH exceeding the preliminary cleanup level in the reconnaissance groundwater samples collected from boring Temp02.
- Concentrations of GRPH and benzene exceeded the preliminary cleanup levels in the reconnaissance groundwater samples collected from borings GP26, B226, B232, and Temp01.
- Concentrations of EDC exceeding the preliminary cleanup level were detected in the reconnaissance groundwater samples collected from borings B226 and B230.
- Concentrations of toluene, ethylbenzene, total xylenes, and CVOCs including tetrachloroethene (PCE), TCE, cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), 1,1-dichloroethene (1,1-DCE), and vinyl chloride were below the laboratory reporting limits or preliminary cleanup levels in the analyzed reconnaissance groundwater samples.

4.2.5 Monitoring Well Installation and Development

A total of six monitoring wells were installed and developed as part of the remedial investigation field program at the East Waterfront Property between April 2006 and October 31, 2012. The monitoring wells included 02MW08 through 02MW13 (Figure 7).

Wells 02MW08 and 02MW13 were constructed inside boreholes drilled with 8.25-inch-diameter augers or with 2-inch-diameter push-probes. Well construction materials for wells 02MW09 through 02MW12 included 3/4-inch-diameter, pre-packed well assemblies consisting of a slotted polyvinyl chloride (PVC) well screen surrounded by a stainless steel mesh with sand packed between the slotted PVC and stainless steel mesh. The well annulus above the screen interval was backfilled with bentonite chips. Well construction material for 2-inch-diameter wells consisted of 2-inch-diameter Schedule 40 PVC with 0.010- or 0.020-inch slotted screens. The bottom and top of each of the wells were fitted with a threaded PVC end cap and a locking compression fit well cap. A filter pack consisting of 2/12 silica sand was placed around each well screen interval. Continuous depth measurements were taken during placement of the filter pack. Bentonite chips, 3/8 inch in diameter, were hydrated and placed above the filter pack up to approximately 2 feet bgs. The monitoring wells were completed at the surface with a flush-mounted, traffic-rated well box set in concrete. The approximate screen intervals for the monitoring wells are provided in Table 15. Boring logs detailing well construction are provided in Appendix F.

The monitoring wells were developed with the use of a submersible pump or dedicated bailer. Monitoring well development consisted of surging and purging the wells until a minimum of five

submerged well volumes was removed. All non-dedicated field sampling equipment was cleaned and decontaminated between uses and before leaving the East Waterfront Property. Wastewater generated during well development was placed into the groundwater pretreatment system located on the Bulk Terminal Property where it was treated and discharged to the sanitary sewer system in accordance with the King County Industrial Waste Discharge Permit Nos. 7689-05 and 7689-06.

The monitoring well locations and elevations were surveyed by Axis Survey and Mapping Consulting Engineers of Kirkland, Washington. The monitoring well top of casings and top of monument were surveyed to an accuracy of 0.01 to 0.02 foot, using a NAVD 88 benchmark.

4.2.6 Groundwater Monitoring

Groundwater monitoring and sampling events for the remedial investigation were conducted in June and December 2006; October and December 2007; January, April, and July 2009 and 2010; January, April, August, and December 2011; and April and October 2012. Monitoring wells 02MW02, 02MW05 02MW06 02MW07 02MW08 02MW11 02MW12 02MW13 were sampled during the majority of sampling events. Monitoring wells 02MW01, 02MW03, 02MW04, 02MW09, and 02MW10 were not included in each sampling event because either the historical analytical results indicate that groundwater samples were below the laboratory PQLs or preliminary cleanup levels for the COPCs consistently exceeded the preliminary cleanup levels. The monitoring wells sampled were selected to observe trends of groundwater quality at the East Waterfront Property. Each monitoring event consisted of opening the selected set of monitoring wells on arrival and permitting fluid levels to equilibrate with atmospheric pressure for a minimum of 45 minutes before obtaining depth-to-groundwater measurements. Fluid levels were measured to an accuracy of 0.01 feet, relative to the top of well casing, using electronic water level meters or oil/water interface probes.

Groundwater samples were collected in accordance with SoundEarth's *Standard Operating Procedure (SOP) 007 - Groundwater Sampling* and a site-specific work plan summary prepared before the sampling event. Purging and sampling of each monitoring well was performed using a peristaltic pump and dedicated polyethylene tubing at flow rates ranging from approximately 15 to 215 milliliters per minute. Flow rates less than 100 milliliters per minute were maintained in wells with fast drawdown rates and where higher flow rates would pump the well dry. The tubing intake was generally placed at 3 feet below the water table in each monitoring well, or in the middle of the screen interval if the screen was submerged or there was less than 3 feet of water column present.

During purging, water quality was monitored using a YSI 556 water quality system, or equivalent water quality meter, equipped with a flow-through cell. A separate turbidimeter was used for turbidity readings. Water quality parameters monitored and recorded during purging included temperature, pH, specific conductance, dissolved oxygen, turbidity, and oxidation-reduction potential. Following purging, groundwater samples were collected from the pump outlet tubing located upstream of the flow-through cell, and placed directly into laboratory-prepared sample containers. Each container was labeled with a unique sample identification number, placed on ice in a cooler, and transported for laboratory analysis under standard chain-of-custody protocols.

Groundwater samples collected from wells were submitted for laboratory analysis for one or more of the following: DRPH; ORPH; GRPH; BTEX; CVOCs including PCE, TCE, cis-1,2-DCE, trans-

1,2-DCE, 1,1-DCE, and vinyl chloride; and total and dissolved lead. An assessment of the natural attenuation parameters for well 01MW13 is presented in the ASKO Hydraulic Property Feasibility Study under separate cover. Purge water generated during sampling was placed into the groundwater pretreatment system located on the Bulk Terminal Property where it was treated and discharged to the sanitary sewer system in accordance with the King County Industrial Waste Discharge Permit Nos. 7689-05 and 7689-06.

Groundwater sample analytical results are presented in Tables 12 through 14. A summary of the depth to groundwater, depth to LNAPL, and groundwater elevation for the monitoring wells on the East Waterfront Property is presented in Table 15. The groundwater elevation contours for the shallow water-bearing zone are shown on Figure 5 for the groundwater monitoring event conducted on October 8, 2012. The contours indicate a general groundwater flow direction to the north-northwest toward Salmon Bay, consistent with previous groundwater monitoring events. The average hydraulic gradient of the shallow-water bearing zone is 0.07 feet per foot. A rose diagram depicting the general groundwater gradient and magnitude from groundwater monitoring events conducted between June 2006 and October 2013 is provided as Figure 6. Measurable LNAPL has not been observed in the East Waterfront Property wells during the monitoring events.

Groundwater analytical results for specific COPCs from previous investigations and the remedial investigation field program conducted by SoundEarth are illustrated on Figure 10. DRPH and GRPH isoconcentration maps from the Second Semi-Annual 2012 monitoring event are illustrated on Figures 14 and 15.

Analytical results for the groundwater samples collected from the East Waterfront Property during the remedial investigation indicated the following:

- Concentrations of DRPH exceeding the preliminary cleanup level were detected during one or more monitoring events in the groundwater samples collected from wells 02MW04, 02MW11 and 02MW12.
- Concentrations of ORPH exceeding the preliminary cleanup level were detected during one or more monitoring events in groundwater samples collected from wells 02MW02 and 02MW05.
- Concentrations of GRPH exceeding the preliminary cleanup level were detected during one or more monitoring events in groundwater samples collected from wells 02MW04, 02MW11, and 02MW12.
- Concentrations of benzene exceeding the preliminary cleanup level were detected during one or more monitoring events in groundwater samples collected from wells 02MW01, 02MW04, and 02MW12.
- Concentrations of ethylbenzene exceeding the preliminary cleanup level were detected during one or more monitoring events in groundwater samples collected from well 02MW12.
- Concentrations of toluene, total xylenes, MTBE, EDB, EDC, CVOCs and total and dissolved lead were not detected above the laboratory PQLs or preliminary cleanup levels or the laboratory PQLs in the analyzed groundwater samples.

5.0 CONCEPTUAL SITE MODEL

A CSM identifies confirmed and suspected source areas of hazardous substances, primary release mechanisms of COPCs, affected media, transport mechanisms, fate of hazardous substances in the environment, environmental media of potential concern, and exposure pathways for potential receptors. The CSM is the basis for developing technically feasible cleanup action alternatives from which a final cleanup action approach is selected. A CSM may be refined when additional information becomes available during the implementation of the feasibility study and cleanup action. A preliminary exposure assessment is presented on Figure 16. Figure 17 is a schematic drawing showing the CSM based on the preliminary exposure assessment.

This section presents the components of the CSM developed for the Site based on the completion of the remedial investigation conducted by SoundEarth and others. This section also includes a discussion of the confirmed and suspected source areas, affected media, contaminant fate and transport, preliminary exposure assessment, and the terrestrial ecological evaluation for the Site.

5.1 CONFIRMED AND SUSPECTED SOURCE AREAS

A source area is the location of a release of a hazardous substance (i.e., TPH) that has affected one or more of the following at the Site: soil, surface water, groundwater, and/or air quality. The historical mechanical systems used for facility operations and processes, and unknown releases including spills and leaks, are identified as confirmed and suspected sources of releases of hazardous substances. The mechanical systems are listed below:

- Former East and West Barrel Inclines
- Former Pipeline Utilidor
- Former USTs (i.e., Waste Oil UST)

Confirmed and suspected source areas for the Site are located in the vicinity of the historical distribution infrastructure and mechanical systems, and where the highest concentrations of COPCs are present at the Site.

5.2 AFFECTED ENVIRONMENTAL MEDIA

The affected environmental media consists of soil and groundwater with COPCs that were detected at concentrations exceeding their respective preliminary cleanup levels. Soil vapor and outdoor air has been retained as a medium of potential concern based on the concentrations of TPH in soil and groundwater. The cleanup of the affected soil and groundwater is expected to result in the elimination of soil vapor and outdoor air as a future medium of concern for the Site. Based on the results of the remedial investigation, the primary COPCs at the Site are TPH.

5.3 CONTAMINANT FATE AND TRANSPORT

Fate and transport of COPCs in affected environmental media are dependent on the physical and chemical properties of the COPC and the geochemical and hydraulic properties of the subsurface environment. Contaminants may exist in four phases in a subsurface environment from a release of a hazardous substance. The four phases include: free-phase (nonaqueous-phase liquid [NAPL]), sorbed-phase (adsorbed to organics or clay soil particles), aqueous-phase (dissolved in water) and gaseous-

phase (volatilization from soil or water to air). Commonly, contaminants exist in multiple phases with some degree of partitioning between phases. The contaminant phase depends not only on the properties of the COPC and the site-specific geological properties, but also on the magnitude and extent of release. The physical and chemical properties that control the fate and transport of COPCs include specific gravity, solubility, vapor pressure, Henry's Law constant, and the octanol-water partition coefficient.

5.3.1 Physical and Chemical Properties Affecting Fate and Transport

Specific gravity (SG) is a dimensionless number relating the density of a compound to the density of water. Density is the ratio of mass to volume and is a predictor of whether the compound will sink or float in the subsurface. Compounds that are less dense than water (SG less than 1) will tend to float and the free-phase will create a layer of LNAPL. Conversely, compounds that have a SG greater than 1 will tend to sink and collect as dense nonaqueous-phase liquid.

Solubility is a measure of the extent to which a compound dissolves in water and is defined as the maximum concentration of the compound that will dissolve in water at a given temperature. A compound with high water solubility would be expected to exist at higher aqueous-phase concentrations than a compound with low water solubility. For example, gasoline may exist as free-phase or NAPL layer because of its limited water solubility, while miscible (i.e., capable of being and remaining soluble in water) compounds such as methanol would not form a NAPL layer. The solubility of a chemical compound is a function of attractive forces between the solute and water and the size and shape of the molecule. Solubility is inversely proportional to molar volume. The presence of functional groups (e.g. halogens) decreases the chemical compounds water solubility.

The vapor pressure (P_v) is a measure of the pressure exerted by the compound on the atmosphere and is an indication of volatility or the transfer of the compound from the liquid to the gaseous phase. Henry's Law constant is the best indicator of a chemical's propensity to volatilize from water. Henry's law constant is the ratio of a compound's concentration in air to the concentration in water, or the ratio of vapor pressure to solubility. The potential for volatilization from water increases with increasing vapor pressure and decreases with increasing water solubility. However, compounds with low vapor pressures may have a tendency to volatilize if the water solubility is sufficiently low.

A sample set of ranges of Henry's Law constants from Watts 1998 and what the ranges indicate is provided herein. A Henry's Law number less than 10^{-7} atmosphere-cubic meters/mole would indicate that a pollutant is less volatile than water or a pollutant concentration may increase. A Henry's Law constant between approximately 3×10^{-7} to 2×10^{-5} atmosphere-cubic meters/mole could indicate that a pollutant tends to partition into water where the transfer is gaseous-phase controlled, a pollutant may volatilize slowly, or volatilization may be significant in shallow rivers. A range of $2x\ 10^{-5}$ to 10^{-2} atmosphere-cubic meters/mole could indicate that volatilization of pollutants may not be rapid but will possibly be significant, volatilization of pollutants may be significant in all water, or the liquid phase may control pollutant volatilization.

Sorption is primarily driven by the hydrophobicity of a chemical compound. The octanol-water partition coefficient (K_{ow}, unitless) is an effective indicator of hydrophobic partitioning and an important predictor of a compounds behavior in the environment. K_{ow} has been correlated to

bioaccumulation, toxicity, and tendency to sorb to soil organic matter and clay. K_{ow} is usually reported as log K_{ow} because values range from 0.001 to over 10^8. Generally, the higher the log K_{ow}, the more hydrophobic the compound is and the greater the tendency for the chemical to be sorbed to soil rather than dissolved in water.

In addition, geochemical parameters, such as the amount of soil organic matter, clay, and metals and their oxidation states, also impact the fate and transport of contaminants in the subsurface environment. Examples include:

- Soils with more organic matter and clay content are more likely to cause contaminants to adsorb.
- Ferrous iron (Fe[II]) present in soils serves as a very important abiotic reductant that can reduce a wide variety of organic pollutants.

5.3.2 Contaminant Fate

Once a released COPC is present in the environment, each phase is subject to abiotic and/or biotic transformation processes. Abiotic transformation processes include hydrolysis, oxidation-reduction reactions by soil minerals, and elimination reactions. Hydrolysis is the addition of hydrogen and hydroxyl ions of water to a molecule which causes the compound to split into simpler molecules which are easily biodegraded. Iron oxides present in the soil can serve as a reductant and reduce oxidized organics. Generally, abiotic degradation plays a limited role in degradation compared to the biologically mediated degradation of organic compounds. Biotic transformation processes are oxidation-reduction reactions mediated by microorganisms. Microorganisms present in the subsurface have the capacity to oxidize reduced compounds (petroleum hydrocarbons) and/or reduce oxidized compounds (chlorinated hydrocarbons and phenols), thereby degrading the contaminants.

5.3.3 Contaminant Transport

Contaminant transport is the processes by which COPCs move through porous soil media. The principal transport mechanisms for COPCs in affected environmental media include advection, dispersion, diffusion, and adsorption. Advection is the process by which moving water carries dissolved-phase contaminants or air transports vapor-phase contaminants through porous media. Typically, advection is the primary transport mechanism for contaminant mass to move in groundwater. Mechanical dispersion is the different flow paths that contaminants take through porous media and it is a result of the advection and dispersion of water or air. Dispersion and the direction of flow is controlled by the permeability of soil media and pressure gradients. Mechanical dispersion may dilute contamination by mixing with non-contaminated water or air.

Diffusion is the process where contamination in water or air moves from areas of higher concentration to areas of lower concentration. Initially, contamination travels through the porous soil media where the permeability is highest. Over time, the contamination may diffuse into low permeability areas based on proximity, pore openings, and relatively lower concentrations of COPCs. It is possible for the COPCs to move through a porous media by diffusion even if the water and air is not moving. When water or air is moving very slowly, diffusion may become the primary transport process. Adsorption occurs when dissolved-phase contaminants interact with soil with high organic matter or clay particles and temporarily adsorb

on the surface of the soil. Adsorption is caused by an imbalance in electrical charge in the soil particles which may be satisfied by adsorbing a charged ion from dissolved-phase contamination. This process results in the retardation of the contamination.

5.4 CHEMICAL SPECIFIC FATE AND TRANSPORT

The contaminant fate and transport of COPCs in affected environmental media is dependent on the physical and chemical properties of individual components, such as specific gravity, solubility, vapor pressure, Henry's Law constant, and sorption. The primary indicator hazardous substances for the affected environmental media at the Site include TPH. TPH is a primary indicator hazardous substance based on historical facility operations and processes to distribute TPH and because it is pervasive throughout the affected environmental media (soil and groundwater) at the Site. Therefore, TPH will be the focus of the discussion of contaminant fate and transport for the Site. The chemical-specific fate and transport of the primary COPCs (TPH and BTEX) at the East Waterfront Property is discussed below.

5.4.1 Petroleum Hydrocarbons

Petroleum hydrocarbons with lower carbon numbers (e.g., GRPH and BTEX) are more soluble, and have lower log K_{ow} values and higher vapor pressures than petroleum hydrocarbons with higher carbon numbers (e.g., DRPH and ORPH). Therefore, GRPH and BTEX are more mobile, have less affinity to sorb to soil organic matter, are more likely to exist in vapor form, and are more easily biodegraded than heavy fuel fraction. For example, benzene is moderately water soluble (1,770 mg/L), tends to rapidly volatilize from water ($H = 5.48 \times 10^{-3}$), is quite hydrophobic and will sorb to soil (log K_{ow} = 2.05). Dodecane (a 12 carbon compound in DRPH) is nearly insoluble in water (S= 0.008 mg/L), may volatilize from water (H=24.2), but not as free-phase (P_v=0.3 mm Hg), and will strongly sorb to soil (log K_{ow}=6.44).

Biodegradation of TPH in groundwater is dependent on the oxidation-reduction conditions of the groundwater, which is a function of the presence or absence of electron acceptors that support biologically mediated degradation. Biologically mediated oxidation of TPH occurs most effectively under aerobic conditions. Aerobic metabolism occurs when microorganisms transfer electrons from the electron donor (TPH) to an electron acceptor (O_2) in order to gain energy. O_2 is the most energetically favored electron acceptor followed by nitrate (NO_3^-), manganese or ferric oxides (MnO_2), sulfate (SO_4^{2-}) and carbon dioxide (CO_2, methanogenesis). Aerobic metabolism tends to be the quickest form of biodegradation of TPH. Biodegradation occurs when the contaminants are in the dissolved-phase in groundwater or in the capillary fringe. TPH biodegrades at faster rates under aerobic conditions, which are typically found at dissolved-phase plume boundaries. Aerobic biodegradation occurs first in the source area, depleting oxygen levels and creating a predominantly anaerobic environment.

The results from this RI indicate the presence of DRPH, ORPH, GRPH, and BTEX at concentrations that exceed the preliminary cleanup levels in soil and groundwater beneath the Site (Figures 7 through 9). The RI conducted by SoundEarth and historical investigations conducted by others at the Site have demonstrated the following:

- The highest concentrations of TPH were in soil samples collected adjacent to the former Pipeline Utilidor and East and West Barrel Inclines and from the north, south, and east ends of the 1991 waste oil UST excavation. These confirmed and suspected source areas are located in the eastern central portion of the East

Waterfront Property. Concentrations of COPCs in soil exceeding the preliminary cleanup levels were present approximately 2 to 13 feet bgs at the Site.

- The highest concentrations of TPH and/or BTEX in groundwater are present in the shallow water-bearing zone near the Pipeline Utilidor and the East and West Barrel Inclines. Additional concentrations of TPH and/or BTEX exceeding the preliminary cleanup levels in groundwater have been observed near the 1991 waste oil UST excavation. The lateral extent of DRPH and GRPH in groundwater above the preliminary cleanup levels is shown on Figures 9 and 10.

The principal fate and transport mechanisms for TPH and BTEX in affected environmental media are summarized below:

- The lateral distribution of concentrations of TPH and BTEX in soil is a result of transport via adsorption of the soil matrix and direct contact of LNAPL.
- Surface erosion may transport contaminated soil to surface water. The direct contact of contaminated soil with surface water and groundwater may result in soil to water partitioning via leaching.
- The lateral distribution of concentrations of TPH and BTEX in groundwater is a result of direct contact with historical releases of LNAPL and associated LNAPL to water partitioning, and leaching of adsorbed-phase petroleum-contaminated soil via soil-to-water partitioning, and the natural attenuation processes, such as advection/dispersion, diffusion, sorption, and biodegradation.
- Natural mechanisms, including temperature, groundwater, and barometric pressure fluctuations, may result in the volatilization of TPH and BTEX in soil and groundwater to soil vapor via soil and/or groundwater to air partitioning. Soil vapor with concentrations of TPH and BTEX may transport to the surface with barometric pressure fluctuations.
- Release(s) of TPH from historical facility operations and processes to the subsurface environment may result in an accumulation of LNAPL and/or the contamination of the environmental media of potential concern via phase partitioning. No LNAPL has been observed at the Site in the monitoring well network.

5.5 PRELIMINARY EXPOSURE ASSESSMENT

The preliminary exposure assessment identifies potential receptors for exposure pathways for environmental media of potential concern from contaminant fate and transport mechanisms. Potential receptors at risk from exposure associated with the presence of COPCs at the Site are human and ecological receptors. The two potential receptors were segregated into subcategories to better identify the potential receptors at risk of exposure from the presence of COPCs in environmental media of potential concern. The subcategories for human health include workers, recreational use, drinking water consumption, and fish and shellfish consumption; the subcategories for ecological include terrestrial and aquatic biota.

The objective of the preliminary exposure assessment is to assess the completeness of exposure pathways from environmental media of potential concern and associated contaminant fate and transport mechanisms for the potential receptors for the Site. The results from the preliminary exposure

assessment will assist with the evaluation of potential feasible cleanup alternatives that are protective of the potential receptors identified as complete. The preliminary exposure assessment for the Site is illustrated in a flow diagram (Figure 8). The preliminary exposure assessment for each exposure pathway and associated environmental media of potential concern is summarized below by affected environmental media.

5.5.1 Soil

Soil with concentrations of COPCs above the preliminary cleanup levels may present a potential exposure pathway to human and/or ecological receptors. The principal contaminant fate and transport mechanisms for soil at the Site include sorption, erosion, leaching, and volatilization (Figure 16). Leaching of TPH and BTEX from soil by dissolution and desorption to groundwater is discussed in the following subsection below.

- **Direct Contact (Dermal Contact and Ingestion) with Subsurface Adsorbed-Phase Contaminated Soil**. This exposure pathway is complete for subsurface soil via dermal contact or ingestion. The standard point of compliance for the direct contact exposure pathway for soil is 15 feet bgs for human health and 6 feet bgs for terrestrial receptors, which represents a reasonable depth that could be excavated during normal redevelopment activities and distributed at the ground surface (WAC 173-340-[6][d] and WAC 173-340-7490[4][b]). COPCs above the preliminary cleanup levels are present in shallow subsurface soil within 6 feet bgs at the Site. Areas where subsurface petroleum contaminated soil is present are covered by paved surfaces or with crushed rock or low growing vegetation to prevent the migration of material by erosion transport mechanisms.
- **Direct Contact of Sediments (Salmon Bay) with Erodible Adsorbed-Phase Contaminated Soil.** This exposure pathway is considered incomplete for potential receptors because residual adsorbed-phase contaminated soil is located 2 feet bgs or greater based the distribution of COPCs present in soil at the Site. In addition, areas where subsurface petroleum contaminated soil is present are capped by paved surfaces or with crushed rock or low growing vegetation to prevent and/or inhibit contact with erodible absorbed-phase contaminated soil; making the migration pathway for erosion of contaminated soil incomplete.
- **Direct Contact of Surface Water Runoff.** This exposure pathway is considered incomplete for potential receptors. Surface water runoff does not come in contact with residual petroleum contaminated soil, which prevents leaching of COPCs by dissolution or desorption.
- **Inhalation of Soil Vapor/Outdoor Air.** This exposure pathway is considered complete for worker and terrestrial receptors by potential inhalation of volatile COPCs originating in the vadose zone and ambient air. The air-filled pore space between soil grains in the unsaturated zone or partially saturated zone is referred to as soil gas or soil vapor. Low molecular weight aromatic and aliphatic TPH fractions are highly volatile due to their relative low vapor pressures. The volatilization of TPH fractions from LNAPL, and adsorbed-phase contaminated soil can accumulate the concentrations of TPH in soil vapor and migrate to the surface to locally impact outdoor air quality near the unpaved surfaces. Once in the atmosphere, the vapors

are unlikely to result in an exposure pathway to the general public due to the vapors being dispersed and/or degraded.

5.5.2 Groundwater

Groundwater is affected by surface and subsurface releases of COPCs and the leaching of LNAPL directly into a groundwater-bearing zone and the leaching of TPH and BTEX into infiltrating surface water that passes through unsaturated adsorbed-phase soil and migrates to groundwater. Groundwater with concentrations of COPCs above the preliminary cleanup levels may present a potential risk to human and/or ecological receptors. The primary contaminant fate and transport mechanism for groundwater at the Site include sorption, advection/dispersion, diffusion, and volatilization (Figure 16). Other contaminant fate and transport processes, such as biodegradation and oxidation, are expected to have minor to no influences in reducing potential exposures of COPCs to receptors. The biodegradation and oxidation processes appear to be occurring at a naturally slow rate to significantly contribute to the fate and transport processes of COPCs for the Site.

- **Direct Contact of Sediments (Salmon Bay).** This exposure pathway is considered incomplete for potential receptors. The discharge of dissolved-phase TPH and BTEX from groundwater hydraulically connected to Salmon Bay sediments is unlikely based on empirical evidence showing that concentrations of TPH and BTEX at monitoring wells located proximate to the shoreline do not contain concentrations of TPH and BTEX above laboratory reporting limits and/or the preliminary cleanup levels.
- **Direct Contact of Surface Water.** This exposure pathway could be complete, but the exposure pathway for potential human and ecological receptors is unlikely. Potential groundwater with concentrations of TPH and BTEX entering the Salmon Bay would rapidly disperse and volatize more readily.
- **Direct Contact and Inhalation of Groundwater.** The shallow water-bearing zone at the Site has detectable concentrations of COPCs above the preliminary cleanup levels. Current access to the shallow water-bearing zone at the Site is limited to workers via environmental sampling. There are no drinking water supply wells located in the vicinity of the Site. Potential receptors are at risk from this exposure pathway if groundwater beneath the Site is developed for use as drinking water. It is unlikely that water beneath the Site would be used for drinking water because of the availability of municipal water supplies and land use of the Site; however, there is potential that future land use could allow for use of groundwater beneath the Site for drinking water. Therefore, the exposure pathways for groundwater are complete for workers and could be complete for drinking water receptors for the shallow water-bearing zone.

  The exposure pathway for the intermediate water-bearing zone at the Site for potential worker and drinking water receptors could be complete, but the exposure pathway for potential workers and drinking water is unlikely due to the concentrations of TPH and BTEX rapidly attenuating in the shallow water-bearing zone away from the confirmed and suspected source areas. In addition, concentrations of TPH and BTEX in groundwater samples collected from 02MW05

are below the preliminary cleanup levels indicating that the semi-confining unit is acting as an attenuation barrier.

- **Inhalation of Soil Vapor/Outdoor Air.** This exposure pathway is considered complete for worker and terrestrial receptors via volatilization of the COPCs in groundwater to the vadose zone and outdoor air with subsequent inhalation by potential receptors. Low-range fuel fraction TPH and BTEX tend to be highly volatile due to their relative low vapor pressures. The volatilization of TPH from LNAPL, sorbed-phase soil, and dissolved-phase groundwater can concentrate the concentrations of TPH in soil vapor and migrate to the surface to locally impact outdoor air quality near the unpaved surfaces. Once in the atmosphere, the vapors are unlikely to result in an exposure pathway to the general public due to the vapors being dispersed, diluted, and/or degraded by photolysis.

5.6 TERRESTRIAL ECOLOGICAL EVALUATION

As specified in WAC 173-340-7490, a Terrestrial Ecological Evaluation (TEE) is required for any site where a release of a hazardous substance has been confirmed. The regulation requires that one of the following actions be taken:

- Document an exclusion from any further TEE using the criteria presented in WAC 173-340-7491.
- Conduct a simplified TEE in accordance with WAC 173-340-7492.
- Conduct a site-specific TEE in accordance with WAC 173-340-7493.

The East Waterfront Property does not qualify for a TEE exclusion under the criteria set forth in WAC 173-340-7491(2)(a)(ii) and a site-specific TEE will be conducted in accordance with WAC 173-340-7493 under consultation from Ecology in accordance with WAC 173-340-7493(1)(c).

6.0 PLANNED WORK

The information collected during the remedial investigation is sufficient to provide a CSM and meets the specific MTCA requirements in WAC 173-340-350. A feasibility study will be performed for the East Waterfront Property and a feasibility study report will be prepared that presents the results of the feasibility study and the evaluates of cleanup action alternatives in accordance with WAC 173-340-360 through 173-340-390.

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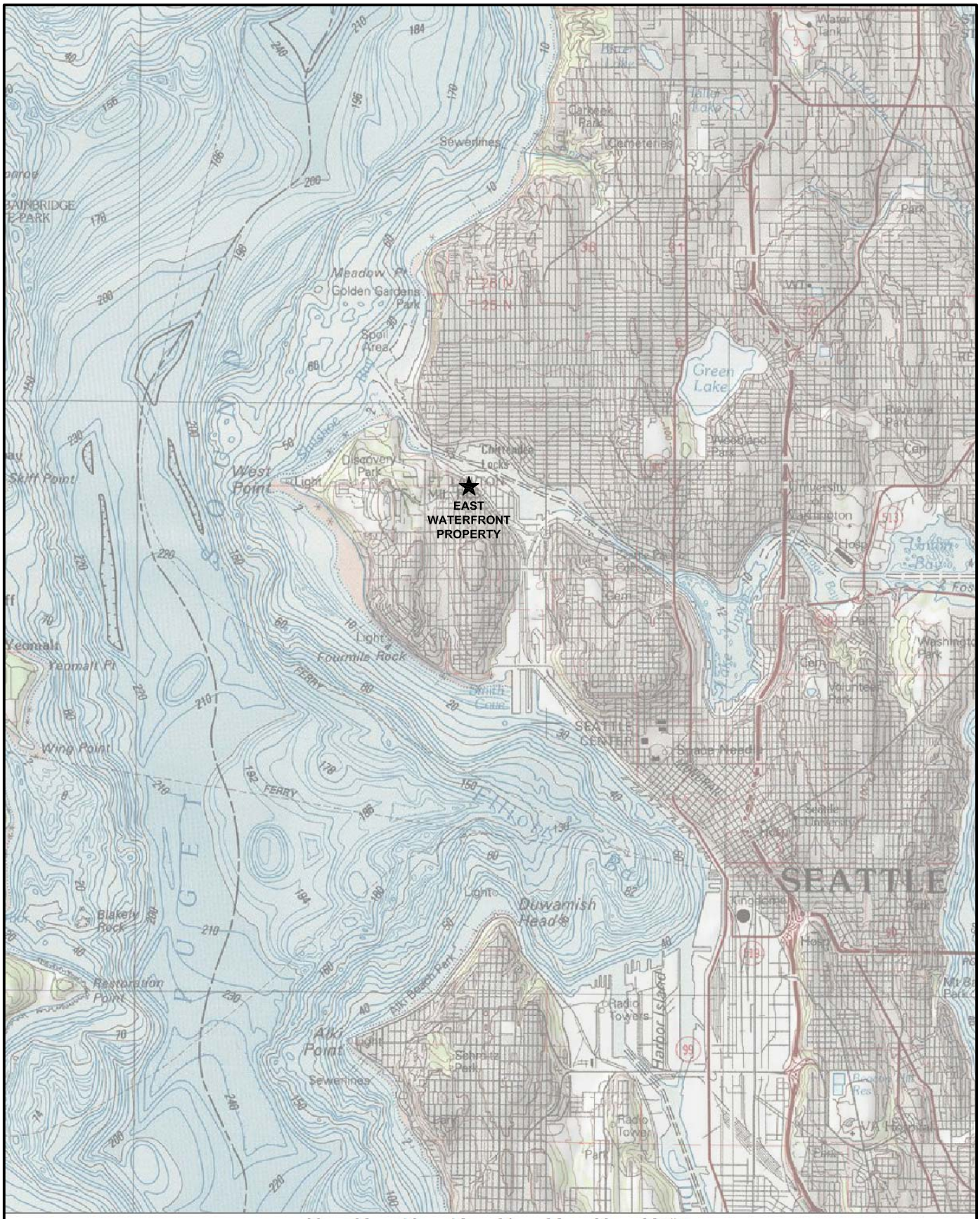
8.0 LIMITATIONS

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

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

FIGURES

P:\0440 TOC HOLDINGS CO\01-600 SEATTLE TERMINAL\TECHNICAL\CAD\FIGURE 1\01-600_FIG1_VICINITY_EWA.DWG



SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

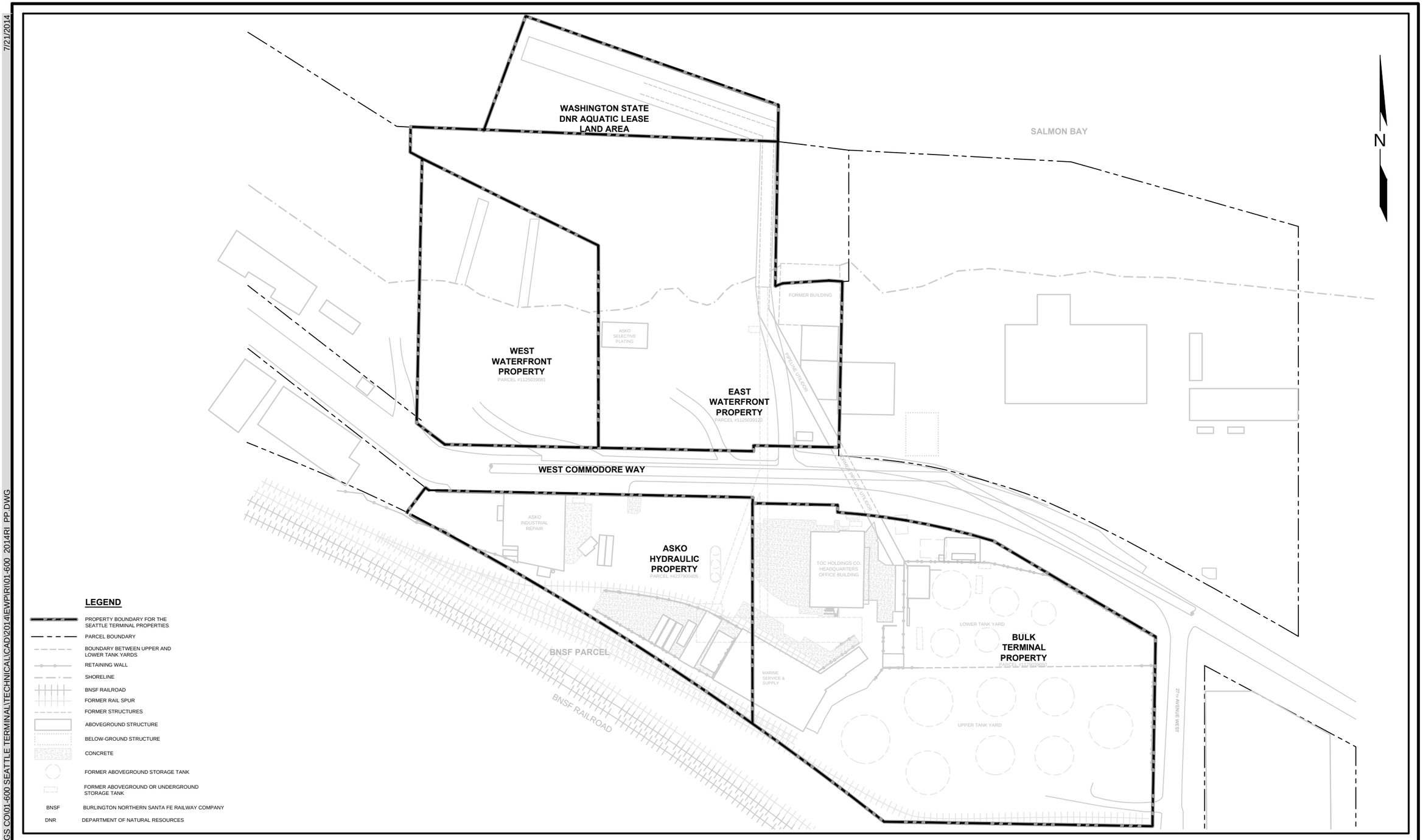
DATE:	05/13/14
DRAWN BY:	NAC
CHECKED BY:	PJK/TSB
CAD FILE:	0600_FIG1_VICINITY_EWA

PROJECT NAME:	EAST WATERFRONT PROPERTY
PROJECT NUMBER:	0440-004
STREET ADDRESS:	2750 WEST COMMODORE WAY
CITY, STATE:	SEATTLE, WASHINGTON

FIGURE 1
PROPERTY LOCATION MAP

SOUNDEARTHINC.COM

7/21/2014



SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE: 06/14/13
DRAWN BY: NAC
CHECKED BY: PJK/TSB
CAD FILE: 01-600_2014RI_PP

PROJECT NAME: TOC HOLDINGS CO. SEATTLE TERMINAL PROPERTIES
PROJECT NUMBER: 0440-004
STREET ADDRESS: 2737, 2750, 2800, AND 2805 WEST COMMODORE WAY
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 30 60 120 240
APPROXIMATE SCALE IN FEET

FIGURE 2
SEATTLE TERMINAL PROPERTIES
PROPERTY PLAN

P:\0440 TOC HOLDINGS CO\01-600 SEATTLE TERMINAL\TECHNICAL\CAD\2014\EWPR\01-600_2014RI_PP.DWG

SOUNDEARTHINC.COM

7/21/2014

WASHINGTON STATE
DNR AQUATIC LEASE
LAND PROPERTY
PARCEL #1125039113

SHIPPING TERMINAL DOCK

N

DOCK

DOCK

EXPOSED
FUEL
LINES

FORMER
WAREHOUSE

ASKO
SELECTIVE PLATING
(FORMER STORAGE
WAREHOUSE)

FORMER USED
OIL UST (1991)

STEEP
SLOPE

SHED

PIPELINE UTILIDOR

FORMER UNLEADED
GASOLINE UST

WEST
WATERFRONT
PROPERTY
2800 WEST COMMODORE WAY
PARCEL #1125039081

EAST
WATERFRONT
PROPERTY
2750 WEST COMMODORE WAY
PARCEL #1125039120

PARKING LOT

PARKING LOT

PARKING LOT

GARAGE

PORT OF
SEATTLE
WAREHOUSE

FORMER BARREL INCLINE

FORMER
LABORATORY

STORAGE
FACILITY
(FORMER
U.S. COAST
GUARD
BUNKER)

STEEP SLOPE

WEST COMMODORE WAY

LEGEND

- PROPERTY BOUNDARY FOR THE SEATTLE TERMINAL PROPERTIES
- PARCEL BOUNDARY
- SHORELINE
- GENERAL LOCATION OF SITE
- ABOVEGROUND STRUCTURE
- FORMER STRUCTURE
- BELOW-GROUND STRUCTURE
- FORMER ABOVEGROUND OR UNDERGROUND STORAGE TANK AND TANK NUMBER (YEAR REMOVED)
- VEGETATION
- SLOPE DIRECTION
- DNR — DEPARTMENT OF NATURAL RESOURCES
- UST — UNDERGROUND STORAGE TANK

SoundEarth Strategies
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DATE: 07/02/13
DRAWN BY: NAC
CHECKED BY: PJK/TSB
CAD FILE: 01-600_2014RI_SL

PROJECT NAME: EAST WATERFRONT PROPERTY
PROJECT NUMBER: 0440-004
STREET ADDRESS: 2750 WEST COMMODORE WAY
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE 3
SITE LOCATION MAP

P:\0440 TOC HOLDINGS CO\01-600 SEATTLE TERMINAL\TECHNICAL\CAD\2014\EWP\RI\01-600_2014RI_SL.DWG

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WASHINGTON STATE DNR AQUATIC LEASE LAND PROPERTY
PARCEL #1125039113

SHIPPING TERMINAL DOCK

N

DOCK

DOCK

EXPOSED FUEL LINES

FORMER WAREHOUSE

FORMER USED OIL UST (1991)

ASKO SELECTIVE PLATING (FORMER STORAGE WAREHOUSE)

STEEP SLOPE

SHED

PIPELINE UTILIDOR

FORMER UNLEADED GASOLINE UST

WEST WATERFRONT PROPERTY
2800 WEST COMMODORE WAY
PARCEL #1125039081

EAST WATERFRONT PROPERTY
2750 WEST COMMODORE WAY
PARCEL #1125039120

PARKING LOT

PARKING LOT

PARKING LOT

FORMER BARREL INCLINE

GARAGE

PORT OF SEATTLE WAREHOUSE

FORMER LABORATORY

STORAGE FACILITY (FORMER U.S. COAST GUARD BUNKER)

STEEP SLOPE

WEST COMMODORE WAY

LEGEND

- PROPERTY BOUNDARY FOR THE SEATTLE TERMINAL PROPERTIES
- PARCEL BOUNDARY
- SHORELINE
- ABOVEGROUND STRUCTURE
- FORMER STRUCTURE
- BELOW-GROUND STRUCTURE
- FORMER ABOVEGROUND OR UNDERGROUND STORAGE TANK AND TANK NUMBER (YEAR REMOVED)
- VEGETATION
- SLOPE DIRECTION
- DNR DEPARTMENT OF NATURAL RESOURCES
- UST UNDERGROUND STORAGE TANK

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DATE: 07/02/13
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CAD FILE: 01-600_2014RI_SP

PROJECT NAME: EAST WATERFRONT PROPERTY
PROJECT NUMBER: 0440-004
STREET ADDRESS: 2750 WEST COMMODORE WAY
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE 4
HISTORICAL FEATURES

P:\0440 TOC HOLDINGS CO\01-600 SEATTLE TERMINAL\TECHNICAL\CAD\2014\EWPR\101-600 2014RI SP.DWG

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P:\0440 TOC HOLDINGS CO\01-600 SEATTLE TERMINAL\TECHNICAL\CAD\2014EWP\RI\01-600_2014RI_CM.DWG

WEST WATERFRONT PROPERTY
PARCEL #1125039081

EAST WATERFRONT PROPERTY
PARCEL #1125039120

ASKO HYDRAULIC PROPERTY
PARCEL #4237900405

BULK TERMINAL PROPERTY
PARCEL #1125039050

WEST COMMODORE WAY

BNSF RAILROAD

BNSF PARCEL

ASKO SELECTIVE PLATING

ASKO INDUSTRIAL REPAIR

TOC HOLDINGS CO. HEADQUARTERS OFFICE BUILDING

MARINE SERVICE & SUPPLY

LOWER TANK YARD

UPPER TANK YARD

PARKING LOT

02MW01 (17.91)
02MW02 (17.09)
02MW03 (17.94)
02MW04 (17.24)
02MW05
02MW06 (17.37)
02MW07 (17.14)
02MW08 (23.23)
02MW09 (20.37)
02MW10 (23.64)
02MW11 (22.39)
02MW12 (17.83)
02MW13 (19.79)
02MW14 (19.73)

01MW01 (31.09)
01MW02 (28.95)
01MW03 (28.82)
01MW04 (29.60)
01MW05 (LNAPL)
01MW06 (31.55)
01MW07 (22.05)
01MW08 (28.41)
01MW09 (26.94)
01MW10 (LNAPL)
01MW11 (24.34)
01MW12 (NM)
01MW13 (37.26)
01MW14 (NM)
01MW15 (28.46)
01MW16 (LNAPL)
01MW17 (39.50)
01MW18 (28.42)
01MW19 (28.58)
01MW20 (29.58)
01MW21
01MW22
01MW23 (NM)
01MW24 (NM)
01MW25 (NM)
01MW26 (NM)
01MW27 (30.70)
01MW28 (LNAPL)
01MW29 (LNAPL)
01MW30 (21.12)
01MW31 (DRY)
01MW32 (26.51)
01MW33 (LNAPL)
01MW34 (24.48)
01MW35 (24.62)
01MW36 (25.42)
01MW37 (37.28)
01MW38 (37.67)
01MW39 (34.62)
01MW40 (33.07)
01MW41 (NM)
01MW42 (34.07)
01MW43 (LNAPL)
01MW44 (27.24)
01MW45 (21.93)
01MW46 (21.36)
01MW47 (LNAPL)
01MW48
01MW49 (19.89)
01MW50 (21.25)
01MW51
01MW52 (19.26)
01MW53 (19.57)
01MW54 (27.48)
01MW55
01MW56 (21.75)
01MW57 (24.41)
01MW58 (23.78)
01MW59 (30.51)
01MW60 (28.61)
01MW61 (29.38)
01MW62 (27.92)
01MW63 (28.03)
01MW64 (26.77)
01MW65
01MW66 (31.59)
01MW67
01MW68 (LNAPL)
01MW69
01MW70/01SVE02
01MW71/01SVE03
01MW72 (LNAPL)
01MW73 (LNAPL)
01MW74 (34.68)
01MW75 (36.71)
01MW76
01MW77
01MW78
01MW79
01MW80 (20.56)
01MW82 (24.41)
01MW83 (19.84)
01MW84 (24.15)
01MW85 (20.03)
01MW86 (24.85)
01MW87 (27.19)
01MW88 (25.55)
01MW89 (19.27)
01MW90 (37.33)
01MW91 (36.82)
01MW92
01MW93
01MW94
01MW95
01SVE01
MW01 (23.33)
MW02 (21.81)
MW03
MW04 (23.46)
MW05 (24.19)
MW06 (22.59)

20.00
25.00
30.00
35.00

N

LEGEND

- MW06 — SHALLOW ZONE MONITORING WELL
- 01MW67 — ANGLED SHALLOW ZONE MONITORING WELL
- 01MW57 — INTERMEDIATE ZONE MONITORING WELL
- 01MW65 — DEEP ZONE MONITORING WELL
- 01MW79 — PERCHED ZONE MONITORING WELL
- 01MW14 — DECOMMISSIONED MONITORING WELL
- PROPERTY BOUNDARY FOR THE SEATTLE TERMINAL PROPERTIES
- PARCEL BOUNDARY
- BNSF RAILROAD
- ABOVEGROUND STRUCTURE
- (39.50) — GROUNDWATER ELEVATION IN FEET (OCTOBER 8, 2012)
- GROUNDWATER CONTOUR LINE (OCTOBER 8, 2012) (DASHED WHERE INFERRED)
- SHALLOW GROUNDWATER FLOW DIRECTION
- BARBS ON LOW SIDE OF GROUNDWATER ELEVATION
- BNSF — BURLINGTON NORTHERN SANTA FE RAILWAY COMPANY

NOTE: ONLY SHALLOW ZONE MONITORING WELLS USED TO CALCULATE GROUNDWATER CONTOURS

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DATE: 11/28/12
DRAWN BY: NAC
CHECKED BY: PJK/TSB
CAD FILE: 01-600_2014RI_CM

PROJECT NAME: TOC HOLDINGS CO. SEATTLE TERMINAL PROPERTIES
PROJECT NUMBER: 0440-004
STREET ADDRESS: 2737, 2750, 2800, AND 2805 WEST COMMODORE WAY
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 40 80 160
APPROXIMATE SCALE IN FEET

FIGURE 5
SEATTLE TERMINAL PROPERTIES
GROUNDWATER CONTOUR MAP
SHALLOW WATER-BEARING ZONE
(OCTOBER 8, 2012)

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P:\0440 TOC HOLDINGS CO\01-600 SEATTLE TERMINAL\TECHNICAL\CAD\2014\EWPR\01-600_2014RI_ROSE.DWG

WEST WATERFRONT PROPERTY
PARCEL #1125039081

EAST WATERFRONT PROPERTY
PARCEL #1125039120

ASKO HYDRAULIC PROPERTY
PARCEL #4237900405

BULK TERMINAL PROPERTY
PARCEL #1125039050

WEST COMMODORE WAY

BNSF RAILROAD

ASKO HYDRAULIC

ASKO HYDRAULIC (MACHINING AND ENGINE REPAIR)

PARKING LOT

PORT OF SEATTLE (FORMER U.S. COAST GUARD BARRACKS)

TOC HOLDINGS CO. HEADQUARTERS OFFICE BUILDING

MARINE SERVICE & SUPPLY

LOWER TANK YARD

UPPER TANK YARD

N

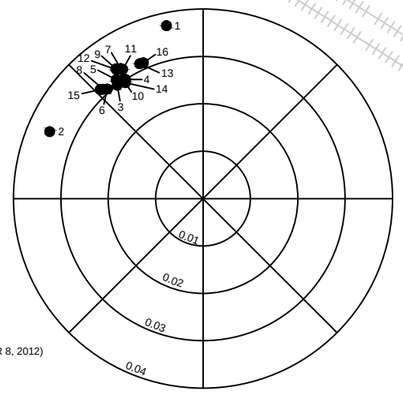
02MW01 02MW02 02MW03 02MW04 02MW05 02MW06 02MW07 02MW08 02MW09 02MW10 02MW11 02MW12 02MW13 02MW14

01MW01 01MW02 01MW03 01MW04 01MW05 01MW06 01MW07 01MW08 01MW09 01MW10 01MW11 01MW12 01MW13 01MW14 01MW15 01MW16 01MW17 01MW18 01MW19 01MW20 01MW21 01MW22 01MW23 01MW24 01MW25 01MW26 01MW27 01MW28 01MW29 01MW30 01MW31 01MW32 01MW33 01MW34 01MW35 01MW36 01MW37 01MW38 01MW39 01MW40 01MW41 01MW42 01MW43 01MW44 01MW45 01MW46 01MW47 01MW48 01MW49 01MW50 01MW51 01MW52 01MW53 01MW54 01MW55 01MW56 01MW57 01MW58 01MW59 01MW60 01MW61 01MW62 01MW63 01MW64 01MW65 01MW66 01MW67 01MW68 01MW69 01MW70/01SVE02 01MW71/01SVE03 01MW72 01MW73 01MW74 01MW75 01MW76 01MW77 01MW78 01MW79 01MW80 01MW82 01MW83 01MW84 01MW85 01MW86 01MW87 01MW88 01MW89 01MW90 01MW91 01MW92 01MW93 01MW94 01MW95

01SVE01

LEGEND

- MW06 — SHALLOW ZONE MONITORING WELL
- 01MW67 — ANGLED SHALLOW ZONE MONITORING WELL
- 01MW57 — INTERMEDIATE ZONE MONITORING WELL
- 01MW65 — DEEP ZONE MONITORING WELL
- 01MW79 — PERCHED ZONE MONITORING WELL
- 01MW14 — DECOMMISSIONED MONITORING WELL
- PROPERTY BOUNDARY FOR THE SEATTLE TERMINAL PROPERTIES
- BNSF RAILROAD
- ABOVEGROUND STRUCTURE
- SHALLOW GROUNDWATER FLOW DIRECTION (OCTOBER 8, 2012)
- WELLS IN ROSE DIAGRAM



1	06/20/06	11	01/06/11
2	09/27/06	12	04/11/11
3	12/11/06	13	08/22/11
4	09/05/08	14	12/05/11
5	01/26/09	15	04/02/12
6	04/06/09	16	10/08/12
7	07/06/09		
8	01/25/10		
9	04/05/10		
10	07/06/10		

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CAD FILE: 01-600_2014RI_ROSE

PROJECT NAME: TOC HOLDINGS CO. SEATTLE TERMINAL PROPERTIES
PROJECT NUMBER: 0440-004
STREET ADDRESS: 2737, 2750, 2800, AND 2805 WEST COMMODORE WAY
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 40 80 160
APPROXIMATE SCALE IN FEET

FIGURE 6
SEATTLE TERMINAL PROPERTIES
ROSE DIAGRAM
SHALLOW WATER - BEARING ZONE

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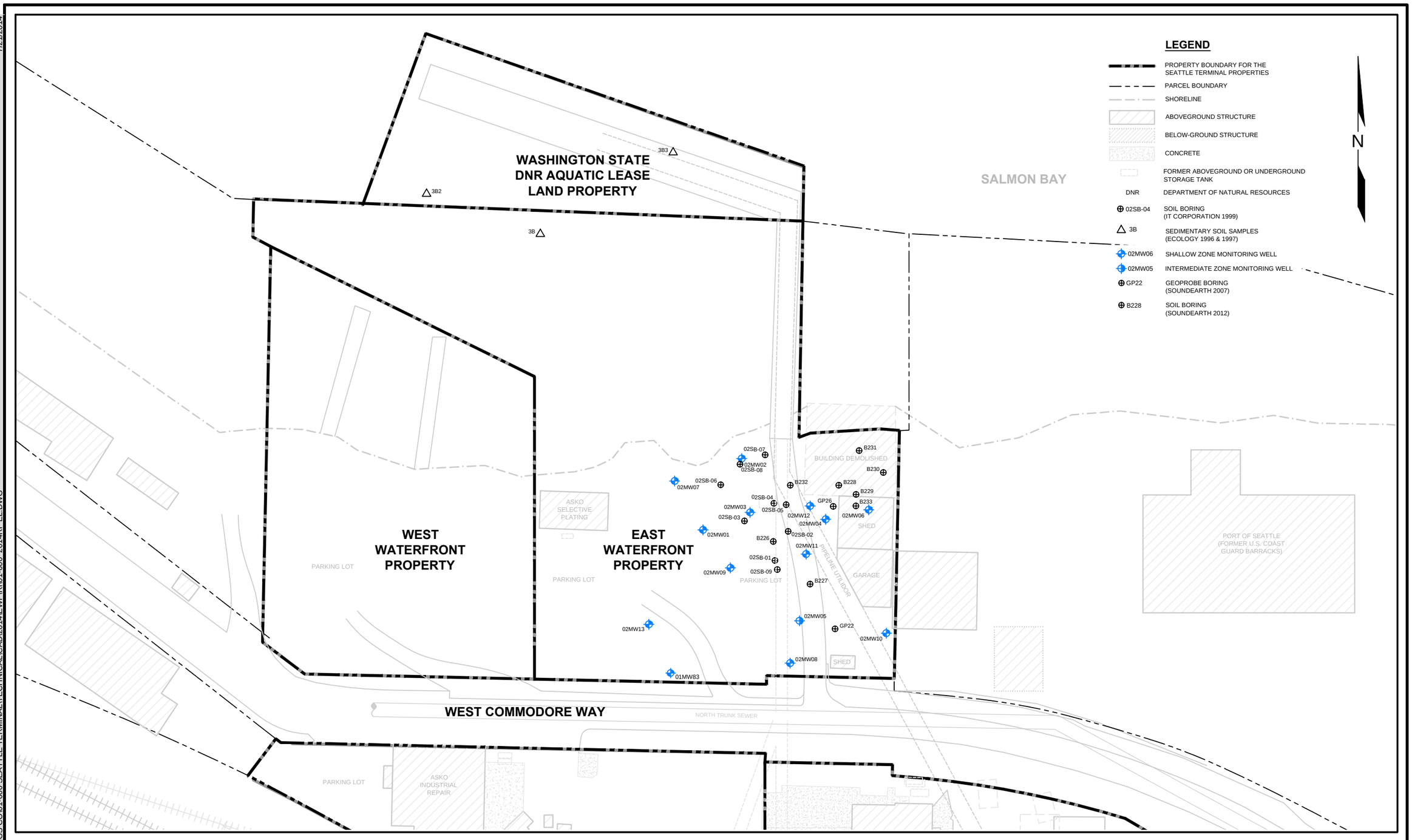
7/21/2014

P:\0440 TOC HOLDINGS CO\01-600 SEATTLE TERMINAL\TECHNICAL\CAD\2014\EWPR\R\01-600_2014RI_EL.DWG



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DATE: 11/19/12
DRAWN BY: NAC
CHECKED BY: PJK/TSB
CAD FILE: 01-600_2014RI_EL

PROJECT NAME: EAST WATERFRONT PROPERTY
SES PROJECT NUMBER: 0440-004
STREET ADDRESS: 2750 WEST COMMODORE WAY
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 40 80 160
APPROXIMATE SCALE IN FEET

FIGURE 7
SOIL BORING AND MONITORING WELL LOCATIONS

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P:\0440 TOC HOLDINGS CO\01-600 SEATTLE TERMINAL\TECHNICAL\CAD\2014\EWP\RI\01-600_2014RI_SD_DO.DWG

WEST WATERFRONT PROPERTY

EAST WATERFRONT PROPERTY

ASKO SELECTIVE PLATING

PARKING LOT

BUILDING DEMOLISHED

PIPELINE UTILIDOR

GARAGE

SHED

WEST COMMODORE WAY

N

Well/Boring ID	Depth	DRPH	ORPH
02SB-05	6	17.6	64.5
	11	<10.0	<25.0
	15.5	<10.0	<25.0

Well/Boring ID	Depth	DRPH	ORPH
02SB-04	10.5	<10.0	<25.0
	15	15.2	62.5

Well/Boring ID	Depth	DRPH	ORPH
02SB-07	5.5	61.8	53.1
	10.5	<10.0	<25.0

Well/Boring ID	Depth	DRPH	ORPH
02SB-08	3.5	127	428
	8.5	<10.0	38.1

Well/Boring ID	Depth	DRPH	ORPH
02SB-06	5.5	<10.0	<25.0
	10.5	<10.0	<25.0

Well/Boring ID	Depth	DRPH	ORPH
02MW01	5	<10.0	<25.0
	10	<10.0	<25.0
	15	10.5	27.7
	19	<10.0	<25.0

Well/Boring ID	Depth	DRPH	ORPH
02SB-03	5.5	<10.0	<25.0
	11	<10.0	<25.0
	16	<10.0	<25.0
	20	11.3	38.8

Well/Boring ID	Depth	DRPH	ORPH
02SB-02	3.5	14	42.7
	8.5	<10.0	<25.0
	13.5	<10.0	<25.0
	15	<10.0	<25.0

Well/Boring ID	Depth	DRPH	ORPH
B226	5	<50	<250
	7.5	<50	<250
	10	<50	<250

Well/Boring ID	Depth	DRPH	ORPH
02MW09/GP21	4	<50	<250
	10	<50	<250
	13	<50	<250

Well/Boring ID	Depth	DRPH	ORPH
02SB-01	3.5	540	1,320
	6	285	712
	8	<10.0	<25.0
	10.5	<10.0	31.2
	12.5	<10.0	<25.0

Well/Boring ID	Depth	DRPH	ORPH
02SB-09	6	<10.0	<25.0
	10	<10.0	<25.0
	15.5	<10.0	<25.0
	20.5	11	<25.0

Well/Boring ID	Depth	DRPH	ORPH
02MW13/B74	5	<50	<250
	10	<50	<250
	12.5	<50	<250

Well/Boring ID	Depth	DRPH	ORPH
02MW08/B02	5	<11.8	<29.4
	16.5	<11.6	<28.9

Well/Boring ID	Depth	DRPH	ORPH
02MW05	5	<10.0	<25.0
	10	<10.0	<25.0
	15	10.3	37.0
	20	<10.0	<25.0
	25	<10.0	<25.0
	30	<10.0	<25.0
	34	<10.0	<25.0

Well/Boring ID	Depth	DRPH	ORPH
B232	2.5	<50	<250
	7.5	<50	<250

Well/Boring ID	Depth	DRPH	ORPH
02MW12/GP25	5	<50	<250
	6	120	<250
	13	<50	<250

Well/Boring ID	Depth	DRPH	ORPH
B231	2.5	<50	<250
	5	<50	<250

Well/Boring ID	Depth	DRPH	ORPH
B230	2.5	<50	<250
	5	<50	<250

Well/Boring ID	Depth	DRPH	ORPH
B228	2.5	<50	<250
	5	<50	<250

Well/Boring ID	Depth	DRPH	ORPH
B229	5	<50	<250

Well/Boring ID	Depth	DRPH	ORPH
B233	5	<50	<250
	10	<50	<250

Well/Boring ID	Depth	DRPH	ORPH
GP26	5	<50	<250
	12	<50	<250

Well/Boring ID	Depth	DRPH	ORPH
02MW04	2	<10.0	<25.0
	5	<10.0	<25.0
	10	<10.0	<25.0
	15	<10.0	<25.0
	19	<10.0	<25.0

Well/Boring ID	Depth	DRPH	ORPH
02MW11/GP24	4	<50	<250
	9	<50	<250
	11.5	<50	<250

Well/Boring ID	Depth	DRPH	ORPH
B227	5	<50	<250
	10	<50	<250

Well/Boring ID	Depth	DRPH	ORPH
02MW10/GP23	4.5	<50	<250
	7.5	<50	<250

Well/Boring ID	Depth	DRPH	ORPH
GP22	4	<50	<250
	8	<50	<250
	15	<50	<250

LEGEND

- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- SHORELINE
- ABOVEGROUND STRUCTURE
- BELOW-GROUND STRUCTURE
- 02MW06 — SHALLOW ZONE MONITORING WELL
- 02MW05 — INTERMEDIATE ZONE MONITORING WELL
- B233 — SOIL BORING
- MTCA CUL — WASHINGTON STATE MODEL TOXICS CONTROL ACT APPLICABLE CLEANUP LEVEL
- < — RESULT BELOW LABORATORY REPORTING LIMIT
- DRPH — DIESEL-RANGE PETROLEUM HYDROCARBONS
- ORPH — OIL-RANGE PETROLEUM HYDROCARBONS

RESULTS SHOWN IN MILLIGRAMS PER KILOGRAM

DEPTH SHOWN IN FEET BELOW GROUND SURFACE

MTCA CUL	DRPH	ORPH
	2,000	2,000

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DATE: 11/19/12
DRAWN BY: NAC
CHECKED BY: PJK/TSB
CAD FILE: 01-600_2014RI_SD_DO

PROJECT NAME: EAST WATERFRONT PROPERTY
PROJECT NUMBER: 0440-004
STREET ADDRESS: 2750 WEST COMMODORE WAY
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 20 40 80
APPROXIMATE SCALE IN FEET

FIGURE 8
SOIL ANALYTICAL RESULTS FOR DRPH AND ORPH

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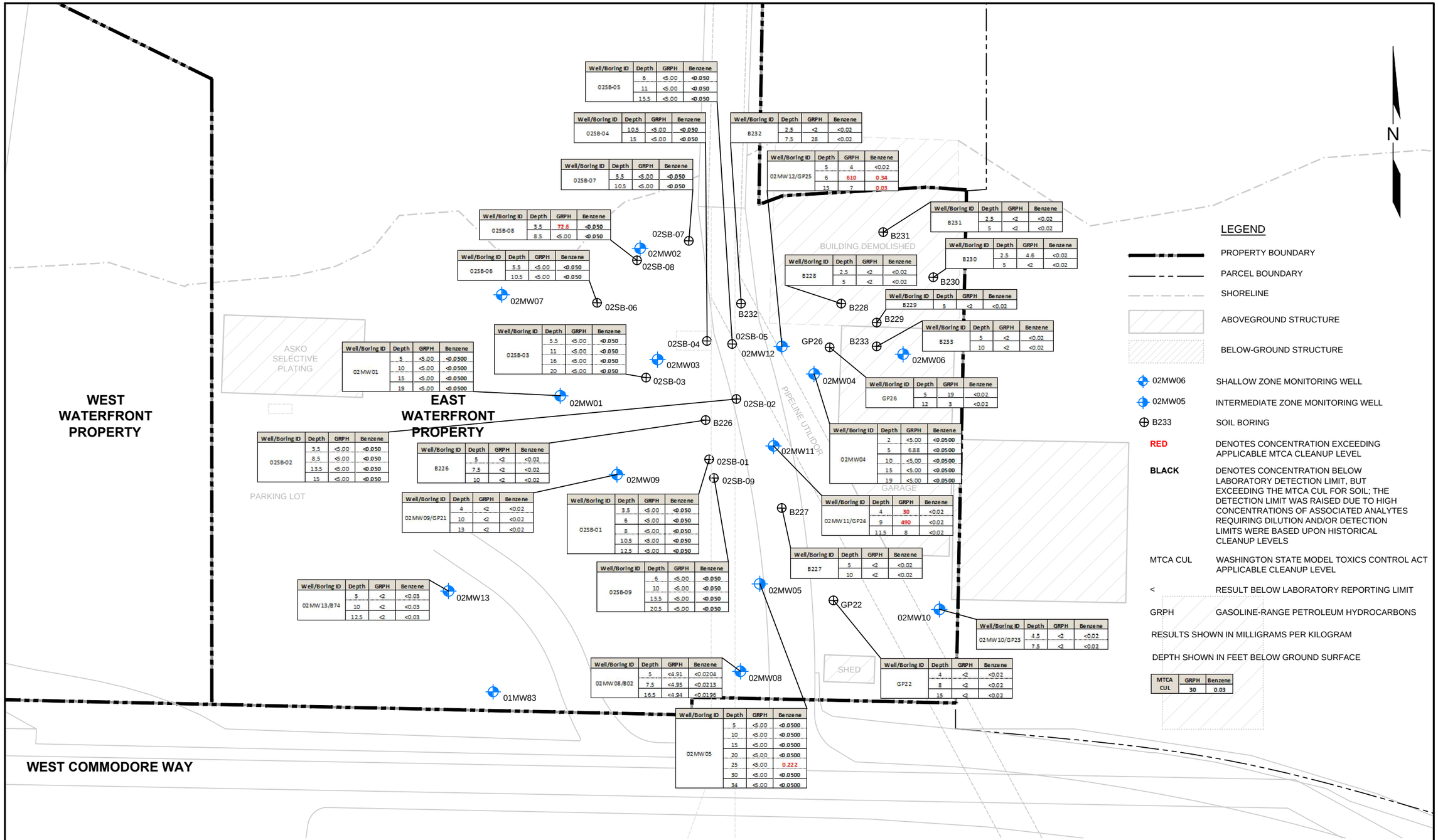
7/21/2014

P:\0440 TOC HOLDINGS CO\01-600 SEATTLE TERMINAL\TECHNICAL\CAD\2014\EWP\RI\01-600_2014RI_SD_GB.DWG



Well/Boring ID	Depth	GRPH	Benzene
0258-05	6	<5.00	<0.050
	11	<5.00	<0.050
	15.5	<5.00	<0.050

Well/Boring ID	Depth	GRPH	Benzene
0258-04	10.5	<5.00	<0.050
	15	<5.00	<0.050

Well/Boring ID	Depth	GRPH	Benzene
0258-07	5.5	<5.00	<0.050
	10.5	<5.00	<0.050

Well/Boring ID	Depth	GRPH	Benzene
0258-08	3.5	72.6	<0.050
	8.5	<5.00	<0.050

Well/Boring ID	Depth	GRPH	Benzene
0258-06	5.5	<5.00	<0.050
	10.5	<5.00	<0.050

Well/Boring ID	Depth	GRPH	Benzene
0258-03	5.5	<5.00	<0.050
	11	<5.00	<0.050
	16	<5.00	<0.050
	20	<5.00	<0.050

Well/Boring ID	Depth	GRPH	Benzene
02MW01	5	<5.00	<0.0500
	10	<5.00	<0.0500
	15	<5.00	<0.0500
	19	<5.00	<0.0500

Well/Boring ID	Depth	GRPH	Benzene
0258-02	3.5	<5.00	<0.050
	8.5	<5.00	<0.050
	13.5	<5.00	<0.050
	15	<5.00	<0.050

Well/Boring ID	Depth	GRPH	Benzene
B226	5	<2	<0.02
	7.5	<2	<0.02
	10	<2	<0.02

Well/Boring ID	Depth	GRPH	Benzene
02MW09/GP21	4	<2	<0.02
	10	<2	<0.02
	13	<2	<0.02

Well/Boring ID	Depth	GRPH	Benzene
0258-01	3.5	<5.00	<0.050
	6	<5.00	<0.050
	8	<5.00	<0.050
	10.5	<5.00	<0.050
	12.5	<5.00	<0.050

Well/Boring ID	Depth	GRPH	Benzene
0258-09	6	<5.00	<0.050
	10	<5.00	<0.050
	15.5	<5.00	<0.050
	20.5	<5.00	<0.050

Well/Boring ID	Depth	GRPH	Benzene
02MW13/B74	5	<2	<0.03
	10	<2	<0.03
	12.5	<2	<0.03

Well/Boring ID	Depth	GRPH	Benzene
02MW08/B02	5	<4.91	<0.0204
	7.5	<4.95	<0.0213
	16.5	<4.94	<0.0196

Well/Boring ID	Depth	GRPH	Benzene
02MW05	5	<5.00	<0.0500
	10	<5.00	<0.0500
	15	<5.00	<0.0500
	20	<5.00	<0.0500
	25	<5.00	0.222
	30	<5.00	<0.0500
	34	<5.00	<0.0500

Well/Boring ID	Depth	GRPH	Benzene
B232	2.5	<2	<0.02
	7.5	28	<0.02

Well/Boring ID	Depth	GRPH	Benzene
02MW12/GP25	5	4	<0.02
	6	610	0.34
	13	7	0.03

Well/Boring ID	Depth	GRPH	Benzene
B231	2.5	<2	<0.02
	5	<2	<0.02

Well/Boring ID	Depth	GRPH	Benzene
B230	2.5	4.6	<0.02
	5	<2	<0.02

Well/Boring ID	Depth	GRPH	Benzene
B228	2.5	<2	<0.02
	5	<2	<0.02

Well/Boring ID	Depth	GRPH	Benzene
B229	5	<2	<0.02

Well/Boring ID	Depth	GRPH	Benzene
B233	5	<2	<0.02
	10	<2	<0.02

Well/Boring ID	Depth	GRPH	Benzene
GP26	5	19	<0.02
	12	3	<0.02

Well/Boring ID	Depth	GRPH	Benzene
02MW04	2	<5.00	<0.0500
	5	6.88	<0.0500
	10	<5.00	<0.0500
	15	<5.00	<0.0500
	19	<5.00	<0.0500

Well/Boring ID	Depth	GRPH	Benzene
02MW11/GP24	4	30	<0.02
	9	490	<0.02
	11.5	8	<0.02

Well/Boring ID	Depth	GRPH	Benzene
B227	5	<2	<0.02
	10	<2	<0.02

Well/Boring ID	Depth	GRPH	Benzene
02MW10/GP23	4.5	<2	<0.02
	7.5	<2	<0.02

Well/Boring ID	Depth	GRPH	Benzene
GP22	4	<2	<0.02
	8	<2	<0.02
	15	<2	<0.02

LEGEND

- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- SHORELINE
- ABOVEGROUND STRUCTURE
- BELOW-GROUND STRUCTURE
- 02MW06 — SHALLOW ZONE MONITORING WELL
- 02MW05 — INTERMEDIATE ZONE MONITORING WELL
- B233 — SOIL BORING
- **RED** — DENOTES CONCENTRATION EXCEEDING APPLICABLE MTCA CLEANUP LEVEL
- **BLACK** — DENOTES CONCENTRATION BELOW LABORATORY DETECTION LIMIT, BUT EXCEEDING THE MTCA CUL FOR SOIL; THE DETECTION LIMIT WAS RAISED DUE TO HIGH CONCENTRATIONS OF ASSOCIATED ANALYTES REQUIRING DILUTION AND/OR DETECTION LIMITS WERE BASED UPON HISTORICAL CLEANUP LEVELS
- MTCA CUL — WASHINGTON STATE MODEL TOXICS CONTROL ACT APPLICABLE CLEANUP LEVEL
- < — RESULT BELOW LABORATORY REPORTING LIMIT
- GRPH — GASOLINE-RANGE PETROLEUM HYDROCARBONS

RESULTS SHOWN IN MILLIGRAMS PER KILOGRAM

DEPTH SHOWN IN FEET BELOW GROUND SURFACE

MTCA CUL	GRPH	Benzene
	30	0.03

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PROJECT NAME: EAST WATERFRONT PROPERTY
PROJECT NUMBER: 0440-004
STREET ADDRESS: 2750 WEST COMMODORE WAY
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 20 40 80
APPROXIMATE SCALE IN FEET

FIGURE 9
SOIL ANALYTICAL RESULTS FOR GRPH AND BENZENE

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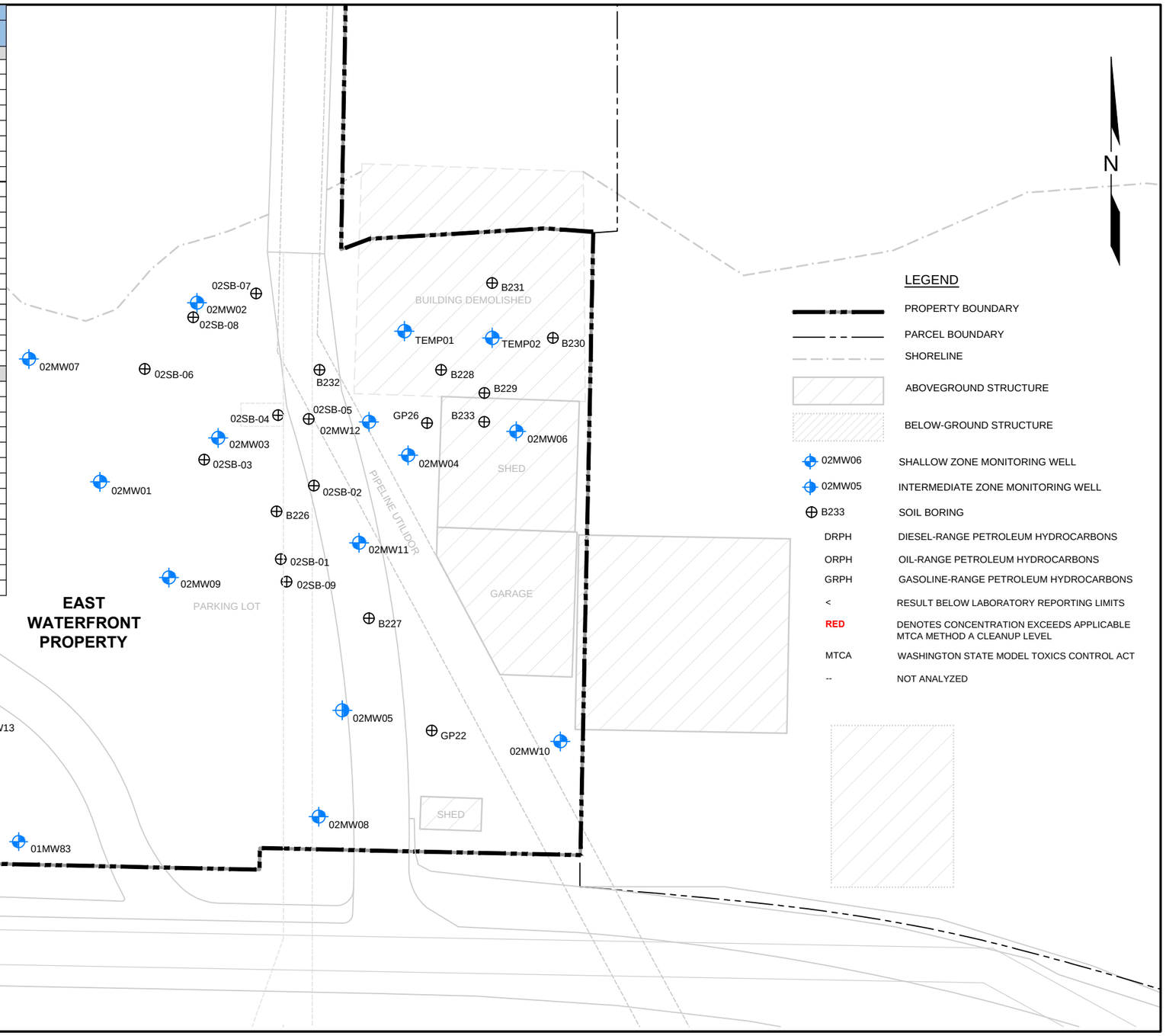
Boring ID	Date Sampled	Analytical Results (micrograms per liter) DRPH	ORPH	GRPH	Benzene	Toluene	Ethylbenzene	Total Xylenes
Reconnaissance Groundwater Samples								
02SB-02	06/07/99	**3,120**	<500	**8,260**	**214**	155	459	**1,110**
02SB-03	06/07/99	**1,070**	<500	<50	**6.64**	1.36	0.817	1.93
02SB-04	06/07/99	**867**	**503**	55.6	**59.8**	2.28	1.62	8.18
02SB-05	06/07/99	**865**	<500	685	**19.9**	4.18	19.9	20.2
02SB-06	06/07/99	456	<500	103	<0.500	1.11	0.585	4.03
02SB-07	06/07/99	**1,070**	**626**	<50	<0.500	<0.500	<0.500	<1.00
02SB-08	06/07/99	**668**	<500	128	1.59	1.25	<0.500	2.78
02SB-09	06/07/99	**617**	<500	**1,360**	**639**	1.89	1.31	9.66
GP22	10/11/07	100	<500	<100	<1	<1	<1	<3
GP26	10/12/07	**1,100**	<250	**7,100**	**8**	19	210	110
B226	04/30/12	270	<250	**2,100**	**270**	<10	<10	<30
B227	04/30/12	140	<250	<100	1.2	<1	<1	<3
B228	04/30/12	370	<250	200	<1	1.3	1.4	<3
B229	04/30/12	320	270	<100	<1	<1	<1	<3
B230	04/30/12	170	<250	<100	<1	<1	<1	<3
B231	04/30/12	200	<250	<100	<1	<1	<1	<3
B232	04/30/12	**1,100**	<250	**5,300**	**11**	26	190	<30
B233	04/30/12	230	<250	<100	<1	<1	<1	<3
Temp01	04/06/12	360	<250	**1,600**	3.1	2.1	91	13
Temp 02	04/06/12	**680**	<250	760	<1	3.9	2.4	<3
Groundwater Monitoring Samples								
02MW01	04/08/09	<50	<250	<100	<1	<1	<1	<3
02MW02	10/09/12	250	<250	<100	<1	<1	<1	<3
02MW03	04/08/09	<50	<250	<100	<1	<1	<1	<3
02MW04	04/14/11	--	--	**7,400**	**22**	50	290	370
02MW05	10/09/12	220	<250	<100	<1	<1	<1	<3
02MW06	10/09/12	210	<250	<100	<1	<1	<1	<3
02MW07	10/09/12	75	<250	<100	<1	<1	<1	<3
02MW08	10/10/12	<50	<250	<100	<1	<1	<1	<3
02MW09	01/27/09	<50	<250	<100	<1	<1	<1	<3
02MW10	07/08/09	91	<250	<100	<1	<1	<1	<3
02MW11	10/10/12	400	<250	600	<1	<1	<1	8.3
02MW12	10/10/12	**1,200**	<250	**5,200**	**360**	33	680	410
02MW13	04/14/11	54	<250	<100	<1	<1	<1	<3
MTCA Method A Cleanup Level		**500**	**500**	**800**	**5**	**1,000**	**700**	**1,000**



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PROJECT NAME: EAST WATERFRONT PROPERTY
SES PROJECT NUMBER: 0440-004
STREET ADDRESS: 2750 WEST COMMODORE WAY
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 20 40 80
APPROXIMATE SCALE IN FEET

FIGURE 10
GROUNDWATER ANALYTICAL RESULTS

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P:\0440 TOC HOLDINGS CO\01-600 SEATTLE TERMINAL\TECHNICAL\CAD\2014\EWPIR\01-600 2014RI IA EXCA.DWG

EAST WATERFRONT PROPERTY

DOCK

BUILDING DEMOLISHED

SHED

PARKING LOT

BARREL INCLINE

DRIVEWAY

PIPELINE UTILIDOR

GARAGE

N

TEST PITS

DEPTH	DRPH	ORPH
3	310	410

TPI-3

DEPTH	GRPH
2	15

TP3

DEPTH	DRPH	ORPH	GRPH
3	ND	ND	ND

DEPTH	DRPH	ORPH	GRPH	BENZENE
3	1,600	2,300	110	0.16

A6

A5

A4

DEPTH	DRPH	ORPH	GRPH
3	ND	ND	ND

NS2

DEPTH	GRPH
2	840

ES4

DEPTH	DRPH	ORPH	GRPH
6	ND	ND	ND

A3

DEPTH	GRPH
5	25,000

SS1

DEPTH	GRPH
6.5	12

DEPTH	DRPH	ORPH
6	<10	<200

TIF-F-6

TI-E-4

DEPTH	DRPH	ORPH
4	<10	<10

TI-W-4

9

DEPTH	DRPH	ORPH
4	<10	<10

TI-N-4

FORMER UNDERGROUND USED OIL STORAGE TANK (1991)

DEPTH	DRPH	GRPH	BENZENE
8	90	60	<0.02

A1

DEPTH	DRPH	GRPH	BENZENE
9	330	290	<0.02

A2

WO@5

WO-W/C

DEPTH	DRPH	ORPH	GRPH
5	ND	ND	ND

DEPTH	DRPH
2	2,800

LEGEND

- SAMPLE LOCATION
- PROPERTY BOUNDARY FOR THE SEATTLE TERMINAL PROPERTIES
- PARCEL BOUNDARY
- SHORELINE
- EXTENT OF 1991/1992 EXCAVATION
- ABOVEGROUND STRUCTURE
- FORMER UNDERGROUND STORAGE TANK
- RED — DENOTES CONCENTRATION EXCEEDING APPLICABLE MTCA CLEANUP LEVEL
- MTCA — WASHINGTON STATE MODEL TOXICS CONTROL ACT
- < — RESULT BELOW LABORATORY REPORTING LIMIT
- ND — NOT DETECTED OVER LABORATORY LIMITS
- DRPH — DIESEL-RANGE PETROLEUM HYDROCARBONS
- ORPH — OIL-RANGE PETROLEUM HYDROCARBONS
- GRPH — GASOLINE-RANGE PETROLEUM HYDROCARBONS
- UST — UNDERGROUND STORAGE TANK

RESULTS SHOWN IN MILLIGRAMS PER KILOGRAM

DEPTH SHOWN IN FEET BELOW GROUND SURFACE

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STREET ADDRESS: 2750 WEST COMMODORE WAY
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 10 20 40
APPROXIMATE SCALE IN FEET

FIGURE 11
FORMER WASTE OIL UST EXCAVATIONS
(1991 - 1992)

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Sample ID	GRPH	DRPH	ORPH	Benzene	Toluene	Ethylbenzene	Total Xylenes
UST10-BTM01-08	9.6	150	<100	<0.02	<0.02	<0.02	<0.06
UST10-BTM02-08	13	<50	<100	<0.02	<0.02	<0.02	<0.06
UST10-WSW-06	<2	<50	<100	<0.02	<0.02	<0.02	<0.06
UST10-NSW-06	<2	<50	<100	<0.02	<0.02	<0.02	<0.06
UST10-ESW-06	2.4	<50	<100	<0.02	<0.02	<0.02	<0.06
UST10-SSW-06	<2	<50	<100	<0.02	<0.02	<0.02	<0.06
TP01-BTM01-08	<2	<50	<100	<0.02	<0.02	<0.02	<0.06
TP01-BTM02-03	<2	<50	<100	<0.02	<0.02	<0.02	<0.06
TP01-SSW01-06	<2	<50	<100	<0.02	<0.02	<0.02	<0.06
TP01-WSW01-06	<2	<50	<100	<0.02	<0.02	<0.02	<0.06
TP01-ESW01-06	<2	<50	<100	<0.02	<0.02	<0.02	<0.06
TP01-NSW01-06	<2	<50	<100	<0.02	<0.02	<0.02	<0.06
SP01-COMP	2.9	200	<100	<0.02	<0.02	<0.02	<0.06
SP02-COMP	<2	<50	<100	<0.02	<0.02	<0.02	<0.06
MTCA Method A	**100**	**2,000**	**2,000**	**0.03**	**7**	**6**	**9**

LEGEND

▲	SOIL SAMPLE LOCATION (SOUNDEARTH 2011)
SS	SANITARY SEWER LINE
W	WATER LINE
	EXCAVATION BOUNDARY
GRPH	GASOLINE-RANGE PETROLEUM HYDROCARBONS
DRPH	DIESEL-RANGE PETROLEUM HYDROCARBONS
ORPH	OIL-RANGE PETROLEUM HYDROCARBONS
UST	UNDERGROUND STORAGE TANK
MTCA METHOD A	WASHINGTON STATE MODEL TOXICS CONTROL ACT METHOD A CLEANUP LEVEL
<	NOT DETECTED AT A CONCENTRATION EXCEEDING THE LABORATORY REPORTING LIMIT

NOTE: ALL CONCENTRATIONS PRESENTED IN MILLIGRAMS PER KILOGRAM

DEPTH SHOWN IN FEET BELOW GROUND SURFACE

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CAD FILE: 01-600_2014RI_UST

PROJECT NAME: EAST WATERFRONT PROPERTY
PROJECT NUMBER: 0440-004
STREET ADDRESS: 2750 WEST COMMODORE WAY
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 5 10 20
APPROXIMATE SCALE IN FEET

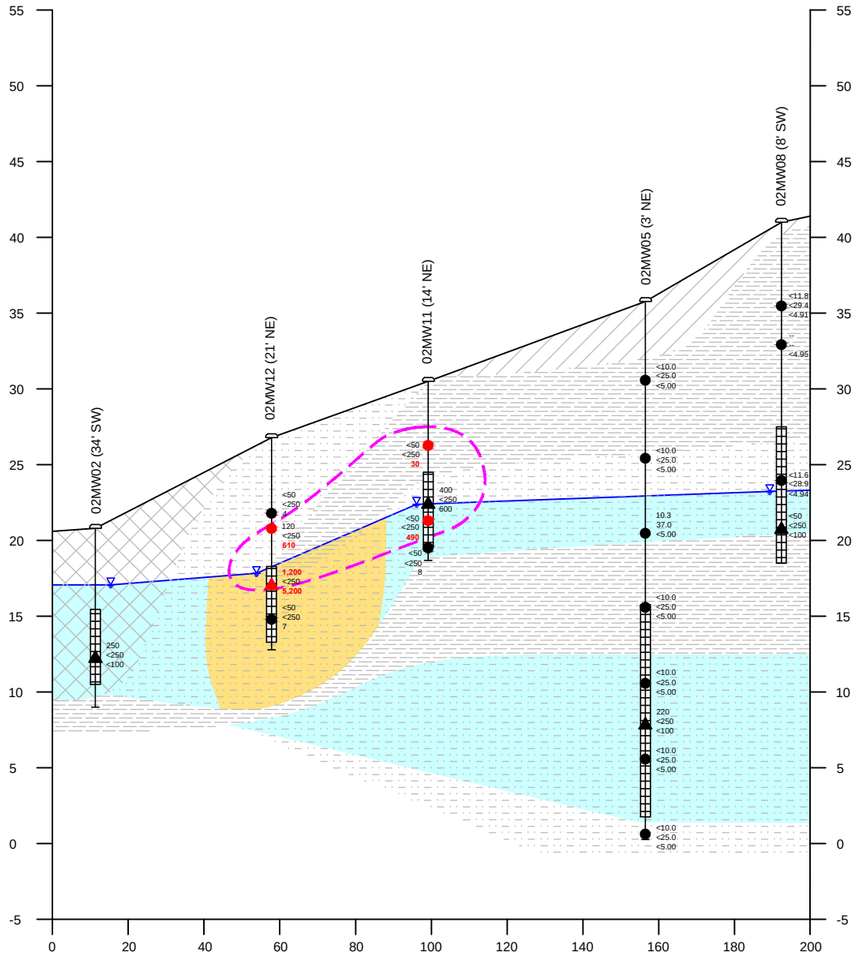
FIGURE 12
SUSPECT UNLEADED GASOLINE
UST EXCAVATION (2011)

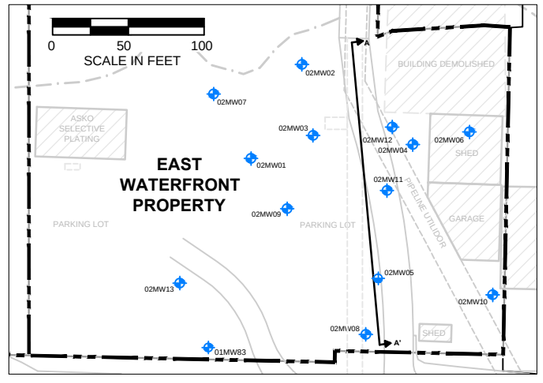
P:\0440 TOC HOLDINGS CO\01-600 SEATTLE TERMINAL\TECHNICAL\CAD\2014\EWPR\01-600_2014RI_UST.DWG

7/21/2014

P:\0440 TOC HOLDINGS CO\01-600 SEATTLE TERMINAL\TECHNICAL\CAD\2014\EWP\RI\01-600_2014RI_XAA.DWG

A (NORTHWEST) — A' (SOUTHEAST)





LEGEND

- (6' W) OFFSET 6' WEST FROM SECTION LINE
- MONITORING WELL
- SCREEN INTERVAL
- SHALLOW ZONE GROUNDWATER LEVEL (OCTOBER 2012)

HISTORICAL CONCENTRATIONS OF TPH IN SOIL (mg/kg):

- CONCENTRATION BELOW MTCA METHOD A CLEANUP LEVEL
- CONCENTRATION ABOVE MTCA METHOD A CLEANUP LEVEL

TPH CONCENTRATIONS IN GROUNDWATER IN OCTOBER 2012 (µg/L):

- CONCENTRATION BELOW MTCA METHOD A CLEANUP LEVEL
- CONCENTRATION ABOVE MTCA METHOD A CLEANUP LEVEL

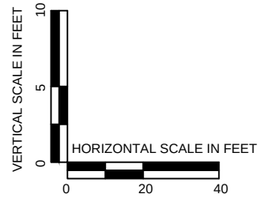
- TPH CONTAMINATION IN SOIL
- TPH CONTAMINATION IN GROUNDWATER
- GROUNDWATER

- SAND, SILTY SAND, AND GRAVEL (Hf)
- SAND AND SILTY SAND (Hdf)
- SAND, SILT AND CLAY (Hdf)
- SILT AND CLAY (Qpf)
- SAND AND SILTY SAND (Qpf)
- SANDY FILL MATERIAL

TPH	TOTAL PETROLEUM HYDROCARBONS
DRPH	DIESEL-RANGE PETROLEUM HYDROCARBONS
ORPH	OIL-RANGE PETROLEUM HYDROCARBONS
GRPH	GASOLINE-RANGE PETROLEUM HYDROCARBONS
--	NOT ANALYZED
<	RESULT BELOW LABORATORY REPORTING LIMIT
mg/kg	MILLIGRAMS PER KILOGRAM
µg/L	MICROGRAMS PER LITER
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT

<10.0	DRPH
<25.0	ORPH
<5.00	GRPH
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
RED	DENOTES CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVEL
Hf	HOLOCENE FILL
Hdf	HOLOCENE DEPRESSION FILLINGS
Qpf	PRE-FRASER DEPOSITS

NOTE: ALL LOCATIONS ARE APPROXIMATE.



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SES PROJECT NUMBER: 0440-004
STREET ADDRESS: 2750 WEST COMMODORE WAY
CITY, STATE: SEATTLE, WASHINGTON

REGION:

SCALE DEPICTED ABOVE

FIGURE 13
CROSS SECTION A-A'

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N

WEST WATERFRONT PROPERTY

EAST WATERFRONT PROPERTY

ASKO SELECTIVE PLATING

BUILDING DEMOLISHED

SHED

GARAGE

SHED

PARKING LOT

PARKING LOT

PIPELINE TRUDER

02MW01
02MW02
02MW03
02MW04
02MW05
02MW06
02MW07
02MW08
02MW09
02MW10
02MW11
02MW12
02MW13
01MW83

B226
B227
B228
B229
B230
B231
B232
B233
B238
GP22
GP26
TEMP01
TEMP02

WEST COMMODORE WAY

LEGEND

- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- SHORELINE
- EXTENT OF 1991/1992 EXCAVATION
- ABOVEGROUND STRUCTURE
- BELOW-GROUND STRUCTURE
- 02MW06 — SHALLOW ZONE MONITORING WELL
- 02MW05 — INTERMEDIATE ZONE MONITORING WELL
- B233 — SOIL BORING
- DRPH — DIESEL-RANGE PETROLEUM HYDROCARBONS
- ISOCONCENTRATION CONTOUR FOR DRPH IN GROUNDWATER GREATER THAN 500 MICROGRAMS PER LITER

NOTE: ISOCONCENTRATION BASED ON OCTOBER, 2012 GROUNDWATER SAMPLING RESULTS OR INFERRED FROM HISTORICAL GROUNDWATER TRENDS

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PROJECT NUMBER: 0440-004
STREET ADDRESS: 2750 WEST COMMODORE WAY
CITY, STATE: SEATTLE, WASHINGTON

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APPROXIMATE SCALE IN FEET

FIGURE 14
DRPH ISOCONCENTRATION MAP
(2012)

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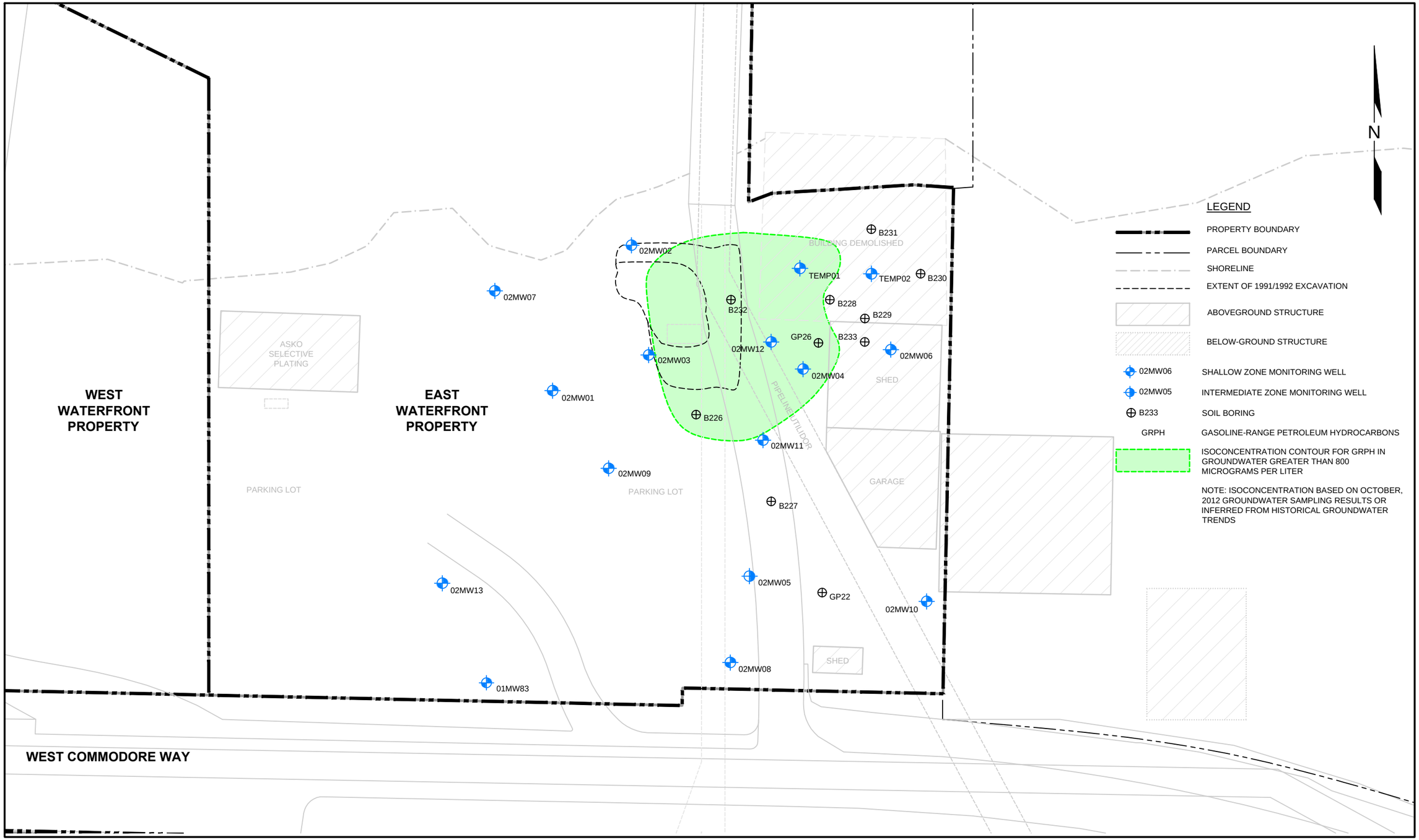

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PROJECT NUMBER:	0440-004
STREET ADDRESS:	2750 WEST COMMODORE WAY
CITY, STATE:	SEATTLE, WASHINGTON

REGION:

0 20 40 80
APPROXIMATE SCALE IN FEET

FIGURE 15
GRPH ISOCONCENTRATION MAP
(2012)

P:\0440 TOC HOLDINGS CO\01-600 SEATTLE TERMINAL\TECHNICAL\CAD\2014\EWPAR\01-600_2014RI_ISO_GRPH.DWG
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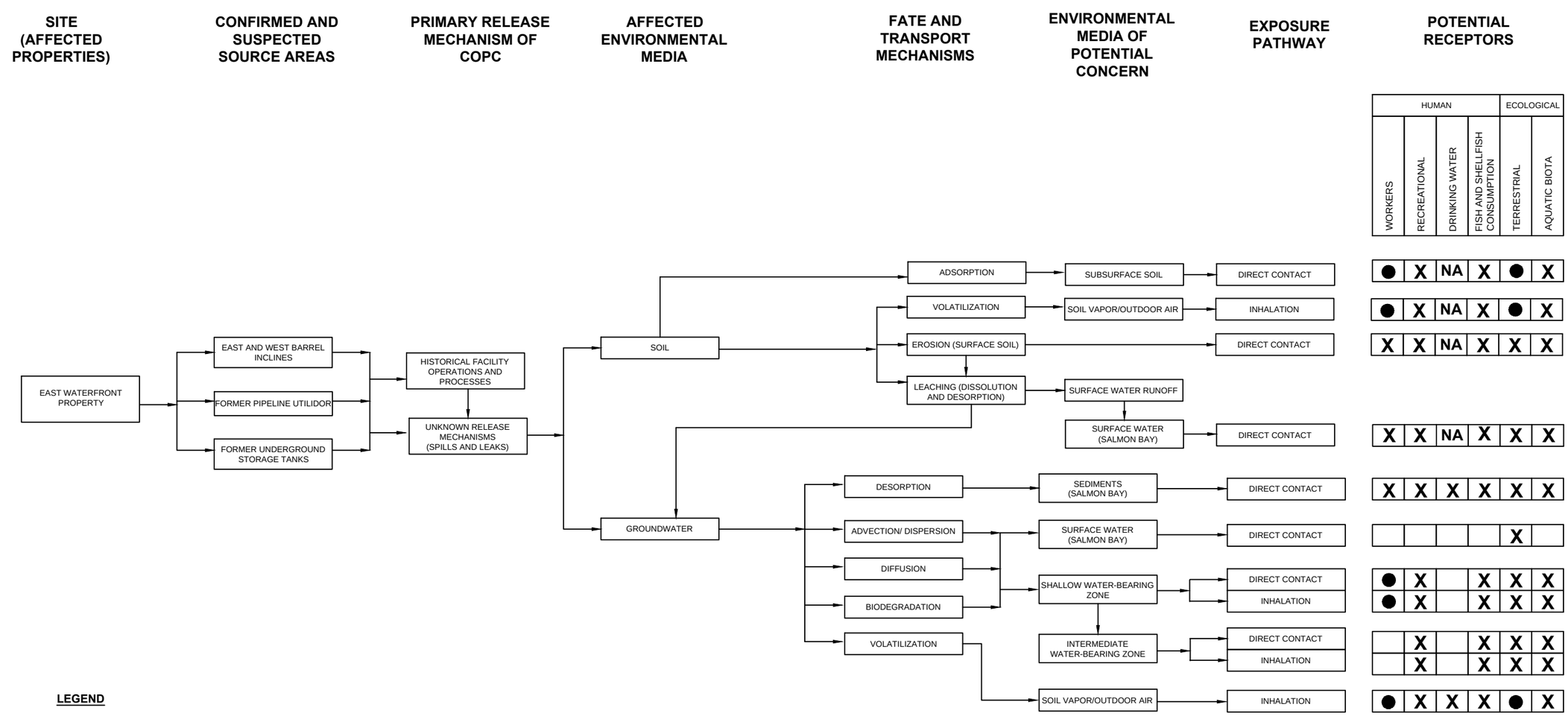

LEGEND

- ● — EXPOSURE PATHWAY COMPLETE FOR POTENTIAL RECEPTOR
- □ — EXPOSURE PATHWAY COULD BE COMPLETE, BUT THE POTENTIAL RECEPTOR IS UNLIKELY
- X — EXPOSURE PATHWAY INCOMPLETE
- NA — NOT APPLICABLE
- UST — UNDERGROUND STORAGE TANK
- COPC — CHEMICALS OF POTENTIAL CONCERN

NOTE: DIRECT CONTACT INCLUDES DERMAL AND INGESTION

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DATE: 05/12/13
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CHECKED BY: PJK/TSB
CAD FILE: 01-600_2014RI_CSM

PROJECT NAME: TOC HOLDINGS CO. EAST WATERFRONT PROPERTY
SES PROJECT NUMBER: 0440-004
STREET ADDRESS: 2750 WEST COMMODORE WAY
CITY, STATE: SEATTLE, WASHINGTON

REGION:

NOT TO SCALE

FIGURE 16
PRELIMINARY EXPOSURE ASSESSMENT
CONCEPTUAL SITE MODEL
EAST WATERFRONT PROPERTY

P:\0440 TOC HOLDINGS CO\01-600 SEATTLE TERMINAL\TECHNICAL\CAD\2014\EWPR\N01-600_2014RI_CSM.DWG

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GROUNDWATER FLOW DIRECTION

SORPTION ---> DIRECT SOIL CONTACT

VOLATALIZATION ---> SOIL VAPOR/OUTDOOR AIR ---> INHALATION

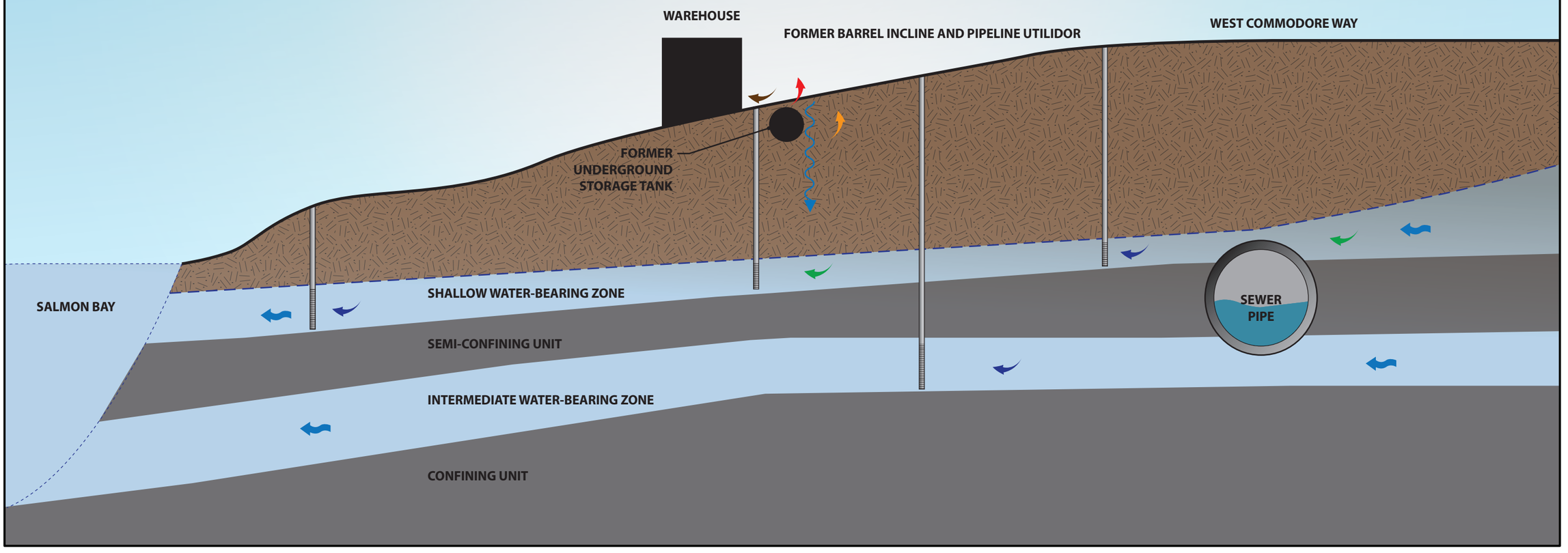
EROSION AND LEACHING ---> SURFACE WATER RUNOFF ---> DIRECT CONTACT (TPH)

INFILTRATION/LEACHING/LEAKING

GROUNDWATER CONTAMINATION ADVECTION/DISPERSION,
AND DIFFUSION ---> DIRECT CONTACT/INHALATION

GROUNDWATER BELOW PRELIMINARY CLEANUP LEVELS

TPH — TOTAL PETROLEUM HYDROCARBONS



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PROJECT NAME: TOC HOLDINGS CO. EAST WATERFRONT PROPERTY
PROJECT NUMBER: 0440-004
STREET ADDRESS: 2750 WEST COMMODORE WAY
CITY, STATE: SEATTLE, WASHINGTON

REGION:

NO SCALE

FIGURE 17
CONCEPTUAL SITE MODEL

TABLES

Table 1
Preliminary Cleanup Levels
TOC Holdings Co. Facility No. 01-600
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

SOIL	
Chemicals of Potential Concern	**Cleanup Levels** (mg/kg)
Gasoline-Range Petroleum Hydrocarbons	30[(1)]
Diesel-Range Petroleum Hydrocarbons	2,000[(1)]
Oil-Range Petroleum Hydrocarbons	2,000[(1)]
Benzene	0.03[(1)]
Ethylbenzene	6[(1)]
GROUNDWATER	
Chemicals of Potential Concern	**Cleanup Levels** (µg/L)
Gasoline-Range Petroleum Hydrocarbons	800[(2)]
Diesel-Range Petroleum Hydrocarbons	500[(2)]
Oil-Range Petroleum Hydrocarbons	500[(2)]
Benzene	5[(2)]
Ethylbenzene	700[(2)]
Total Xylenes	1,000[(2)]
AIR	
Chemicals of Potential Concern	**Cleanup Levels** (µg/m^3)
Gasoline-Range Petroleum Hydrocarbons	NE
Diesel-Range Petroleum Hydrocarbons	NE
Oil-Range Petroleum Hydrocarbons	NE
Benzene	0.32[(4)]
Ethylbenzene	460[(5)]
Total Xylenes	46[(5)]

NOTES:

[(1)]MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.

[(2)]MTCA Method A Cleanup Levels for Ground Water, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.

[(3)]CLARC, Surface Water, Method B, Carcinogen, Standard Formula Value, CLARC website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

[(4)]MTCA Cleanup Regulation, CLARC, Air, Method B, Carcinogen, Stadard Formula Value, CLARC website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

[(5)]MTCA Cleanup Regulation, CLARC, Air, Method B, Non-Carcinogen, Stadard Formula Value, CLARC website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

µg/L = micrograms per liter
µg/m^3 = micrograms per meter cubed
CLARC = Cleanup Levels and Risk Calculation
mg/kg = milligrams per kilogram
MTCA = Washington State Model Toxics Control Act
NE = not established

SoundEarth Strategies

Table 2
Soil Analytical Results for TPH, BTEX, MTBE, EDB, and EDC
TOC Holdings Co.
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Well/Boring ID	Sample ID	Sampled by	Date Sampled	Depth (feet bgs)	Analytical Results (milligrams per kilogram)									
					DRPH[1]	ORPH[1]	GRPH[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]	MTBE[3]	EDB[3]	EDC[3]
02MW01	02MW-01	IT	09/13/99	5	<10.0	<25.0	<5.00	**<0.0500**	<0.0500	<0.0500	<0.100	--	--	--
	02MW-01			10	<10.0	<25.0	<5.00	**<0.0500**	<0.0500	<0.0500	<0.100	--	--	--
	02MW-01			15	10.5	27.7	<5.00	**<0.0500**	<0.0500	<0.0500	<0.100	--	--	--
	02MW-01			19	<10.0	<25.0	<5.00	**<0.0500**	<0.0500	<0.0500	<0.100	--	--	--
02MW04	02MW04	IT	09/13/99	2	<10.0	<25.0	<5.00	**<0.0500**	<0.0500	<0.0500	<0.100	--	--	--
	02MW04			5	<10.0	<25.0	6.88	**<0.0500**	<0.0500	<0.0500	<0.100	--	--	--
	02MW04			10	<10.0	<25.0	<5.00	**<0.0500**	<0.0500	<0.0500	<0.100	--	--	--
	02MW04			15	<10.0	<25.0	<5.00	**<0.0500**	<0.0500	<0.0500	<0.100	--	--	--
	02MW04			19	<10.0	<25.0	<5.00	**<0.0500**	<0.0500	<0.0500	<0.100	--	--	--
02MW05	02MW05	IT	09/13/99	5	<10.0	<25.0	<5.00	**<0.0500**	<0.0500	<0.0500	<0.100	--	--	--
	02MW05			10	<10.0	<25.0	<5.00	**<0.0500**	<0.0500	<0.0500	<0.100	--	--	--
	02MW05			15	10.3	37.0	<5.00	**<0.0500**	<0.0500	<0.0500	<0.100	--	--	--
	02MW05			20	<10.0	<25.0	<5.00	**<0.0500**	<0.0500	<0.0500	<0.100	--	--	--
	02MW05			25	<10.0	<25.0	<5.00	**0.222**	<0.0500	<0.0500	<0.100	--	--	--
	02MW05			30	<10.0	<25.0	<5.00	**<0.0500**	<0.0500	<0.0500	<0.100	--	--	--
	02MW05			34	<10.0	<25.0	<5.00	**<0.0500**	<0.0500	<0.0500	<0.100	--	--	--
02SB01	02SB-02	IT	06/07/99	3.5	540	1,320	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
	02SB-02			6	285	712	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
	02SB-02			8	<10.0	<25.0	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
	02SB-02			10.5	<10.0	31.2	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
	02SB-02			12.5	<10.0	<25.0	<5.00	**<0.050**	0.0596	<0.050	<0.100	--	--	--
02SB02	02SB-02	IT	06/07/99	3.5	14	42.7	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
	02SB-02			8.5	<10.0	<25.0	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
	02SB-02			13.5	<10.0	<25.0	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
	02SB-02			15	<10.0	<25.0	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
02SB03	02SB-03	IT	06/07/99	5.5	<10.0	<25.0	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
	02SB-03			11	<10.0	<25.0	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
	02SB-03			16	<10.0	<25.0	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
	02SB-03			20	11.3	38.8	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
02SB04	02SB-04	IT	06/07/99	10.5	<10.0	<25.0	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
	02SB-04			15	15.2	62.5	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
02SB05	02SB-05	IT	06/07/99	6	17.6	64.5	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
	02SB-05			11	<10.0	<25.0	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
	02SB-05			15.5	<10.0	<25.0	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
MTCA Cleanup Level for Soil[4]					**2,000**	**2,000**	**30**	**0.03**	**7**	**6**	**9**	**0.1**	**0.005**	**11[5]**

SoundEarth Strategies

Table 2
Soil Analytical Results for TPH, BTEX, MTBE, EDB, and EDC
TOC Holdings Co.
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Well/Boring ID	Sample ID	Sampled by	Date Sampled	Depth (feet bgs)	Analytical Results (milligrams per kilogram)									
					DRPH[1]	ORPH[1]	GRPH[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]	MTBE[3]	EDB[3]	EDC[3]
02SB06	02SB-06	IT	06/07/99	5.5	<10.0	<25.0	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
	02SB-06			10.5	<10.0	<25.0	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
02SB07	02SB-07	IT	06/07/99	5.5	61.8	53.1	<5.00	**<0.050**	<0.050	<0.050	0.134	--	--	--
	02SB-07			10.5	<10.0	<25.0	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
02SB08	02SB-08A	IT	06/07/99	3.5	127	428	**72.6**	**<0.050**	<0.050	<0.080	<0.570	--	--	--
	02SB-08B			8.5	<10.0	38.1	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
02SB09	02SB-09	IT	06/11/99	6	<10.0	<25.0	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
	02SB-09			10	<10.0	<25.0	<5.00	**<0.050**	0.0699	<0.050	<0.100	--	--	--
	02SB-09			15.5	<10.0	<25.0	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
	02SB-09			20.5	11	<25.0	<5.00	**<0.050**	<0.050	<0.050	<0.100	--	--	--
02MW08/B02	B02-5	SoundEarth	04/21/06	5	<11.8	<29.4	<4.91	<0.0204	<0.103	<0.103	<0.306	--	--	--
	B02-7.5			7.5	--	--	<4.95	<0.0213	<0.107	<0.107	<0.320	--	--	--
	B02-16.5			16.5	<11.6	<28.9	<4.94	<0.0196	<0.0979	<0.0979	<0.294	--	--	--
02MW09/GP21	GP21-04.0	SoundEarth	10/11/07	4	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	--
	GP21-10			10	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	--
	GP21-13			13	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	--
GP22	GP22-04	SoundEarth	10/11/07	4	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	--
	GP22-08			8	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	--
	GP22-15			15	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	--
02MW10/GP23	GP23-04.5	SoundEarth	10/11/07	4.5	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	--
	GP23-07.5			7.5	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	--
02MW11/GP24	GP24-04	SoundEarth	10/11/07	4	<50	<250	**30**	<0.02	0.06	0.49	0.31	--	--	--
	GP24-09			9	<50	<250	**490**	<0.02	0.85	**9.5**	7.0	--	--	--
	GP24-11.5			11.5	<50	<250	8	<0.02	0.03	0.13	0.10	--	--	--
02MW12/GP25	GP25-05	SoundEarth	10/12/07	5	<50	<250	4	<0.02	<0.02	0.06	<0.06	--	--	--
	GP25-06			6	120[x]	<250	**610**	**0.34**	1.7	**9.0**	5.1	--	--	--
	GP25-13			13	<50	<250	7	**0.03**	<0.02	0.19	<0.06	--	--	--
GP26	GP26-05	SoundEarth	10/12/07	5	<50	<250	19	<0.02	0.04	0.22	0.14	--	--	--
	GP26-12.0			12	<50	<250	3	<0.02	<0.02	<0.02	<0.06	--	--	--
02MW13/B74	B74-05	SoundEarth	12/05/07	5	<50	<250	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05
	B74-10			10	<50	<250	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05
	B74-12.5			12.5	<50	<250	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05
MTCA Cleanup Level for Soil[4]					**2,000**	**2,000**	**30**	**0.03**	**7**	**6**	**9**	**0.1**	**0.005**	**11[5]**

Table 2
Soil Analytical Results for TPH, BTEX, MTBE, EDB, and EDC
TOC Holdings Co.
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Well/Boring ID	Sample ID	Sampled by	Date Sampled	Depth (feet bgs)	Analytical Results (milligrams per kilogram)									
					DRPH[1]	ORPH[1]	GRPH[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]	MTBE[3]	EDB[3]	EDC[3]
B226	B226-05	SoundEarth	04/30/12	5	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	<0.05
	B226-07.5			7.5	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	<0.05
	B226-10			10	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	<0.05
B227	B227-05	SoundEarth	04/30/12	5	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	<0.05
	B227-10			10	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	<0.05
B228	B228-02.5	SoundEarth	04/30/12	2.5	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	<0.05
	B228-05			5	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	<0.05
B229	B229-05	SoundEarth	04/30/12	5	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	<0.05
B230	B230-02.5	SoundEarth	04/30/12	2.5	<50	<250	4.6	<0.02	<0.02	<0.02	<0.06	--	--	<0.05
	B230-05			5	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	<0.05
B231	B231-02.5	SoundEarth	04/30/12	2.5	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	<0.05
	B231-05			5	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	<0.05
B232	B232-02.5	SoundEarth	04/30/12	2.5	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	--
	B232.07.5			7.5	<50	<250	28	<0.02	0.082	0.17	0.24	--	--	--
B233	B233-05	SoundEarth	04/30/12	5	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	<0.05
	B233-10			10	<50	<250	<2	<0.02	<0.02	<0.02	<0.06	--	--	<0.05
MTCA Cleanup Level for Soil[4]					**2,000**	**2,000**	**30**	**0.03**	**7**	**6**	**9**	**0.1**	**0.005**	**11[5]**

NOTES:

Red denotes concentration exceeds MTCA cleanup level.

Bold denotes concentration below laboratory detection limit, but exceeding the MTCA cleanup level for soil; the detection limit has been raised due to high concentrations of associated analytes requiring dilution and/or historical cleanup levels that historical detection limits were based upon.

Data prior to April 2006 from previous consultants. All other sample analyses conducted by TestAmerica Laboratories, Inc. of Bothell, Washington or Friedman & Bruya, Inc. of Seattle, Washington.

[1]Analyzed by Method NWTPH-Dx.

[2]Analyzed by Method NWTPH-Gx.

[3]Analyzed by EPA Method 8021B, 8260B, or 8260C.

[4]MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Soil Cleanup Levels for Unrestricted Land Uses.

[5]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

Laboratory Note:

[x]The pattern of peaks present is not indicative of diesel or the sample chromatographic pattern does not resemble the fuel standard used for quantitation.

-- = not analyzed

< = not detected at a concentration exceeding the laboratory reporting limit

bgs = below ground surface

BTEX = benzene, toluene, ethylbenzene, and total xylenes

CLARC = Cleanup Levels and Risk Calculations

DRPH = diesel-range petroleum hydrocarbons

EDB = 1, 2-dibromoethane

EDC = 1,2-dichloroethane

EPA = United States Environmental Protection Agency

GRPH = gasoline-range petroleum hydrocarbons

IT = IT Corporation

MTBE = methyl tertiary-butyl ether

MTCA = Washington State Model Toxics Control Act

NWTPH = Northwest Total Petroleum Hydrocarbon

ORPH = oil-range petroleum hydrocarbons

SoundEarth = SoundEarth Strategies, Inc.

TPH = total petroleum hydrocarbons

WAC = Washington Administrative Code

Table 3
Soil Analytical Results for VOCs
TOC Holdings Co. Facility No. 01-600
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Well/Boring ID	Sample ID	Sampled by	Date Sampled	Depth (feet bgs)	Analytical Results[1] (milligrams per kilogram)																	
					Tetrachloroethene	Trichloroethene	Cis-1,2-Dichloroethene	Trans-1,2-Dichloroethene	1,1-Dichloroethene	Vinyl Chloride	1,2,4 Trimethyl-benzene	1,3,5 Trimethyl-benzene	Acetone	Isopropylbenzene	Naphthalene	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	2-Butanone
02SB-08	02SB-08A	IT	06/07/99	3.5	**<0.100**	**<0.100**	<0.100	<0.100	<0.100	**<0.100**	0.102	<0.100	<2.00	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<1.00
02MW13/B74	B74-05	SoundEarth	12/05/07	5	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	--	<0.05	<0.05	<0.05	<0.05	<0.5
	B74-10			10	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	--	<0.05	<0.05	<0.05	<0.05	<0.5
	B74-12.5			12.5	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	--	<0.05	<0.05	<0.05	<0.05	<0.5
B226	B226-05	SoundEarth	04/30/12	5	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--	--	--	--	--	--
	B226-07.5			7.5	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--	--	--	--	--	--
	B226-10			10	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--	--	--	--	--	--
B227	B227-05	SoundEarth	04/30/12	5	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--	--	--	--	--	--
	B227-10			10	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--	--	--	--	--	--
B228	B228-02.5	SoundEarth	04/30/12	2.5	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--	--	--	--	--	--
	B228-05			5	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--	--	--	--	--	--
B229	B229-05	SoundEarth	04/30/12	5	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--	--	--	--	--	--
B230	B230-02.5	SoundEarth	04/30/12	2.5	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--	--	--	--	--	--
	B230-05			5	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--	--	--	--	--	--
B231	B231-02.5	SoundEarth	04/30/12	2.5	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--	--	--	--	--	--
	B231-05			5	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--	--	--	--	--	--
B233	B233-05	SoundEarth	04/30/12	5	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--	--	--	--	--	--
	B233-10			10	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--	--	--	--	--	--
MTCA Cleanup Level for Soil					**0.05**[2]	**0.03**[2]	**160**[3]	**1,600**[3]	**4,000**[3]	**0.67**[4]	**NE**	**800**[3]	**72,000**[3]	**8,000**[3]	**5**[2]	**NE**	**NE**	**NE**	**NE**	**NE**	**48,000**[3]

NOTES:

Bold denotes concentration below laboratory detection limit, but exceeding the MTCA cleanup level for soil; the detection limit has been raised due to high concentrations of associated analytes requiring dilution and/or historical cleanup levels that historical detection limits were based upon.

Data prior to April 2006 from previous consultants. All other sample analyses conducted by TestAmerica Laboratories, Inc. of Bothell, Washington, Libby Environmental Inc., of Olympia, Washington, or Friedman & Bruya, Inc. of Seattle, Washington.

[1]Samples analyzed by EPA Method 8260B or 8260C.

[2]MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Soil Cleanup Levels for Unrestricted Land Uses.

[3]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Non-Carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

[4]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

-- = not analyzed
< = not detected at a concentration exceeding the laboratory reporting limit
bgs = below ground surface
CLARC = Cleanup Levels and Risk Calculations
EPA = U.S. Environmental Protection Agency
IT = IT Corporation
MTCA = Washington State Model Toxics Control Act
NE = not established
SoundEarth = SoundEarth Strategies, Inc.
VOCs = volatile organic compounds
WAC = Washington Administrative Code

Table 4
Soil Analytical Results for PCBs and Metals
TOC Holdings Co. Facility No. 01-600
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Well/Boring ID	Sample ID	Sampled by	Date Sampled	Depth (feet bgs)	Analytical Results (milligrams per kilogram)								
					PCBs (Total Aroclors)[1]	Arsenic[2]	Barium[2]	Cadmium[2]	Chromium[2]	Lead[2]	Mercury[3]	Selenium[2]	Silver[2]
02MW01	02MW-01	IT	09/13/99	5	--	--	--	--	--	3.86	--	--	--
	02MW-01			10	--	--	--	--	--	3.59	--	--	--
	02MW-01			14	--	--	--	--	--	1.81	--	--	--
	02MW-01			19	--	--	--	--	--	6.46	--	--	--
02MW04	02MW-04	IT	09/13/99	2	--	--	--	--	--	5.04	--	--	--
	02MW-04			5	--	--	--	--	--	7.15	--	--	--
	02MW-04			10	--	--	--	--	--	2.47	--	--	--
	02MW-04			15	--	--	--	--	--	2.26	--	--	--
	02MW-04			19	--	--	--	--	--	6.77	--	--	--
02MW05	02MW-05	IT	09/13/99	5	--	--	--	--	--	6.91	--	--	--
	02MW-05			10	--	--	--	--	--	2.82	--	--	--
	02MW-05			15	--	--	--	--	--	6.92	--	--	--
	02MW-05			20	--	--	--	--	--	3.97	--	--	--
	02MW-05			25	--	--	--	--	--	1.69	--	--	--
	02MW-05			30	--	--	--	--	--	3.37	--	--	--
	02MW-05			34	--	--	--	--	--	3.46	--	--	--
02SB-01	02SB-02	IT	06/07/99	3.5	--	--	--	--	--	11.1	--	--	--
	02SB-02			6	--	--	--	--	--	15.1	--	--	--
	02SB-02			8	--	--	--	--	--	2.8	--	--	--
	02SB-02			10.5	--	--	--	--	--	6.03	--	--	--
	02SB-02			12.5	--	--	--	--	--	6.18	--	--	--
02SB-02	02SB-02	IT	06/07/99	3.5	--	--	--	--	--	22.8	--	--	--
	02SB-02			8.5	--	--	--	--	--	5	--	--	--
	02SB-02			13.5	--	--	--	--	--	2.79	--	--	--
	02SB-02			15	--	--	--	--	--	2.29	--	--	--
02SB-03	02SB-03	IT	06/07/99	5.5	--	--	--	--	--	4.49	--	--	--
	02SB-03			11	--	--	--	--	--	6.16	--	--	--
	02SB-03			16	--	--	--	--	--	2.99	--	--	--
	02SB-03			20	--	--	--	--	--	3.50	--	--	--
02SB-04	02SB-04	IT	06/07/99	10.5	--	--	--	--	--	2.57	--	--	--
	02SB-04			15	--	--	--	--	--	2.97	--	--	--
02SB-05	02SB-05	IT	06/07/99	6	--	--	--	--	--	18	--	--	--
	02SB-05			11	--	--	--	--	--	3.72	--	--	--
	02SB-05			15.5	--	--	--	--	--	4.23	--	--	--
02SB-06	02SB-06	IT	06/07/99	5.5	--	--	--	--	--	2.78	--	--	--
	02SB-06			10.5	--	--	--	--	--	2.2	--	--	--
02SB-07	02SB-07	IT	06/07/99	5.5	--	--	--	--	--	7.85	--	--	--
	02SB-07			10.5	--	--	--	--	--	2.4	--	--	--
02SB-08	02SB-08A	IT	06/07/99	3.5	<0.05	4.78	86.3	<0.500	33.1	10.6	<0.100	<0.500	<0.500
	02SB-08B			8.5	--	--	--	--	--	3.02	--	--	--
GP22	GP22-08	SoundEarth	10/11/07	8	--	--	--	--	--	5.38	--	--	--
02MW10/GP23	GP23-04.5	SoundEarth	10/11/07	4.5	--	--	--	--	--	2.01	--	--	--
02MW11/GP24	GP24-09	SoundEarth	10/11/07	9	--	--	--	--	--	3.11	--	--	--
02MW12/GP25	GP25-06	SoundEarth	10/12/07	6	--	--	--	--	--	16.4	--	--	--
GP26	GP26-05	SoundEarth	10/12/07	5	--	--	--	--	--	8.02	--	--	--
02MW13/B74	B74-05	SoundEarth	12/05/07	5	--	--	--	--	--	2.99	--	--	--
	B74-10	SoundEarth		10	--	--	--	--	--	2.11	--	--	--
	B74-12.5	SoundEarth		12.5	--	--	--	--	--	4.89	--	--	--
MTCA Cleanup Level for Soil					**1**[4]	**20**[4]	**16,000**[5]	**2**[4]	**2,000**[4]	**250**[4]	**2**[4]	**400**[5]	**400**[5]

NOTES:

Data prior to April 2006 from previous consultants. All other sample analyses conducted by TestAmerica Laboratories, Inc. of Bothell, Washington or Friedman & Bruya, Inc. of Seattle, Washington.

[1]Analyzed by EPA Method 8082.

[2]Analyzed by EPA Method 6020.

[3]Analyzed by EPA Method 7471A.

[4]MTCA Cleanup Regulation, Chapter 173-340-900, Table 740-1 Method A Soil Cleanup Levels for Unrestricted Land Uses.

[5]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Non-Carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

-- = not analyzed

< = not detected at a concentration exceeding the laboratory reporting limit

bgs = below ground surface

CLARC = Cleanup Levels and Risk Calculations

EPA = U.S. Environmental Protection Agency

IT = IT Corporation

MTCA = Washington State Model Toxics Control Act

PCBs = polychlorinated biphenyls

SoundEarth = SoundEarth Strategies, Inc.

WAC = Washington Administrative Code

Table 5
Soil Analytical Results for Pesticides
TOC Holdings Co. Facility No. 01-600
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Well/Boring ID	Sample ID	Sampled by	Date Sampled	Depth (feet bgs)		Analytical Results[1] (milligrams per kilogram)																		
					4,4-DDT	4,4'-DDD	4,4'-DDE	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endosulfan 1	Endosulfan 2	Endosulfan Sulfate	Endrin	Endrin aldehyde	gamma-BHC (Lindane)	gamma-Chlordane	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene
02SB-08	02SB-08A	IT	06/07/99	3.5	<0.001	<0.001	<0.001	**<1.0**	**<0.500**	<0.800	**<0.900**	<0.600	**<2.00**	<1.00	<2.00	<1.00	<2.00	<2.00	**<1.00**	<0.700	**<1.00**	**<1.00**	<4.00	<50.0
MTCA Cleanup Level for Soil					**3**[2]	**4.2**[3]	**2.9**[3]	**0.059**[3]	**0.16**[3]	**2.9**[3]	**0.56**[3]	**NE**	**0.063**[3]	**480**[4]	**480**[4]	**NE**	**24**[4]	**NE**	**24**[4]	**2.9**[3]	**0.22**[3]	**0.11**[3]	**400**[4]	**0.91**[3]

NOTES:

Data from previous consultants.

Bold denotes concentration below laboratory detection limit, but exceeding the MTCA cleanup level for soil; the detection limit has been raised due to high concentrations of associated analytes requiring dilution and/or historical cleanup levels that historical detection limits were based upon.

[1]Analyzed by EPA Method SW 8081A.

[2]MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Soil Cleanup Levels for Unrestricted Land Uses.

[3]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

[4]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Non-Carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

< = not detected at a concentration exceeding the laboratory reporting limit
bgs = below ground surface
BHC = hexachlorocyclohexane
CLARC = Cleanup Levels and Risk Calculations
DDD= dichlorodiphenyldichloroethane
DDE = dichlorodiphenyldichloroethylene
DDT = dichlorodiphenyltrichloroethane
EPA = U.S. Environmental Protection Agency
IT = IT Corporation
MTCA = Washington State Model Toxics Control Act
NE = not established
WAC = Washington Administrative Code

SoundEarth Strategies

Table 6
Soil Analytical Results for TPH, BTEX, and MTBE
Interim Actions
TOC Holdings Co.
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Interim Remedial Action Location	Soil Sample ID	Sample Location	Sample Type	Sampled By	Date Sampled	Depth (feet bgs)	Analytical Results (milligrams per kilogram)								
							DRPH[1,2]	ORPH[1,2]	Mineral Spirits[1]	GRPH[3,4]	Benzene[3,5]	Toluene[3,5]	Ethylbenzene[3,5]	Total Xylenes[3,5]	MTBE[6]
Waste Oil UST West of Warehouse	1228-0927-S1, S2, S3, S4	Stockpile Composite	Waste Profile	Time Oil Company	09/27/91	--	78[id]	1,700	--	--	--	--	--	--	--
	TP1-3	Base of Test Pit	Performance		10/03/91	3	310	410	--	--	--	--	--	--	--
	TI-N-4	South Sidewall	Confirmation			4	<10	<10	--	--	--	--	--	--	--
	TI-E-4	East Sidewall	Confirmation			4	<10	<10	--	--	--	--	--	--	--
	TI-F-6	Base of Excavation	Confirmation			6	<10	200	--	--	--	--	--	--	--
	TI-W-4	West Sidewall	Confirmation			4	<10	<10	--	--	--	--	--	--	--
	SS1	South Sidewall	Confirmation		12/10/91	6.5	--	--	--	12[7]	--	--	--	--	--
	NS2	North Sidewall	Performance			2	--	--	--	840[7]	--	--	--	--	--
	ES4	East Sidewall	Performance			5	--	--	--	25,000[7]	--	--	--	--	--
	TP3	Base of Test Pit	Confirmation			2	--	--	--	15[7]	--	--	--	--	--
	A1	Southeast Sidewall	Performance		07/29/92	8	90	--	50	60	<0.02	<0.02	<0.02	<0.04	--
	A2	Southeast Sidewall	Confirmation			9	330	--	200	290	<0.02	<0.02	<0.02	<0.04	--
	A3	East sidewall	Confirmation			6	ND	ND	ND	ND	--	--	--	--	--
	A4	Northeast Sidewall	Confirmation			3	ND	ND	ND	ND	--	--	--	--	--
	A5	North Sidewall	Confirmation			3	ND	ND	ND	ND	--	--	--	--	--
	A6	Northwest Sidewall	Confirmation			3	1,600	2,300	210	110	0.16	0.14	2.6	4.9	--
	WO-W/C	South End of Excavation	Performance			2	2,800	--	--	--	--	--	--	--	--
	WO	South End of Excavation	Confirmation			5	ND	ND	ND	ND	--	--	--	--	--
Unleaded Gasoline UST	UST10-BTM01-08	Bottom of Excavation	Confirmation	SoundEarth	6/8/2011	8	150	<100	--	9.6	<0.02	<0.02	<0.02	<0.06	--
	UST10-BTM02-08	Bottom of Excavation	Confirmation		6/8/2011	8	<50	<100	--	13	<0.02	<0.02	<0.02	<0.06	--
	UST10-WSW-06	West Sidewall	Confirmation		6/8/2011	6	<50	<100	--	<2	<0.02	<0.02	<0.02	<0.06	--
	UST10-NSW-06	North Sidewall	Confirmation		6/8/2011	6	<50	<100	--	<2	<0.02	<0.02	<0.02	<0.06	--
	UST10-ESW-06	East Sidewall	Confirmation		6/8/2011	6	<50	<100	--	2.4	<0.02	<0.02	<0.02	<0.06	--
	UST10-SSW-06	South Sidewall	Confirmation		6/8/2011	6	<50	<100	--	<2	<0.02	<0.02	<0.02	<0.06	--
Test Pit Excavation Area	TP01-BTM01-08	Bottom of Test Pit	Confirmation	SoundEarth	6/8/2011	8	<50	<100	--	<2	<0.02	<0.02	<0.02	<0.06	--
	TP01-BTM02-03	Bottom of Test Pit	Confirmation		6/8/2011	3	<50	<100	--	<2	<0.02	<0.02	<0.02	<0.06	--
	TP01-SSW01-06	South Sidewall	Confirmation		6/8/2011	6	<50	<100	--	<2	<0.02	<0.02	<0.02	<0.06	--
	TP01-WSW01-06	West Sidewall	Confirmation		6/8/2011	6	<50	<100	--	<2	<0.02	<0.02	<0.02	<0.06	--
	TP01-ESW01-06	East Sidewall	Confirmation		6/8/2011	6	<50	<100	--	<2	<0.02	<0.02	<0.02	<0.06	--
	TP01-NSW01-06	North Sidewall	Confirmation		6/8/2011	6	<50	<100	--	<2	<0.02	<0.02	<0.02	<0.06	--
MTCA Cleanup Level for Soil[8]							**2,000**	**2,000**	**4,000**	**30**	**0.03**	**7**	**6**	**9**	**0.1**

Table 6
Soil Analytical Results for TPH, BTEX, and MTBE
Interim Actions
TOC Holdings Co.
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Interim Remedial Action Location	Soil Sample ID	Sample Location	Sample Type	Sampled By	Date Sampled	Depth (feet bgs)	Analytical Results (milligrams per kilogram)								
							DRPH[1,2]	ORPH[1,2]	Mineral Spirits[1]	GRPH[3,4]	Benzene[3,5]	Toluene[3,5]	Ethylbenzene[3,5]	Total Xylenes[3,5]	MTBE[6]
Soil Stockpile	SP01-Comp	Composite sample	Waste Profile	SoundEarth	6/8/2011	0.5	200	<100	--	2.9	<0.02	<0.02	<0.02	<0.06	<0.05
	SP02-S-02 Comp	Composite sample	Waste Profile		6/8/2011	0.5	<50	<100	--	<2	<0.02	<0.02	<0.02	<0.06	<0.05
MTCA Cleanup Level for Soil[8]							**2,000**	**2,000**	**4,000**	**30**	**0.03**	**7**	**6**	**9**	**0.1**

NOTES:

Red denotes concentration exceeds MTCA cleanup level.

[1]Analyzed by EPA Method 8015 Modified.

[2]Analyzed by Method NWTPH-Dx.

[3]Analyzed by EPA Method 5030 coupled to 8015 or 8020.

[4]Analyzed by Method NWTPH-Gx.

[5]Analyzed by EPA Method 8021B.

[6]Analyzed by EPA Method 8260C.

[7]Concentration reported by others as total petroleum hydrocarbon.

[8]MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Soil Cleanup Levels for Unrestricted Land Uses.

Laboratory Notes:

[id]The material present appears to be indicative of a small amount of diesel and a much larger amount of motor oil.

-- = not analyzed

< = not detected at a concentration exceeding the laboratory reporting limit

bgs = below ground surface

BTEX = benzene, toluene, ethylbenzene, and total xylenes

DRPH = diesel-range petroleum hydrocarbons

EPA = United States Environmental Protection Agency

FW = Foster Wheeler Environmental Corporation

GRPH = gasoline-range petroleum hydrocarbons

MTBE = methyl tertiary-butyl ether

MTCA = Washington State Model Toxics Control Act

ND = not detected

NWTPH = Northwest Total Petroleum Hydrocarbon

ORPH = oil-range petroleum hydrocarbons

TPH = total petroleum hydrocarbons

UST = underground storage tank

WAC = Washington Administrative Code

Table 7
Soil Analytical Results for Chlorinated VOCs
Interim Actions
TOC Holdings Co. Facility No. 01-600
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Interim Remedial Action Location	Soil Sample ID	Sample Location	Sampled By	Date Sampled	Depth (feet bgs)	Analytical Results[1] (milligrams per kilogram)			
						Tetrachloroethene	Trichloroethene	Trans-1,2-Dichloroethene	1,1-Dichloroethene
Waste Oil UST - West of Warehouse	1228-0927-S1, S2, S3, S4	Stockpile Composite	Time Oil Company	09/27/91	--	<0.001	<0.001	<0.003	<0.001
MTCA Cleanup Level for Soil						**0.05**[2]	**0.03**[2]	**1,600**[3]	**4,000**[3]

NOTES:

[1]Samples analyzed by EPA Method 5020, 8010, or 8260C.

[2]MTCA Cleanup Regulation, Chapter 173-340-900 of the Washington Administrative Code, Table 740-1 Method A Soil Cleanup Levels for Unrestricted Land Uses.

[3]MTCA Cleanup Regulation, CLARC, Soil, MTCA Method B, Non-Carcinogen, Standard Formula Value, Unrestricted Land Use, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

-- = not measured

< = not detected at a concentration exceeding the laboratory reporting limit

bgs = below ground surface

CLARC = Cleanup Levels and Risk Calculations

EPA = U.S. Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

UST = underground storage tank

VOCs = volatile organic compounds

Table 8
Soil Analytical Results for PCBs, Total Metals, and TCLP Lead
Interim Actions
TOC Holdings Co.
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Interim Remedial Action Location	Soil Sample ID	Sample Location	Sample Type	Sampled By	Date Sampled	Depth (feet bgs)	Analytical Results (miligrams per kilogram)									
							PCBs (Total Aroclors)[1]	Arsenic[2]	Barium[2]	Cadmium[2]	Chromium[2]	Lead[2]	Mercury[3]	Selenium[2]	Silver[2]	TCLP[4] (mg/L)
Waste Oil UST West of Warehouse	1228-0927-S1, S2, S3, S4	Stockpile Composite	Waste Profile	Time Oil Company	09/27/91	--	<1	--	--	--	--	--	--	--	--	<0.5
	TPI-3	Base of Test Pit	Performance		10/03/91	3	--	--	--	--	--	--	--	--	--	--
	TI-N-4	South Sidewall	Confirmation			4	--	--	--	--	--	--	--	--	--	--
	TI-E-4	East Sidewall	Confirmation			4	--	--	--	--	--	--	--	--	--	--
	TI-F-6	Base of Excavation	Confirmation			6	--	--	--	--	--	--	--	--	--	--
	TI-W-4	West Sidewall	Confirmation			4	--	--	--	--	--	--	--	--	--	--
	SS1	South Sidewall	Confirmation		12/10/91	6.5	--	--	--	--	--	--	--	--	--	--
	NS2	North Sidewall	Performance			2	--	--	--	--	--	--	--	--	--	--
	ES4	East Sidewall	Performance			5	--	--	--	--	--	--	--	--	--	--
	TP3	Base of Test Pit	Confirmation			2	--	--	--	--	--	--	--	--	--	--
	A1	Southeast Sidewall	Performance		07/29/92	8	--	<1	150	<10	25	<1	<1	<1	<1	--
	A2	Southeast Sidewall	Confirmation			9	--	<1	150	<1	25	<1	<1	<1	<1	--
	A3	East sidewall	Confirmation			6	--	--	--	--	--	--	--	--	--	--
	A4	Northeast Sidewall	Confirmation			3	--	--	--	--	--	--	--	--	--	--
	A5	North Sidewall	Confirmation			3	--	--	--	--	--	--	--	--	--	--
	A6	Northwest Sidewall	Confirmation			3	--	<1	150	<1	25	<1	<1	<1	<1	--
	WO-W/C	South End of Excavation	Performance			2	--	--	--	--	--	18	--	--	--	--
	WO@5'	South End of Excavation	Confirmation			5	--	--	--	--	--	--	--	--	--	--
Unleaded Gasoline UST	SP01-Comp	Composite Sample	Waste Profile	SoundEarth	6/8/2011	0.5	--	4.88	55.8	<1	16.8	12.7	<0.1	<1	<1	--
	SP02-S-02 Comp	Composite Sample	Waste Profile			0.5	--	4.87	27.0	<1	8.95	7.81	<0.1	<1	<1	--
MTCA Cleanup Level for Soil							**1**[5]	**20**[5]	**16,000**[6]	**2**[5]	**2,000**[5]	**250**[5]	**2**[5]	**400**[6]	**400**[6]	**NA**

NOTES:

[1]Analyzed by Gas Chromotography/Electron Capture Detector Method.

[2]Analyzed by EPA Method 200.8.

[3]Analyzed by EPA Method 1631E.

[4]Analyzed for TCLP metals in accordance with 40 CFR Part 261.

[5]MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Soil Cleanup Levels for Unrestricted Land Uses.

[6]MTCA Cleanup Regulation, CLARC, Soil, MTCA Method B, Non-Carcinogen, Standard Formula Value, Unrestricted Land Use, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

-- = not measured/not analyzed
< = not detected at a concentration exceeding the laboratory reporting limit
bgs = below ground surface
CRF = Code of Federal Regulations
CLARC = Cleanup Levels and Risk Calculations
EPA = U.S. Environmental Protection Agency
MTCA = Washington State Model Toxics Control Act
mg/L = milligrams per liter
NA = not applicable
PCBs = polychlorinated biphenyls
SoundEarth = SoundEarth Strategies, Inc.
TCLP = toxicity characteristic leaching procedure
UST = underground storage tank
WAC = Washington Administrative Code

Table 9
Reconnaissance Groundwater Analytical Results for TPH and BTEX
TOC Holdings Co. Facility No. 01-600
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Boring ID	Sample ID	Sampled By	Date Sampled	Analytical Results (micrograms per liter)						
				DRPH[1]	ORPH[1]	GRPH[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]
02SB-02	02SB-02	IT	06/07/99	**3,120**	<500	**8,260**	**214**	155	459	**1,110**
02SB-03	02SB-03	IT	06/07/99	**1,070**	<500	<50.00	**6.64**	1.36	0.817	1.93
02SB-04	02SB-04	IT	06/07/99	**867**	**503**	55.6	**59.8**	2.28	1.62	8.18
02SB-05	02SB-05	IT	06/07/99	**865**	<500	685	**19.9**	4.18	19.9	20.2
02SB-06	02SB-06	IT	06/07/99	456	<500	103	<0.500	1.11	0.585	4.03
02SB-07	02SB-07	IT	06/07/99	**1,070**	**626**	<50	<0.500	<0.500	<0.500	<1.00
02SB-08	02SB-08	IT	06/07/99	**668**	<500	128	1.59	1.25	<0.500	2.78
02SB-09	02SB-09	IT	06/07/99	**617**	<500	**1,360**	**639**	1.89	1.31	9.66
GP22	GP22-20071011	SoundEarth	10/11/07	100[x]	<500	<100	<1	<1	<1	<3
GP26	GP26-20071012	SoundEarth	10/12/07	**1,100**[x]	<250	**7,100**	**8**	19	210	110
B226	B226-20120430	SoundEarth	04/30/12	270[x]	<250	**2,100**	**270**	<10	<10	<30
B227	B227-20120430	SoundEarth	04/30/12	140[x]	<250	<100	1.2	<1	<1	<3
B228	B228-20120430	SoundEarth	04/30/12	370[x]	<250	200	<1	1.3	1.4	<3
B229	B229-20120430	SoundEarth	04/30/12	320[x]	270[x]	<100	<1	<1	<1	<3
B230	B230-20120430	SoundEarth	04/30/12	170[x]	<250	<100	<1	<1	<1	<3
B231	B231-20120430	SoundEarth	04/30/12	200[x]	<250	<100	<1	<1	<1	<3
B232	B232-20120430	SoundEarth	04/30/12	**1,100**[x]	<250	**5,300**	**11**	26	190	<30
B233	B233-20120430	SoundEarth	04/30/12	230[x]	<250	<100	<1	<1	<1	<3
Temp01	Temp01-20120329	SoundEarth	03/29/12	**950**[x]	<250	**3,000**	**16**	<10	120	<30
	Temp01-20120406	SoundEarth	04/06/12	360[x]	<250	**1,600**	3.1	2.1	91	13
Temp 02	Temp02-20120329	SoundEarth	03/29/12	430[x]	**530**[x]	<100	<1	<1	<1	<3
	Temp02-20120406	SoundEarth	04/06/12	**680**[x]	<250	760	<1	3.9	2.4	<3
MTCA Cleanup Level for Groundwater[4]				**500**	**500**	**800**	**5**	**1,000**	**700**	**1,000**

NOTES:

Red denotes concentration exceeds MTCA cleanup level for groundwater.

Sample analyses conducted by TestAmerica Laboratories, Inc. of Bothell, Washington, or Friedman & Bruya, Inc. of Seattle, Washington.

[1]Analyzed by Method NWTPH-Dx.

[2]Analyzed by Method NWTPH-Gx.

[3]Analyzed by EPA Method 8021B or 8260B.

[4]MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 720-1 Method A Cleanup Levels for Groundwater, revised November 2007.

Laboratory Note:

[x]The pattern of peaks present is not indicative of diesel.

< = not detected at a concentration exceeding the laboratory reporting limit
BTEX = benzene, toluene, ethylbenzene, and total xylenes
DRPH = diesel-range petroleum hydrocarbons
EPA =U.S. Environmental Protection Agency
GRPH = gasoline-range petroleum hydrocarbons
IT = IT Corporation
MTCA = Washington State Model Toxics Control Act
NWTPH = Northwest Total Petroleum Hydrocarbon
ORPH = oil-range petroleum hydrocarbons
SoundEarth = SoundEarth Strategies, Inc.
TPH = total petroleum hydrocarbons
WAC = Washington Administrative Code

Table 10
Reconnaissance Groundwater Analytical Results for VOCs
TOC Holdings Co. Facility No. 01-600
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Boring ID	Sample ID	Sampled By	Date Sampled	Analytical Results[1] (micrograms per liter)						
				PCE	TCE	Cis-1,2- DCE	Trans-1,2- DCE	1,1-DCE	Vinyl Chloride	EDC
B226	B226-20120430	SoundEarth	04/30/12	<1	<1	<1	<1	<1	<0.2[pr]	**6.6**
B230	B230-20120430	SoundEarth	04/30/12	<1	<1	<1	<1	<1	<0.2[pr]	**7.5**
B231	B231-20120430	SoundEarth	04/30/12	<1	<1	<1	<1	<1	<0.2[pr]	3.8
B232	B232-20120430	SoundEarth	04/30/12	<1	<1	<1	<1	<1	<0.2[pr]	<1
MTCA Cleanup Level for Groundwater				**5**[2]	**5**[2]	**16**[3]	**160**[3]	**400**[3]	**0.2**[2]	**5**[2]

NOTES:

Red denotes concentration exceeds MTCA cleanup level.

Sample analyses conducted by Friedman & Bruya, Inc. of Seattle, Washington.

[1]Samples analyzed by EPA Method 8260C.

[2]MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 720-1 Method A Cleanup Levels for Groundwater.

[3]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Groundwater, Method B, Non-Carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

Laboratory Note:

[pr] Sample received with incorrect preservation. The value reported should be considered an estimate.

< = not detected at a concentration exceeding the laboratory reporting limit

CLARC = Cleanup Levels and Risk Calculations

DCE = dichloroethene

EDC = 1,2-dichloroethane

EPA = U.S. Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

PCE = tetrachloroethene

SoundEarth = SoundEarth Strategies, Inc.

TCE = trichloroethene

VOCs = volatile organic compounds

WAC = Washington Administrative Code

Table 11
Reconnaissance Groundwater Analytical Results
for Dissolved Lead
TOC Holdings Co. Facility No. 01-600
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Boring ID	Sample ID	Sampled By	Date Sampled	Dissolved Lead[1] (micrograms per liter)
02SB-03	02SB-03	IT Corporation	06/07/99	<1.00
02SB-04	02SB-04	IT Corporation	06/07/99	<1.00
02SB-05	02SB-05	IT Corporation	06/07/99	1.29
02SB-06	02SB-06	IT Corporation	06/07/99	<1.00
02SB-07	02SB-07	IT Corporation	06/07/99	<1.00
02SB-08	02SB-08	IT Corporation	06/07/99	<1.00
MTCA Method A Cleanup Level for Groundwater[2]				**15**

NOTES:

Data from previous consultants.

[1]Samples analyzed by U.S. Environmental Protection Agency Method 6010/7000.

[2]MTCA Cleanup Regulation, Chapter 173-340-900 of the Washington Administrative Code, Table 720-1 Method A Cleanup Levels for Groundwater, revised November 2007.

< = not detected at a concentration exceeding the laboratory reporting limit.

MTCA = Washington State Model Toxics Control Act

SoundEarth Strategies

Table 12
Groundwater Analytical Results for PCP, TPH, BTEX, MTBE, EDB, and EDC
TOC Holdings Co. Facility No. 01-600
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Well Identification	Sample Identification	Sampled By	Sample Type	Date Sampled	Analytical Results (micrograms per liter)										
					PCP[1]	DRPH[2]	ORPH[2]	GRPH[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Total Xylenes[4]	MTBE[5]	EDB[5]	EDC[5]
02MW01	02MW-01	IT	--	09/28/99	--	<250	<500	172	72.9	0.811	<0.500	<1.00	--	--	--
	02MW-01	FW	--	07/25/01	--	<250	<500	119	44.4	0.622	<0.500	1.15	--	--	--
	02MW-01	FW	--	10/01/01	**<0.500**	<250	<500	235	81.3	1.41	<0.500	2.84	--	--	--
	02MW-01	FW	--	01/02/02	**<0.500**	<250	<500	<50.0	4.67	<0.500	<0.500	<1.00	--	--	--
	02MW-01	FW	--	04/02/02	**<0.500**	<250	<500	<50.0	4.24	<0.500	<0.500	<1.00	--	--	--
	02MW-01	FW	--	07/02/02	**<0.500**	<250	<500	182	67.5	1.20	<0.500	2.39	--	--	--
	02MW-01	FW	--	10/02/02	--	<250	<500	327	82.0	2.37	<0.500	7.62	--	--	--
	02MW-01	FW	--	01/01/03	--	<250	<500	134	28.9	<1.00	<1.00	<3.00	--	--	--
	02MW-01	FW	--	04/01/03	--	<250	<500	5.55	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-01	TetraTech	--	08/01/03	--	<250	<500	158	37.8	0.869	<0.500	<1.00	--	--	--
	02MW-01	TetraTech	--	10/01/03	--	<250	<500	201	64.4	2.41	<0.500	6.92	--	--	--
	02MW-01	TetraTech	--	01/01/04	--	<250	<500	<50.0	1.32	<0.500	<0.500	<1.00	--	--	--
	02MW-01	TetraTech	--	04/01/04	--	<250	<500	<50.0	2.54	<0.500	<0.500	<1.00	--	--	--
	02MW-01	TetraTech	--	07/14/04	--	<250	<500	<50.0	7.91	<0.500	<0.500	<1.00	--	--	--
	02MW-01	TetraTech	--	11/17/04	--	<250	<500	188	48.4	1.24	0.682	4.46	--	--	--
	02MW-01	TetraTech	--	01/05/05	--	<250	<500	172	51.5	1.01	<0.500	2.53	--	--	--
	02MW-01	Landau	--	04/25/05	--	--	--	188	36.2	0.863	<0.500	1.86	--	--	--
	02MW-01	Landau	--	07/26/05	--	--	--	205	48.9	1.04	<0.500	2.3	--	--	--
	02MW-01	Landau	--	10/24/05	--	--	--	379	52.2	1.38	<0.500	3.84	--	--	--
	02-MW-01-20060620	SoundEarth	LF	06/20/06	--	--	--	102	29	0.65	<0.200	1.93	<1.00	<0.200	<0.200
	02MW01-20061211	SoundEarth	LF	12/11/06	--	--	--	54	21	<1.00	<1.00	<3.00	--	--	--
	02MW01-20090128	SoundEarth	LF	01/28/09	--	96[x]	<250	170	7	<1	<1	<3	--	--	--
	02MW01-20090408	SoundEarth	LF	04/08/09	--	<50	<250	<100	<1	<1	<1	<3	--	--	--
02MW02	02MW-02	IT	--	09/28/99	--	<250	<500	<50.00	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-02	FW	--	07/25/01	--	<250	<500	<50.00	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-02	FW	--	10/01/01	2.21	<250	<500	<50.00	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-02	FW	--	01/02/02	**<0.500**	<250	<500	<50.00	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-02	FW	--	04/02/02	**<0.500**	<250	<500	<50.00	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-02	FW	--	07/02/02	**<0.500**	<250	<500	<50.00	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-02	FW	--	10/02/02	--	<250	<500	<50.00	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-02	FW	--	01/01/03	--	<250	<500	<50.00	<1.00	<1.00	<1.00	<3.00	--	--	--
	02MW-02	FW	--	04/01/03	--	<250	<500	<50.00	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-02	TetraTech	--	08/01/03	--	<250	<500	<50.00	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-02	TetraTech	--	10/01/03	--	<250	<500	<50.00	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-02	TetraTech	--	01/01/04	--	<250	<500	<50.00	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-02	TetraTech	--	04/01/04	--	<250	<500	<50.00	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-02	TetraTech	--	07/14/04	--	<250	<500	<50.00	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-02	TetraTech	--	11/17/04	--	<250	<500	<50.00	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-02	TetraTech	--	01/05/05	--	<250	--	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-02	Landau	--	04/25/05	--	<250	--	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-02	Landau	--	07/26/05	--	<250	--	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-02	Landau	--	10/24/05	--	--	--	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02-MW-02-20060620	SoundEarth	LF	06/20/06	--	--	--	<50	<0.200	<0.200	<0.200	<0.750	<1.00	<0.200	<0.200
	02MW02-20061211	SoundEarth	LF	12/11/06	--	--	--	<50	<1	<1	<1	<3	--	--	--
	02MW02-20090128	SoundEarth	LF	01/28/09	--	470[x]	690[y]	<100	<1	<1	<1	<3	--	--	--
	02MW02-20090407	SoundEarth	LF	04/07/09	--	<50	<250	<100	<1	<1	<1	<3	--	--	--
	02MW02-20090707	SoundEarth	LF	07/07/09	--	340[x]	310[y]	<100	<1	<1	<1	<3	--	--	--
	02MW02-20100128	SoundEarth	LF	01/28/10	--	58[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW02-20100406	SoundEarth	LF	04/06/10	--	<50[6]	<250[6]	<100	<1	<1	<1	<3	--	--	--
	02MW02-20100708	SoundEarth	LF	07/08/10	--	<50[6]	<250[6]	<100	<1	<1	<1	<3	--	--	--
	02MW02-20110112	SoundEarth	LF	01/12/11	--	<50[6]	<250[6]	<100	<1	<1	<1	<3	--	--	--
	02MW02-20110414	SoundEarth	LF	04/14/11	--	51[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW02-20110823	SoundEarth	LF	08/23/11	--	300[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW02-20111206	SoundEarth	LF	12/06/11	--	160[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW02-20120402	SoundEarth	LF	04/02/12	--	58[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW02-20121009	SoundEarth	LF	10/09/12	--	250[x]	<250	<100	<1	<1	<1	<3	--	--	--
MTCA Cleanup Level for Groundwater[7]					**0.22[8]**	**500**	**500**	**800**	**5**	**1,000**	**700**	**1,000**	**20**	**0.01**	**5**

SoundEarth Strategies

Table 12
Groundwater Analytical Results for PCP, TPH, BTEX, MTBE, EDB, and EDC
TOC Holdings Co. Facility No. 01-600
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Well Identification	Sample Identification	Sampled By	Sample Type	Date Sampled	Analytical Results (micrograms per liter)										
					PCP[1]	DRPH[2]	ORPH[2]	GRPH[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Total Xylenes[4]	MTBE[5]	EDB[5]	EDC[5]
02MW03	02MW-03	IT	--	09/28/99	--	<250	<500	160	**56.7**	1.13	<0.500	1.14	--	--	--
	02MW-03	FW	--	07/25/01	--	**619**	<500	90.4	**38.6**	0.664	<0.500	<1.00	--	--	--
	02MW-03	FW	--	10/01/01	**<0.500**	<250	<500	109	**46.6**	1.16	<0.500	<1.00	--	--	--
	02MW-03	FW	--	01/02/02	**<0.500**	<250	<500	<50.0	**7.84**	<0.500	<0.500	<1.00	--	--	--
	02MW-03	FW	--	04/02/02	**<0.500**	<250	<500	<50.0	**7.21**	<0.500	<0.500	<1.00	--	--	--
	02MW-03	FW	--	07/02/02	**<0.500**	<250	<500	143	**63.4**	2.17	<0.500	<1.00	--	--	--
	02MW-03	FW	--	10/02/02	--	<250	<500	122	**37.0**	0.572	<0.500	1.70	--	--	--
	02MW-03	FW	--	01/01/03	--	<250	<500	56.7	**17.7**	<1.00	<1.00	<3.00	--	--	--
	02MW-03	FW	--	04/01/03	--	<250	<500	10.5	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-03	TetraTech	--	08/01/03	--	<250	<500	<50.0	3.42	<0.500	<0.500	<1.00	--	--	--
	02MW-03	TetraTech	--	10/01/03	--	<250	<500	261	**123**	1.59	<0.500	2.72	--	--	--
	02MW-03	TetraTech	--	01/01/04	--	<250	<500	<50.0	0.787	<0.500	<0.500	<1.00	--	--	--
	02MW-03	TetraTech	--	04/01/04	--	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-03	TetraTech	--	07/14/04	--	<250	<500	<50.0	0.718	<0.500	<0.500	<1.00	--	--	--
	02MW-03	Landau	--	10/24/05	--	--	--	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02-MW-03-20060620	SoundEarth	LF	06/20/06	--	--	--	<50	<0.200	<0.200	<0.200	<0.750	<1.00	<0.200	<0.200
	02MW03-20061211	SoundEarth	LF	12/11/06	--	--	--	<50	4.20	<1.00	<1.00	<3.00	--	--	--
	02MW03-20090128	SoundEarth	LF	01/28/09	--	100[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW03-20090408	SoundEarth	LF	04/08/09	--	<50	<250	<100	<1	<1	<1	<3	--	--	--
02MW04	02MW-04	IT	--	09/28/99	--	<250	<500	**3,700**	**<30.0**	185	226	473	--	--	--
	02MW-04	FW	--	07/25/01	--	**1,410**	<500	**4,270**	**23.9**	231	165	484	--	--	--
	02MW-04A	FW	--	10/01/01	**<0.500**	<250	<500	**4,070**	**21.4**	262	285	594	--	--	--
	02MW-04B	FW	--	10/01/01	**<0.500**	<250	<500	**3,890**	**21.7**	257	291	590	--	--	--
	02MW-04A	FW	--	01/02/02	**<0.500**	<250	<500	**4,070**	**21.4**	262	285	594	--	--	--
	02MW-04B	FW	--	01/02/02	**<0.500**	<250	<500	**3,890**	**21.7**	257	291	590	--	--	--
	02MW-04A	FW	--	04/02/02	**<0.500**	<250	<500	**3,280**	**19.1**	172	255	525	--	--	--
	02MW-04B	FW	--	04/02/02	**<0.500**	<250	<500	**3,440**	**21.0**	193	288	591	--	--	--
	02MW-04A	FW	--	07/02/02	**<0.500**	<250	<500	**4,640**	**23.8**	165	330	558	--	--	--
	02MW-04B	FW	--	07/02/02	**<0.500**	<250	<500	**4,770**	**21.3**	178	362	612	--	--	--
	02MW-04A	FW	--	10/02/02	--	<250	<500	**3,200**	**24.6**	47.5	284	225	--	--	--
	02MW-04B	FW	--	10/02/02	--	<250	<500	**3,020**	**24.6**	45.9	288	226	--	--	--
	02MW-04A	FW	--	01/01/03	--	<250	<500	**4,720**	**16.4**	162	304	502	--	--	--
	02MW-04B	FW	--	01/01/03	--	<250	<500	**4,720**	**15.0**	170	294	542	--	--	--
	02MW-04A	FW	--	04/01/03	--	**555**	<500	**7,130**	**24.6**	796	363	735	--	--	--
	02MW-04B	FW	--	04/01/03	--	462	<500	**6,640**	**21.7**	187	351	710	--	--	--
	02MW-04A	TetraTech	--	08/01/03	--	483	<500	**4,610**	**32.6**	92.7	333	605	--	--	--
	02MW-04B	TetraTech	--	08/01/03	--	416	<500	**4,170**	**29.0**	81.3	299	526	--	--	--
	02MW-04A	TetraTech	--	10/01/03	--	<250	<500	**2,720**	**31.7**	29.0	333	162	--	--	--
	02MW-04B	TetraTech	--	10/01/03	--	<250	<500	**2,580**	**33.6**	28.6	316	163	--	--	--
	02MW-04A	TetraTech	--	01/01/04	--	<250	<500	**4,190**	**27.0**	115	276	572	--	--	--
	02MW-04B	TetraTech	--	01/01/04	--	<250	<500	**3,640**	**23.9**	105	253	522	--	--	--
	02MW-04A	TetraTech	--	04/01/04	--	<250	<500	**12,200**	**30.6**	286	**878**	**2,030**	--	--	--
	02MW-04B	TetraTech	--	04/01/04	--	<250	<500	**10,700**	**17.5**	265	**741**	**1,880**	--	--	--
	02MW-04A	TetraTech	--	07/14/04	--	<250	<500	**4,800**	**35.9**	54.5	308	584	--	--	--
	02MW-04B	TetraTech	--	07/14/04	--	<250	<500	**4,800**	**34.2**	54.5	305	570	--	--	--
	02MW-04A	TetraTech	--	11/17/04	--	<250	<500	**3,340**	**22.7**	25.6	215	220	--	--	--
	02MW-04B	TetraTech	--	11/17/04	--	<250	<500	**3,250**	**21.7**	24.1	188	211	--	--	--
	02MW-04	TetraTech	--	01/05/05	--	<250	<500	**2,610**	**20.5**	18.0	190	139	--	--	--
	02MW-04 DUP	TetraTech	--	01/05/05	--	<250	<500	**2,760**	**20.1**	15.8	179	124	--	--	--
	02MW-04	Landau	--	04/25/05	--	--	--	**3,830**	**19.0**	45.1	292	488	--	--	--
	02MW-04 DUP	Landau	--	04/25/05	--	--	--	**4,330**	**20.2**	49.1	337	465	--	--	--
	02MW-04	Landau	--	07/26/05	--	--	--	**6,580**	**25.5**	51	411	801	--	--	--
	02MW-04	Landau	--	10/24/05	--	--	--	**3,990**[J]	**29.2**	24.9	262	263	--	--	--
	02-MW-04-20060620	SoundEarth	LF	06/20/06	--	--	--	**3,880**	**20.1**	30.3	375	574	<1.00	<0.200	0.65
	02MW04-20061211	SoundEarth	LF	12/11/06	--	--	--	**4,800**	**17**	33	210	353	--	--	--
	MW-99-20061211	SoundEarth	LF	12/11/06		--	--	**6,000**	**19**	48	520	870			
	02MW04-20090128	SoundEarth	LF	01/28/09	--	**1,200**[x]	<250	**5,600**	**9**	23	220	300	--	--	--
	02MW04-20090408	SoundEarth	LF	04/08/09	--	490[x]	<250	**5,200**	**18**	41	280	450	--	--	--
	02MW04-20110414	SoundEarth	LF	04/14/11	--	--	--	**7,400**	**22**	50	290	370	--	--	--
MTCA Cleanup Level for Groundwater[7]					**0.22**[8]	**500**	**500**	**800**	**5**	**1,000**	**700**	**1,000**	**20**	**0.01**	**5**

SoundEarth Strategies

Table 12
Groundwater Analytical Results for PCP, TPH, BTEX, MTBE, EDB, and EDC
TOC Holdings Co. Facility No. 01-600
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Well Identification	Sample Identification	Sampled By	Sample Type	Date Sampled	Analytical Results (micrograms per liter)										
					PCP[1]	DRPH[2]	ORPH[2]	GRPH[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Total Xylenes[4]	MTBE[5]	EDB[5]	EDC[5]
02MW05	02MW-05	IT	--	09/28/99	--	<250	<500	<50.00	2.84	<0.500	<0.500	<1.00	--	--	--
	02MW-05	FW	--	07/25/01	--	997	<500	51.8	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-05	FW	--	10/01/01	**<0.500**	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-05	FW	--	01/02/02	**<0.500**	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-05	FW	--	04/02/02	**<0.500**	<250	<500	295	1.20	<0.500	<0.500	<1.00	--	--	--
	02MW-05	FW	--	07/02/02	**<0.500**	<250	<500	102	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-05	FW	--	10/02/02	--	<250	<500	61.6	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-05	FW	--	01/01/03	--	<250	<500	191	<1.00	<1.00	1.42	<3.00	--	--	--
	02MW-05	FW	--	04/01/03	--	280	<500	608	<0.500	<0.500	19.1	<1.00	--	--	--
	02MW-05	TetraTech	--	08/01/03	--	271	<500	63.8	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-05	TetraTech	--	10/01/03	--	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-05	TetraTech	--	01/01/04	--	<250	<500	326	<0.500	<0.500	1.03	<1.00	--	--	--
	02MW-05	TetraTech	--	04/01/04	--	<250	<500	364	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-05	TetraTech	--	07/14/04	--	<250	<500	209	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-05	TetraTech	--	11/17/04	--	<250	<500	178	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-05	TetraTech	--	01/05/05	--	<250	<500	310	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-05	Landau	--	04/25/05	--	--	--	575	0.922	<0.500	<0.500	<1.00	--	--	--
	02MW-05	Landau	--	10/24/05	--	--	--	335	<0.500	<0.500	<0.500	<1.00	--	--	--
	01MW-05 DUP	Landau	--	10/24/05	--	--	--	316	<0.500	<0.500	<0.500	<1.00	--	--	--
	02-MW-05-20060621	SoundEarth	LF	06/21/06	--	467	<500	387	<0.200	<0.200	<0.200	<0.750	<1.00	<0.200	<0.200
	02MW-05	Landau	--	07/26/06	--	--	--	503	0.781	<0.500	0.54	1.08	--	--	--
	01MW-05 DUP	Landau	--	07/26/06	--	--	--	505	0.727	<0.500	<0.500	<0.500	--	--	--
	02MW05-20061211	SoundEarth	LF	12/11/06	--	--	--	420	<1	<1	<1	<3	--	--	--
	02MW05-20090128	SoundEarth	LF	01/28/09	--	340[x]	1,000	270	<1	1	<1	<3	--	--	--
	02MW05-20090408	SoundEarth	LF	04/08/09	--	220[x]	<250	260	<1	<1	<1	<3	--	--	--
	02MW05-20090707	SoundEarth	LF	07/07/09	--	240[x]	<250	140	<1	<1	<1	<3	--	--	--
	02MW05-20100127	SoundEarth	LF	01/27/10	--	190[x]	<250	150	<1	<1	<1	<3	--	--	--
	02MW05-20100407	SoundEarth	LF	04/07/10	--	71[6],x	<250[6]	<100	<1	<1	<1	<3	--	--	--
	02MW05-20100709	SoundEarth	LF	07/09/10	--	52[6],x	<250[6]	120	<1	<1	<1	<3	--	--	--
	02MW05-20110112	SoundEarth	LF	01/12/11	--	55[6],x	<250[6]	120	<1	<1	<1	<3	--	--	--
	02MW05-20110414	SoundEarth	LF	04/14/11	--	110[x]	<250	<100	<1	1.4	<1	<3	--	--	--
	02MW05-20110823	SoundEarth	LF	08/23/11	--	140[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW05-20111208	SoundEarth	LF	12/08/11	--	110[x]	<250	190	<1	<1	<1	<3			
	02MW05-20120402	SoundEarth	LF	04/02/12	--	170[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW05-20121009	SoundEarth	LF	10/09/12	--	220[x]	<250	<100	<1	<1	<1	<3	--	--	--
02MW06	02MW-06	FW	--	07/25/01	--	923	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-06	FW	--	10/01/01	--	897	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-06	FW	--	01/02/02	**<0.500**	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-06	FW	--	04/02/02	0.991	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-06	FW	--	07/02/02	**<0.500**	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-06	FW	--	10/02/02	**<0.500**	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-06	FW	--	01/01/03	--	<250	<500	<50.0	<1.00	<1.00	<1.00	<3.00	--	--	--
	02MW-06	FW	--	04/01/03	--	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-06	TetraTech	--	08/01/03	--	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-06	TetraTech	--	10/01/03	--	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-06	TetraTech	--	01/01/04	--	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-06	TetraTech	--	04/01/04	--	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-06	TetraTech	--	07/14/04	--	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-06	Landau	--	10/24/05	--	--	--	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02-MW-06-20060620	SoundEarth	LF	06/20/06	--	--	--	<50	<0.200	<0.200	<0.200	<0.750	<1.00	<0.200	0.29
	02MW06-20061212	SoundEarth	LF	12/12/06	--	--	--	<50	<1	<1	<1	<3	--	--	--
	02MW06-20090128	SoundEarth	LF	01/28/09	--	160[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW06-20090408	SoundEarth	LF	04/08/09	--	<50	<250	<100	<1	<1	<1	<3	--	--	--
	02MW06-20090707	SoundEarth	LF	07/07/09	--	180[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW06-20100127	SoundEarth	LF	01/27/10	--	240[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW06-20100407	SoundEarth	LF	04/07/10	--	<50[6]	<250[6]	<100	<1	<1	<1	<3	--	--	--
	02MW06-20100709	SoundEarth	LF	07/09/10	--	<50[6]	<250[6]	<100	<1	<1	<1	<3	--	--	--
	02MW06-20110112	SoundEarth	LF	01/12/11	--	<50[6]	<250[6]	<100	<1	<1	<1	<3	--	--	--
	02MW06-20110415	SoundEarth	LF	04/15/11	--	140[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW06-20110824	SoundEarth	LF	08/24/11	--	230[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW06-20111206	SoundEarth	LF	12/06/11	--	140[x]	<250	<100	<1	<1	<1	<3			
	02MW06-20120406	SoundEarth	LF	04/06/12	--	150[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW06-20121009	SoundEarth	LF	10/09/12	--	210[x]	<250	<100	<1	<1	<1	<3	--	--	--
MTCA Cleanup Level for Groundwater[7]					**0.22[8]**	**500**	**500**	**800**	**5**	**1,000**	**700**	**1,000**	**20**	**0.01**	**5**

SoundEarth Strategies

Table 12
Groundwater Analytical Results for PCP, TPH, BTEX, MTBE, EDB, and EDC
TOC Holdings Co. Facility No. 01-600
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Well Identification	Sample Identification	Sampled By	Sample Type	Date Sampled	Analytical Results (micrograms per liter)										
					PCP[1]	DRPH[2]	ORPH[2]	GRPH[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Total Xylenes[4]	MTBE[5]	EDB[5]	EDC[5]
02MW07	02MW-07	FW	--	07/25/01	--	417	<500	244	<0.500	<0.500	<0.500	2.79	--	--	--
	02MW-07	FW	--	10/01/01	2.15	<250	<500	69.7	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-07	FW	--	01/02/02	1.64	<250	<500	92.5	<0.500	<0.500	<0.500	1.47	--	--	--
	02MW-07	FW	--	04/02/02	**<0.500**	<250	<500	251	<0.500	<0.500	<0.500	6.96	--	--	--
	02MW-07	FW	--	07/02/02	**<0.500**	<250	<500	242	<0.500	<0.500	<0.500	2.71	--	--	--
	02MW-07	FW	--	10/02/02	--	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-07	FW	--	01/01/03	--	<250	<500	146	<1.00	<1.00	<1.00	<3.00	--	--	--
	02MW-07	FW	--	04/01/03	--	<250	<500	177	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-07	TetraTech	--	08/01/03	--	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-07	TetraTech	--	10/01/03	--	<250	<500	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-07	TetraTech	--	01/01/04	--	<250	<500	182	<0.500	<0.500	<0.500	2.09	--	--	--
	02MW-07	TetraTech	--	04/01/04	--	<250	<500	143	<0.500	<0.500	<0.500	1.38	--	--	--
	02MW-07	TetraTech	--	07/14/04	--	<250	<500	131	<0.500	<0.500	<0.500	1.52	--	--	--
	02MW-07	TetraTech	--	11/17/04	--	<250	<500	80.4	<0.500	<0.500	<0.500	1.27	--	--	--
	02MW-07	TetraTech	--	01/05/05	--	<250	--	236	<0.500	<0.500	<0.500	2.1	--	--	--
	02MW-07	Landau	--	04/25/05	--	--	--	319	<0.500	<0.500	0.662	3.42	--	--	--
	02MW-07	Landau	--	07/26/05	--	--	--	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02MW-07	Landau	--	10/24/05	--	--	--	<50.0	<0.500	<0.500	<0.500	<1.00	--	--	--
	02-MW-07-20060620	SoundEarth	LF	06/20/06	--	--	--	<50	<0.200	<0.200	<0.200	<0.750	<1.00	<0.200	<0.200
	02MW07-20061211	SoundEarth	LF	12/11/06	--	--	--	<50	<1	<1	<1	<3	--	--	--
	02MW07-20090128	SoundEarth	LF	01/28/09	--	84[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW07-20090407	SoundEarth	LF	04/07/09	--	<50	<250	<100	<1	<1	<1	<3	--	--	--
	02MW07-20090707	SoundEarth	LF	07/07/09	--	140[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW07-20100125	SoundEarth	LF	01/25/10	--	63[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW07-20100406	SoundEarth	LF	04/06/10	--	<50[6]	<250[6]	<100	<1	<1	<1	<3	--	--	--
	02MW07-20100708	SoundEarth	LF	07/08/10	--	<50[6]	<250[6]	<100	<1	<1	<1	<3	--	--	--
	02MW07-20110112	SoundEarth	LF	01/12/11	--	<50[6]	<250[6]	<100	<1	<1	<1	<3	--	--	--
	02MW07-20110414	SoundEarth	LF	04/14/11	--	<50	<250	<100	<1	<1	<1	<3	--	--	--
	02MW07-20110823	SoundEarth	LF	08/23/11	--	150[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW07-20111206	SoundEarth	LF	12/06/11	--	240[x]	330[x]	<100	<1	<1	<1	<3	--	--	--
	02MW07-20120402	SoundEarth	LF	04/02/12	--	<50	<250	<100	<1	<1	<1	<3	--	--	--
	02MW07-20121009	SoundEarth	LF	10/09/12	--	75[x]	<250	<100	<1	<1	<1	<3	--	--	--
02MW08	02-MW-08-20060621	SoundEarth	LF	06/21/06	--	<253	<505	<50	<0.200	<0.200	<0.200	<0.750	<1.00	<0.200	<0.200
	02MW08-20061211	SoundEarth	LF	12/11/06	--	150	350	<50	<1	<1	<1	<3	<1	<1	<1
	02MW08-20090707	SoundEarth	LF	07/07/09	--	59[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW08-20100127	SoundEarth	LF	01/27/10	--	54[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW08-20100406	SoundEarth	LF	04/06/10	--	<50	<250	<100	<1	<1	<1	<3	--	--	--
	02MW08-20100709	SoundEarth	LF	07/09/10	--	<50[6]	<250[6]	<100	<1	<1	<1	<3	--	--	--
	02MW08-20110112	SoundEarth	LF	01/12/11	--	<50[6]	<250[6]	<100	<1	<1	<1	<3	--	--	--
	02MW08-20110414	SoundEarth	LF	04/14/11	--	<50	<250	<100	<1	<1	<1	<3	--	--	--
	02MW08-20110823	SoundEarth	LF	08/23/11	--	61[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW08-20111208	SoundEarth	LF	12/08/11	--	<50	<250	<100	<1	<1	<1	<3	--	--	--
	02MW08-20120402	SoundEarth	LF	04/02/12	--	65	<250	<100	<1	<1	<1	<3	--	--	--
	02MW08-20121010	SoundEarth	LF	10/10/12	--	<50	<250	<100	<1	<1	<1	<3	--	--	--
02MW09	02MW09-20071012	SoundEarth	LF	10/12/07	--	350[xx]	<330	<100	<1	<1	<1	<3	--	--	--
	02MW09-20090127	SoundEarth	LF	01/27/09	--	<50	<250	<100	<1	<1	<1	<3	--	--	--
02MW10	02MW10-20071012	SoundEarth	LF	10/12/07	--	200[xx]	<320	<100	<1	<1	<1	<3	--	--	--
	02MW10-20090128	SoundEarth	LF	01/28/09	--	97[x]	<250	<100	<1	<1	<1	<3	--	--	--
	02MW10-20090408	SoundEarth	LF	04/08/09	--	<50	<250	<100	<1	<1	<1	<3	--	--	--
	02MW10-20090708	SoundEarth	LF	07/08/09	--	91[x]	<250	<100	<1	<1	<1	<3	--	--	--
02MW11	02MW11-20071012	SoundEarth	LF	10/12/07	--	1,000[xx]	<250	1,700	2	14	13	25	--	--	--
	--	SoundEarth	LF	01/28/09	Not sampled; unable to remove slip cap										
	--	SoundEarth	LF	04/06/09	Not sampled; unable to remove slip cap										
	02MW11-20090708	SoundEarth	LF	07/08/09	--	220[x]	<250	970	1	<1	6	15	--	--	--
	02MW11-20100127	SoundEarth	LF	01/27/10	--	460[x]	<250	910	<1	6	4	10	--	--	--
	02MW11-20100407	SoundEarth	LF	04/07/10	--	260[6],[x]	<250[6]	650	<1	<1	2	7	--	--	--
	02MW11-20100709	SoundEarth	LF	07/09/10	--	190[6],[x]	<250[6]	1,100	1.2	6.4	5.0	13	--	--	--
	02MW11-20110112	SoundEarth	LF	01/12/11	--	190[6],[x]	<250[6]	950	<1	<1	3.8	5.6	--	--	--
	02MW11-20110414	SoundEarth	LF	04/14/11	--	200[x]	<250	330	<1	1.7	<1	<3	--	--	--
	02MW11-20110824	SoundEarth	LF	08/24/11	--	120[x]	<250	470	<1	2.9	1.3	4.1	--	--	--
	02MW11-20111206	SoundEarth	LF	12/06/11	--	280[x]	<250	1,300	1.0	10	6.2	17	--	--	--
	02MW11-20120406	SoundEarth	LF	04/06/12	--	150[x]	<250	610	<1	3.8	<1	5.9	--	--	--
	02MW11-20121010	SoundEarth	LF	10/10/12	--	400[x]	<250	600	<1	<1	<1	8.3	--	--	--
MTCA Cleanup Level for Groundwater[7]					**0.22[8]**	**500**	**500**	**800**	**5**	**1,000**	**700**	**1,000**	**20**	**0.01**	**5**

SoundEarth Strategies

Table 12
Groundwater Analytical Results for PCP, TPH, BTEX, MTBE, EDB, and EDC
TOC Holdings Co. Facility No. 01-600
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Well Identification	Sample Identification	Sampled By	Sample Type	Date Sampled	Analytical Results (micrograms per liter)										
					PCP[1]	DRPH[2]	ORPH[2]	GRPH[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Total Xylenes[4]	MTBE[5]	EDB[5]	EDC[5]
02MW12	02MW12-20071012	SoundEarth	LF	10/12/07	--	2,500[xx]	<250	9,800	400	33	710	20	--	--	--
	02MW12-20090128	SoundEarth	LF	01/28/09	--	1,600[x]	<250	7,400	460	44	700	340	--	--	--
	02MW99-20090128 (DUP)	SoundEarth	LF	01/28/09	--	1,700[x]	<250	10,000	500	47	760	360	--	--	--
	02MW12-20090407	SoundEarth	LF	04/07/09	--	680	<250	9,600	490	59	920	870	--	--	--
	MW99-20090407 (DUP)	SoundEarth	LF	04/07/09	--	590	<250	9,400	490	58	920	860	--	--	--
	02MW12-20090708	SoundEarth	LF	07/08/09	--	1,400[x]	<250	8,400	430	46	720	530	--	--	--
	02MW97-20090708 (DUP)	SoundEarth	LF	07/08/09	--	1,500[x]	<250	8,400	420	46	700	510	--	--	--
	02MW12-20100127	SoundEarth	LF	01/27/10	--	1,800[x]	320[y]	9,000	350	41	670	440	--	--	--
	02MW98-20100127 (DUP)	SoundEarth	LF	01/27/10	--	1,700[x]	310[y]	9,300	360	43	690	450	--	--	--
	02MW12-20100407	SoundEarth	LF	04/07/10	--	440[6,x]	<250[6]	11,000	240	48	790	860	--	--	--
	02MW98-20100407 (DUP)	SoundEarth	LF	04/07/10	--	450[6,x]	<250[6]	10,000	230	45	770	830	--	--	--
	02MW12-20100708	SoundEarth	LF	07/08/10	--	370[x]	<250	11,000	400	54	820	650	--	--	--
	02MW98-20100708 (DUP)	SoundEarth	LF	07/08/10	--	410[x]	<250	9,100	370	36	600	440	--	--	--
	02MW12-20110112	SoundEarth	LF	01/12/11	--	400[x]	<250	9,000	430	62	870	750	--	--	--
	FD02-20110112 (DUP)	SoundEarth	LF	01/12/11	--	350[x]	<250	8,700	420	58	870	740	--	--	--
	02MW12-20110414	SoundEarth	LF	04/14/11	--	1,400[x]	<250	10,000	370	59	810	810	--	--	--
	FD02-20110414 (DUP)	SoundEarth	LF	04/14/11	--	1,100[x]	<250	10,000	380	60	820	810	--	--	--
	02MW12-20110824	SoundEarth	LF	08/24/11	--	1,500[x]	<250	8,100	310	48	790	720	--	--	--
	FD02-20110824 (DUP)	SoundEarth	LF	08/24/11	--	1,400[x]	<250	8,200	320	48	780	710	--	--	--
	02MW12-20111212	SoundEarth	LF	12/12/11	--	1,100[x]	<250	9,200	360	48	920	480	--	--	--
	FD02-2011212 (DUP)	SoundEarth	LF	12/12/11	--	940[x]	<250	8,900	350	48	910	470	--	--	--
	02MW12-20120406	SoundEarth	LF	04/06/12	--	880[x]	<250	5,700	57	14	640	120	--	--	--
	FD02-20120406 (DUP)	SoundEarth	LF	04/06/12	--	720[x]	<250	5,800	59	14	660	130	--	--	--
	02MW12-20121010	SoundEarth	LF	10/10/12	--	1,200[x]	<250	5,200	360	33	680	410	--	--	--
	FD02-20121010 (DUP)	SoundEarth	LF	10/10/12	--	1,200[x]	<250	5,600	360	34	750	450	--	--	--
02MW13	02MW13-20071207	SoundEarth	LF	12/07/07	--	<50	<250	<100	<1	<1	<1	<3	<1	<1	<1
	02MW13-20090127	SoundEarth	LF	01/27/09	--	<50	<250	<100	<1	<1	<1	<3	--	--	<1
	02MW13-20090407	SoundEarth	LF	04/07/09	--	<50	<250	<100	<1	<1	<1	<3	--	--	<1
	02MW13-20090706	SoundEarth	LF	07/06/09	--	65[x]	<250	<100	<1	<1	<1	<3	--	--	<1
	02MW13-20100125	SoundEarth	LF	01/25/10	--	87[x]	320	<100	<1	<1	<1	<3	--	--	<1
	02MW13-20100406	SoundEarth	LF	04/06/10	--	100[6,x]	<250[6]	<100	<1	<1	<1	<3	--	--	<1
	02MW13-20100708	SoundEarth	LF	07/08/10	--	<50[6]	<250[6]	<100	<1	<1	<1	<3	--	--	<1
	02MW13-20110112	SoundEarth	LF	01/12/11	--	<50[6]	<250[6]	<100	<1	<1	<1	<3	--	--	<1
	02MW13-20110414	SoundEarth	LF	04/14/11	--	54[x]	<250	<100	<1	<1	<1	<3	--	--	<1
MTCA Cleanup Level for Groundwater[7]					**0.22[8]**	**500**	**500**	**800**	**5**	**1,000**	**700**	**1,000**	**20**	**0.01**	**5**

NOTES:

Red denotes concentration exceeds MTCA cleanup level for groundwater.

Bold denotes concentration below laboratory detection limit, but exceeding the MTCA cleanup level for groundwater; The detection limit has been raised due to associated analytes requiring dilution and/or historical cleanup levels that historical detection limits were based upon.

Data prior to 2006 was obtained from previous consultants. All other sample analyses conducted by TestAmerica Laboratories, Inc. of Bothell, Washington or Friedman & Bruya, Inc. of Seattle, Washington.

[1]Analyzed by EPA Method 8270C-SIM.

[2]Analyzed by Method NWTPH-Dx.

[3]Analyzed by Method NWTPH-Gx.

[4]Analyzed by EPA Method 8021B or 8260B.

[5]Analyzed by EPA Method 8260B or 8260C.

[6]Analyzed by Method NWTPH-Dx following a silica gel cleanup sample preparation.

[7]MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 720-1 Method A Cleanup Levels for Groundwater, revised November 2007.

[8]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Groundwater, Method B, Carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

Laboratory Notes:

[i]The associated numerical value is the approximate concentration of the analyte in the sample.

[xx]The pattern of peaks present is not indicative of diesel.

[x,y] The pattern of peaks present is not indicative of diesel or motor oil or the sample chromatographic pattern does not resemble the fuel standard used for quantitation.

-- = not analyzed/not applicable

< = not detected at a concentration exceeding the laboratory reporting limit

BTEX = benzene, toluene, ethylbenzene, and total xylenes

CLARC = Cleanup Levels and Risk Calculations

DRPH = diesel-range petroleum hydrocarbons

EDB = 1,2-dibromoethane

EDC = 1,2-dichloroethane

EPA = U.S. Environmental Protection Agency

FW = Foster Wheeler Environmental Corporation

GRPH = gasoline-range petroleum hydrocarbons

IT = IT Corporation

Landau = Landau Associates, Inc.

LF = low flow

MTBE = methyl tertiary-butyl ether

MTCA = Washington State Model Toxics Control Act

NWTPH = Northwest Total Petroleum Hydrocarbon

ORPH = oil-range petroleum hydrocarbons

PCP = pentachlorophenol

SoundEarth = SoundEarth Strategies, Inc.

TetraTech = TetraTech EC, Inc.

TPH = total petroleum hydrocarbons

WAC = Washington Administrative Code

SoundEarth Strategies

Table 13
Groundwater Analytical Results for VOCs
TOC Holdings Co. Facility No. 01-600
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Well Identification	Sample Identification	Date Sampled	Analytical Results[1] (micrograms per liter)																	
			Tetrachloroethene	Trichloroethene	Cis-1,2-Dichloroethene	Trans-1,2-Dichloroethene	1,1-Dichloroethene	Vinyl Chloride	1,2,4 Trimethylbenzene	1,3,5 Trimethylbenzene	Naphthalene	Acetone	Isopropylbenzene	n-Butylbenzene	n-Hexane	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	2-Butanone
02MW01	02-MW-01-20060620	06/20/06	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	0.460	<0.500	1.56	<10.0	0.740	<0.200	<1.00	<0.500	<0.200	<0.200	<0.500	<2.00
02MW02	02-MW-02-20060620	06/20/06	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.500	<0.500	<10.0	<0.500	<0.200	<1.00	<0.500	<0.200	<0.200	<0.500	<2.00
02MW03	02-MW-03-20060620	06/20/06	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.500	<0.500	<10.0	<0.500	<0.200	<1.00	<0.500	<0.200	<0.200	<0.500	<2.00
02MW04	02-MW-04-20060620	06/20/06	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	123	64.1	13.4	<10.0	26.8	2.03	236	33.6	<0.200	3.56	1.60	32.5
02MW05	02-MW-05-20060621	06/21/06	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	0.370	<0.500	<0.500	<10.0	6.20	1.32	<1.00	3.93	<0.200	0.910	<0.500	<2.00
02MW06	02-MW-06-20060620	06/20/06	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.500	<0.500	<10.0	<0.500	<0.200	<1.00	<0.500	<0.200	<0.200	<0.500	<2.00
02MW07	02-MW-07-20060620	06/20/06	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.500	<0.500	<10.0	<0.500	<0.200	<1.00	<0.500	<0.200	<0.200	<0.500	<2.00
02MW08	02-MW-08-20060621	06/21/06	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.500	<0.500	<10.0	<0.500	<0.200	<1.00	<0.500	<0.200	<0.200	<0.500	<2.00
	02MW08-20061211	12/11/06	<1	<1	<1	<1	<1	<0.2	<1	<1	<1.00	<10	<1	--	--	<1	<1	<1	<1	<10
02MW13	02MW13-20071207	12/07/07	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<10	<1	--	<1	<1	<1	<1	<1	<10
	02MW13-20090127	01/27/09	<1	<1	<1	<1	<1	<0.2	--	--	--	--	--	--	--	--	--	--	--	--
	02MW13-20090407	04/07/09	<1	<1	<1	<1	<1	<0.2	--	--	--	--	--	--	--	--	--	--	--	--
	02MW13-20090706	07/06/09	<1	<1	<1	<1	<1	<0.2	--	--	--	--	--	--	--	--	--	--	--	--
	02MW13-20100125	01/25/10	<1	<1	<1	<1	<1	<0.2	--	--	--	--	--	--	--	--	--	--	--	--
	02MW13-20100406	04/06/10	<1	<1	<1	<1	<1	<0.2	--	--	--	--	--	--	--	--	--	--	--	--
	02MW13-20100708	07/08/10	<1	<1	<1	<1	<1	<0.2	--	--	--	--	--	--	--	--	--	--	--	--
	02MW13-20110112	01/12/11	<1	<1	<1	<1	<1	<0.2	--	--	--	--	--	--	--	--	--	--	--	--
	02MW13-20110414	04/14/11	<1	<1[ht]	<1	<1	<1	<0.2	--	--	--	--	--	--	--	--	--	--	--	--
MTCA Cleanup Level for Groundwater			**5**[2]	**5**[2]	**16**[3]	**160**[3]	**400**[3]	**0.2**[2]	**NE**	**80**[3]	**160**[2]	**7,200**[3]	**800**[3]	**NE**	**480**[3]	**NE**	**NE**	**NE**	**NE**	**4,800**[3]

NOTES:

Sample analyses conducted by TestAmerica Laboratories, Inc. of Bothell, Washington, or Friedman & Bruya, Inc. of Seattle, Washington.

[1]Samples analyzed by EPA Method 8260B or 8260C.

[2]MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 720-1 Method A Cleanup Levels for Groundwater, revised November 2007.

[3]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Groundwater, Method B, Non-Carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

Laboratory Note:

[ht]The detection of trichloroethane in the original 8260C analysis of the samples was determined to be due to carryover from previous sample injections. The samples were reanalyzed out of the holding time.

-- = not analyzed/not applicable

< = not detected at a concentration exceeding the laboratory reporting limit

CLARC = Cleanup Levels and Risk Calculations

EPA = U.S. Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

NE = cleanup level not established

VOCs = volatile organic compounds

WAC = Washington Administrative Code

Table 14
Groundwater Analytical Results for Total and Dissolved Lead
TOC Holdings Co. Facility No. 01-600
East Waterfront Property
2750 West Commodore Way
Seattle, Washington

Well Identification	Sample Identification	Date Sampled	Analytical Results[1] (micrograms per liter) Lead	
			Total	Dissolved
Shallow Water-Bearing Zone				
02MW01	02MW-01	09/28/99	**36**	--
	02MW-01	07/25/01	<1.00	--
	02MW-01	10/01/01	<1.00	<1.00
	02MW-01	01/01/02	<1.00	<1.00
	02MW-01	04/01/02	<1.00	<1.00
	02MW-01	07/01/02	<1.00	<1.00
02MW02	02MW-02	09/28/99	**133**	--
	02MW-02	07/25/01	<1.00	--
	02MW-02	10/01/01	<1.00	<1.00
	02MW-02	01/01/02	<1.00	<1.00
	02MW-02	04/01/02	<1.00	<1.00
	02MW-02	07/01/02	<1.00	<1.00
02MW03	02MW-03	09/28/99	<1.00	--
	02MW-03	07/25/01	<1.00	--
	02MW-03	10/01/01	<1.00	<1.00
	02MW-03	01/01/02	<1.00	<1.00
	02MW-03	04/01/02	<1.00	<1.00
	02MW-03	07/01/02	<1.00	<1.00
02MW04	02MW04	09/28/99	**35.9**	--
	02MW04	07/25/01	4.68	--
	02MW04	10/01/01	6.50	6.06
	02MW04	10/01/01	6.68	4.01
	02MW04	01/01/02	4.35	3.24
	02MW04	01/01/02	5.27	<1.00
	02MW04	04/01/02	5.34	2.88
	02MW04	04/01/02	4.86	3.42
	02MW04	07/01/02	5.54	3.68
	02MW04	07/01/02	5.32	2.91
02MW05	02MW05	09/28/99	**86.3**	--
	02MW-05	07/25/01	<1.00	--
	02MW-05	10/01/01	<1.00	<1.00
	02MW-05	01/01/02	<1.00	<1.00
	02MW-05	04/01/02	<1.00	<1.00
	02MW-05	07/01/02	<1.00	<1.00
02MW06	02MW-06A	07/25/01	<1.00	--
	02MW-06B	07/25/01	<1.00	--
	02MW-06	10/01/01	<1.00	<1.00
	02MW-06	01/01/02	<1.00	<1.00
	02MW-06	04/01/02	<1.00	<1.00
	02MW-06	07/01/02	<1.00	<1.00
02MW07	02MW07	07/25/01	<1.00	--
02MW13	02MW13-20071207	12/07/07	<1	<1
MTCA Cleanup Level for Groundwater			**15**[2]	

NOTES:

Red denotes concentration exceeds MTCA cleanup level for groundwater.

Data prior to 2006 from previous consultants. Other sample analyses conducted by TestAmerica Laboratories, Inc. of Bothell, Washington, or Friedman & Bruya, Inc. of Seattle, Washington.

[1]Samples analyzed by EPA Method 6010/7000 or 200.8.

[2]MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 720-1 Method A Cleanup Levels for Groundwater, revised November 2007.

-- = not analyzed

< = not detected at a concentration exceeding the laboratory reporting limit

EPA = U.S. Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

WAC = Washington Administrative Code

SoundEarth Strategies

Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
Bulk Terminal Property									
Shallow Water-Bearing Zone									
01MW01	Northwest of Former Tank Yard	46.48	10	25	06/20/06	--	14.13	--	32.35
					12/11/06	--	13.60	--	32.88
					09/05/08	--	14.85	--	31.63
		46.39			01/26/09	--	13.45	--	32.94
					04/06/09	--	12.90	--	33.49
					07/06/09	--	13.72	--	32.67
					10/06/09	--	14.85	--	31.54
					01/25/10	--	12.86	--	33.53
					04/05/10	--	12.70	--	33.69
					07/06/10	--	13.43	--	32.96
					09/22/10	--	13.76	--	32.63
					01/06/11	--	11.50	--	34.89
					04/11/11	--	11.82	--	34.57
					08/22/11	--	13.72	--	32.67
					12/05/11	--	13.85	--	32.54
					04/02/12	--	12.05	--	34.34
					10/08/12	--	15.30	--	31.09
01MW04	Former HQ USTs	45.08	10	25	06/20/06	--	14.91	--	30.17
					12/11/06	--	13.15	--	31.93
					09/05/08	--	14.62	--	30.46
		45.01			01/26/09	--	14.06	--	30.95
					04/06/09	--	10.34	--	34.67
					07/06/09	--	14.74	--	30.27
					10/06/09	--	15.58	--	29.43
					01/25/10	--	11.60	--	33.41
					04/05/10	--	8.52	--	36.49
					07/06/10	--	14.32	--	30.69
					01/06/11	--	11.81	--	33.20
					04/11/11	--	12.39	--	32.62
					08/22/11	--	14.96	--	30.05
					12/05/11	--	13.95	--	31.06
					04/02/12	--	8.03	--	36.98
					10/08/12	--	15.41	--	29.60
01MW05	Former HQ USTs	45.40	10	25	10/01/03	--	--	1.90	27.79
					04/01/04	15.47	19.57	4.10	29.11
					07/15/04	15.47	19.57	4.10	29.11
					11/17/04	16.25	18.65	2.40	28.67
					10/24/05	16.38	19.45	3.07	28.41
					06/20/06	15.67	18.43	2.76	29.18
					12/11/06	15.94	15.94	0.00	29.46
					09/05/08	15.56	19.09	3.53	29.13
		45.28			01/26/09	15.15	16.71	1.56	29.82
					04/06/09	13.85	15.35	1.50	31.13
					07/06/09	15.60	18.16	2.56	29.17
					01/25/10	13.73	15.90	2.17	31.12
					04/05/10	13.21	14.67	1.46	31.78
					07/06/10	15.12	17.89	2.77	29.61
					01/06/11	13.14	16.81	3.67	31.41
					04/11/11	14.63	17.70	3.07	30.04
					08/22/11	15.43	20.00	4.57	28.94
					12/05/11	14.69	18.92	4.23	29.74
					04/02/12	12.77	15.04	2.27	32.06
					10/08/12	15.69	20.76	5.07	28.58
					10/08/12	10.03	15.06	5.03	34.24

SoundEarth Strategies

Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
Bulk Terminal Property									
Shallow Water-Bearing Zone									
01MW06	New Barrel Shed	47.74	10	25	06/20/06	--	15.92	--	31.82
					12/11/06	--	15.24	--	32.50
					09/05/08	--	15.85	--	31.89
		47.73			01/26/09	--	15.50	--	32.23
					04/06/09	--	14.64	--	33.09
					07/06/09	--	15.59	--	32.14
					01/25/10	--	14.47	--	33.26
					04/05/10	--	14.05	--	33.68
					07/06/10	--	15.23	--	32.50
					01/06/11	--	13.41	--	34.32
					04/11/11	--	13.85	--	33.88
					08/22/11	--	15.57	--	32.16
					12/05/11	--	15.51	--	32.22
					04/02/12	--	13.86	--	33.87
					09/04/12	--	15.83	--	31.90
					10/08/12	--	16.18	--	31.55
01MW08	Former HQ USTs	45.21	10	25	06/20/06	--	16.43	--	28.78
					12/11/06	--	15.70	--	29.51
					09/05/08	--	16.33	--	28.88
		45.15			01/26/09	--	15.82	--	29.33
					04/06/09	--	14.76	--	30.39
					07/06/09	--	16.31	--	28.84
					01/25/10	--	14.76	--	30.39
					04/05/10	--	14.35	--	30.80
					07/06/10	--	15.94	--	29.21
					01/06/11	--	14.31	--	30.84
					04/11/11	--	14.84	--	30.31
					08/22/11	--	16.40	--	28.75
					12/05/11	--	15.84	--	29.31
					04/02/12	--	14.10	--	31.05
					09/04/12	--	16.36	--	28.79
					10/08/12	--	16.74	--	28.41
01MW12	Former Tank Yard	45.84	5	20	06/20/06	--	6.82	--	39.02
					12/11/06	--	5.49	--	40.35
					09/05/08	--	6.49	--	39.35
		45.78			01/26/09	--	6.22	--	39.56
					04/06/09	--	3.88	--	41.90
					07/06/09	--	7.11	--	38.67
					10/06/09	--	7.62	--	38.16
					01/25/10	--	4.42	--	41.36
					04/05/10	--	3.99	--	41.79
					07/06/10	--	9.05	--	36.73
					09/22/10	--	10.02	--	35.76
					01/06/11	--	6.33	--	39.45
					04/11/11	--	5.23	--	40.55
					08/22/11	--	9.37	--	36.41
					12/05/11	--	7.61	--	38.17
					04/02/12	Not measured; wellhead submerged			
					10/08/12	Not measured; inaccessible			
01MW13	Former Tank Yard	46.36	15	20	06/20/06	--	6.62	--	39.74
					12/11/06	--	6.65	--	39.71
					09/05/08	--	--	--	--
		46.35			01/26/09	--	6.64	--	39.71
					04/06/09	--	5.08	--	41.27
					07/06/09	--	6.77	--	39.58
					10/06/09	--	7.78	--	38.57
					01/25/10	--	4.79	--	41.56
					04/05/10	--	4.09	--	42.26

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Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
Bulk Terminal Property									
Shallow Water-Bearing Zone									
01MW13 (continued)	Former Tank Yard	46.35	15	20	07/06/10	--	7.68	--	38.67
					09/22/10	--	8.75	--	37.60
					01/06/11	--	6.13	--	40.22
					04/11/11	--	4.99	--	41.36
					08/22/11	--	8.35	--	38.00
					12/05/11	--	7.59	--	38.76
					04/02/12	--	4.30	--	42.05
					10/08/12	--	9.09	--	37.26
01MW14	Former PCP Mixing AST	46.15	5	15	07/01/01	--	--	6.7	--
		D E C O M M I S S I O N E D 2 0 0 2							
01MW17	Upgradient (27th Avenue West and West Fort Street)	59.42	15	30	07/02/01	--	19.21	--	40.21
					12/11/06	--	19.31	--	40.11
					09/05/08	--	19.81	--	39.61
		59.33			01/26/09	--	19.51	--	39.82
					04/06/09	--	18.47	--	40.86
					07/06/09	--	19.24	--	40.09
					10/06/09	--	20.32	--	39.01
					01/25/10	--	17.86	--	41.47
					04/05/10	--	16.97	--	42.36
					07/06/10	--	18.71	--	40.62
					01/06/11	--	17.90	--	41.43
					04/11/11	--	16.92	--	42.41
					08/22/11	--	19.49	--	39.84
					12/05/11	--	19.64	--	39.69
					04/02/12	--	17.68	--	41.65
					10/08/12	--	19.83	--	39.50
01MW18	Former HQ USTs	45.18	5	20	07/02/02	--	--	0.01[3]	--
					06/20/06	--	16.33	--	28.85
					12/11/06	--	15.42	--	29.76
					09/05/08	--	16.15	--	29.03
		45.09			01/26/09	--	15.65	--	29.44
					04/06/09	--	14.25	--	30.84
					07/06/09	--	16.17	--	28.92
					01/25/10	--	14.33	--	30.76
					04/05/10	--	13.70	--	31.39
					07/06/10	--	15.78	--	29.31
					01/06/11	--	13.99	--	31.10
					04/11/11	--	14.57	--	30.52
					08/22/11	--	16.34	--	28.75
					12/05/11	--	15.58	--	29.51
					04/02/12	--	13.42	--	31.67
					10/08/12	--	16.67	--	28.42
01MW19	Former HQ USTs	45.35	5	20	06/20/06	--	16.40	--	28.95
					12/11/06	--	15.58	--	29.77
					09/05/08	--	16.23	--	29.12
		45.27			01/26/09	--	15.69	--	29.58
					04/06/09	--	14.49	--	30.78
					07/06/09	--	16.22	--	29.05
					01/25/10	--	14.49	--	30.78
					04/05/10	--	14.00	--	31.27
					07/06/10	--	15.85	--	29.42
					01/06/11	--	14.12	--	31.15
					04/11/11	--	14.63	--	30.64
					08/22/11	--	16.34	--	28.93
					12/05/11	--	15.66	--	29.61
					04/02/12	--	13.71	--	31.56
					10/08/12	--	16.69	--	28.58

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Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
Bulk Terminal Property									
Shallow Water-Bearing Zone									
01MW20	Former HQ USTs	46.27	5	20	06/20/06	--	16.24	--	30.03
					12/11/06	--	15.31	--	30.96
					09/05/08	--	16.09	--	30.18
		46.18			01/26/09	--	15.59	--	30.59
					04/06/09	--	14.28	--	31.90
					07/06/09	--	16.05	--	30.13
					01/25/10	--	14.14	--	32.04
					04/05/10	--	13.77	--	32.41
					07/06/10	--	15.66	--	30.52
					01/06/11	--	13.79	--	32.39
					04/11/11	--	14.34	--	31.84
					08/22/11	--	16.21	--	29.97
					12/05/11	--	15.55	--	30.63
					04/02/12	--	13.46	--	32.72
					10/08/12	--	16.60	--	29.58
01MW21	Former PCP Mixing AST	46.21	5	22	06/20/06	--	6.60	--	39.61
					12/11/06	--	6.12	--	40.09
					09/05/08	--	6.69	--	39.52
		46.14			01/26/09	--	6.24	--	39.90
					04/06/09	--	5.33	--	40.81
					07/06/09	--	6.78	--	39.36
					10/07/09	--	7.68	--	38.46
					01/25/10	--	4.51	--	41.63
					04/05/10	3.86	3.90	0.04	42.27
					07/06/10	--	8.96	--	37.18
					09/22/10	--	10.39	--	35.75
					01/06/11	--	7.43	--	38.71
					04/11/11	--	4.94	--	41.20
					08/22/11	--	9.19	--	36.95
		D E C O M M I S S I O N E D 2 0 1 1							
01MW22	Former PCP Mixing AST	46.11	5	24	10/01/03	8.35	8.43	0.08	37.74
					01/01/04	6.66	6.86	0.20	39.41
					04/01/04	5.88	6.38	0.50	40.13
					07/15/04	7.15	7.17	0.02	38.96
					11/17/04	6.95	6.97	0.02	39.16
					10/24/05	8.05	8.30	0.25	38.01
					06/20/06	7.79	7.94	0.15	38.29
					12/11/06	5.99	6.04	0.05	40.11
					09/05/08	--	--	--	--
		46.05			01/26/09	6.13	6.44	0.31	39.86
					04/06/09	4.05	4.40	0.35	41.93
					07/06/09	7.25	7.54	0.29	38.74
					10/06/09	7.75	7.82	0.07	38.29
					01/25/10	3.99	4.12	0.13	42.03
					04/05/10	3.71	3.75	0.04	42.33
					07/06/10	9.70	9.84	0.14	36.32
					01/06/11	--	6.90	--	39.15
					04/11/11	--	5.49	--	40.56
					08/22/11	--	9.76	--	36.29
		D E C O M M I S S I O N E D 2 0 1 1							

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Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
Bulk Terminal Property									
Shallow Water-Bearing Zone									
01MW23	Former PCP Mixing AST	45.81	5	19	04/01/04	5.40	5.45	0.05	40.40
					07/15/04	7.64	7.74	0.10	38.15
					11/17/04	7.37	7.48	0.11	38.42
					10/24/05	--	8.45	--	37.24
					06/20/06	7.81	7.82	0.01	38.00
					12/11/06	Not measured; skimmer in well			
					09/05/08	6.53	6.91	0.38	39.20
					01/26/09	6.26	6.76	0.50	39.45
					04/06/09	Not measured; skimmer in well			
					07/06/09	7.29	8.15	0.86	38.35
					10/06/09	7.57	8.09	0.52	38.14
					01/25/10	4.20	4.41	0.21	41.57
					04/05/10	4.03	4.56	0.53	41.67
					07/06/10	9.43	10.20	0.77	36.23
					01/06/11	--	6.42	--	39.39
					04/11/11	5.36	5.43	0.07	40.44
					08/22/11	9.92	9.93	0.01	35.89
					12/05/11	--	7.50	--	38.31
					04/02/12	Not measured; wellhead submerged			
		DECOMMISSIONED 2012							
01MW24	Former Valve Pit	--	5	19	10/01/03	--	--	0.11	--
					01/01/04	--	--	0.39	--
					04/01/04	--	--	0.15	--
					07/15/04	7.85	8.15	0.30	--
					11/17/04	--	--	--	--
					10/24/05	9.10	9.37	0.27	--
		44.07			06/20/06	Not measured; wellhead submerged			
					12/11/06	13.13	--	--	--
					09/05/08	Not measured; wellhead submerged			
					01/26/09	Not measured; wellhead submerged			
					04/06/09	Not measured; wellhead submerged			
					07/06/09	7.87	8.40	0.53	36.09
					10/06/09	6.86	7.01	0.15	37.18
					01/25/10	Not measured; wellhead submerged			
					04/05/10	1.85	4.82	2.97	41.63
					07/06/10	8.89	9.40	0.51	35.08
					09/22/10	8.91	9.56	0.65	35.03
					04/11/11	Not measured; wellhead submerged			
					08/22/11	9.07	9.13	0.06	34.99
					12/05/11	--	6.09	--	37.98
					04/02/12	Not measured; wellhead submerged			
					10/08/12	Not measured; inaccessible			
01MW25	Former Valve Pit	--	5	17	07/01/04	--	--	0.01[3]	--
					10/24/05	8.54	10.21	1.67	--
		43.98			06/20/06	Not measured; wellhead submerged			
					12/11/06	5.83	--	--	--
					09/05/08	Not measured; wellhead submerged			
					01/26/09	Not measured; wellhead submerged			
					04/06/09	Not measured; wellhead submerged			
					07/06/09	6.30	9.14	2.84	37.11
					10/06/09	5.91	8.21	2.30	37.61
					01/25/10	Not measured; rising LNAPL			
					04/05/10	3.43	3.59	0.16	40.52
					07/06/10	7.51	11.44	3.93	35.68
					09/22/10	8.54	9.85	1.31	35.18
					04/11/11	Not measured; wellhead submerged			
					08/22/11	8.42	8.43	0.01	35.56
					12/05/11	--	8.47	--	35.51
					04/02/12	Not measured; wellhead submerged			
					07/09/12	--	8.90	--	35.08
		DECOMMISSIONED 2012							

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Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
Bulk Terminal Property									
Shallow Water-Bearing Zone									
01MW26	Northwest of Former Tank Yard	46.24	5	19	06/20/06	--	13.83	--	32.41
					12/11/06	--	13.38	--	32.86
					09/05/08	--	13.73	--	32.51
		46.17			01/26/09	--	13.16	--	33.01
					04/06/09	--	12.62	--	33.55
					07/06/09	--	13.40	--	32.77
					10/09/09	--	14.56	--	31.61
					01/25/10	--	12.59	--	33.58
					04/05/10	--	12.39	--	33.78
					07/06/10	--	13.14	--	33.03
					09/22/10	--	13.68	--	32.49
					01/06/11	--	11.26	--	34.91
					04/11/11	--	11.44	--	34.73
					08/22/11	--	13.40	--	32.77
					12/05/11	--	13.57	--	32.60
					04/02/12	--	11.76	--	34.41
		DECOMMISSIONED 2012							
01MW27	Northwest of Former Tank Yard	46.33	5	20	06/20/06	--	14.32	--	32.01
					12/11/06	--	13.69	--	32.64
					09/05/08	--	14.19	--	32.14
		46.26			01/26/09	--	13.52	--	32.74
					04/06/09	--	12.78	--	33.48
					07/06/09	--	13.91	--	32.35
					10/06/09	--	15.10	--	31.16
					01/25/10	--	12.83	--	33.43
					04/05/10	--	12.67	--	33.59
					07/06/10	--	13.63	--	32.63
					09/22/10	--	14.06	--	32.20
					01/06/11	11.45	11.47	0.02	34.81
					04/11/11	--	11.76	--	34.50
					08/22/11	--	13.97	--	32.29
					12/05/11	--	13.96	--	32.30
					04/02/12	--	11.95	--	34.31
					10/08/12	--	15.56	--	30.70
01MW28	Northwest of Former Tank Yard	45.54	5	24	10/01/03	14.82	15.11	0.29	30.66
					01/01/04	13.15	14.08	0.93	32.20
					04/01/04	13.70	14.78	1.08	31.62
					07/15/04	14.13	15.51	1.38	31.13
					11/17/04	14.03	15.58	1.55	31.20
					10/24/05	14.54	16.50	1.96	30.61
					06/20/06	13.76	--	--	--
					12/11/06	13.02	13.55	0.53	32.41
					09/05/08	13.60	14.31	0.71	31.80
		45.48			01/26/09	12.96	13.42	0.46	32.43
					04/06/09	11.96	12.30	0.34	33.45
					07/06/09	13.47	13.94	0.47	31.92
					10/06/09	14.68	15.14	0.46	30.71
					01/25/10	12.03	12.51	0.48	33.35
					04/05/10	11.89	12.30	0.41	33.51
					07/06/10	13.25	13.75	0.50	32.13
					09/22/10	13.40	14.21	0.81	31.92
					01/06/11	11.01	11.17	0.16	34.44
					04/11/11	11.31	12.19	0.88	33.99
					08/22/11	13.67	14.14	0.47	31.72
					12/05/11	--	13.49	--	31.99
					04/02/12	11.34	11.42	0.08	34.12
					10/08/12	14.28	14.59	0.31	31.14

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Table 15
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TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

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Bulk Terminal Property									
Shallow Water-Bearing Zone									
01MW29	Northwest of Former Tank Yard	45.57	5	19	10/01/03	16.00	16.01	0.01	29.57
					01/01/04	--	--	--	--
					04/01/04	14.27	14.30	0.03	31.29
					07/15/04	15.26	15.32	0.06	30.30
					11/17/04	--	--	--	--
					10/25/05	15.46	16.72	1.26	29.86
					06/20/06	13.90	--	--	--
					12/11/06	Not measured; skimmer in well			
		45.49			09/05/08	14.61	16.23	1.62	30.64
					01/26/09	13.04	13.58	0.54	32.34
					04/06/09	11.58	11.91	0.33	33.84
					07/06/09	13.50	14.10	0.60	31.87
					10/06/09	14.70	15.50	0.80	30.63
					01/25/10	12.00	12.40	0.40	33.41
					04/05/10	11.81	12.19	0.38	33.60
					07/06/10	13.40	14.08	0.68	31.95
					09/22/10	13.55	14.25	0.70	31.80
					01/06/11	10.94	11.00	0.06	34.54
					04/11/11	11.36	11.68	0.32	34.07
					08/22/11	13.79	14.10	0.31	31.64
					12/05/11	13.51	13.52	0.01	31.98
					04/02/12	10.85	11.14	0.29	34.58
					07/09/12	12.33	12.44	0.11	33.14
					10/08/12	14.38	14.65	0.27	31.06
01MW37	Former Tank Yard	48.58	7.5	22.5	09/27/06	--	11.30	--	37.35
					12/11/06	--	10.39	--	38.26
					09/05/08	--	10.70	--	37.95
					01/26/09	--	10.34	--	38.24
					04/06/09	--	9.45	--	39.13
					07/06/09	--	10.14	--	38.44
					10/06/09	--	11.18	--	37.40
					01/25/10	--	9.22	--	39.36
					04/05/10	--	7.50	--	41.08
					07/06/10	--	9.92	--	38.66
					09/22/10	--	10.87	--	37.71
					01/06/11	--	9.37	--	39.21
					04/11/11	--	8.58	--	40.00
					08/22/11	--	10.78	--	37.80
					12/05/11	--	10.81	--	37.77
					04/02/12	--	9.05	--	39.53
					10/08/12	--	11.30	--	37.28
01MW38	Former Tank Yard	48.57	7.5	22.5	09/27/06	--	10.40	--	37.20
					12/11/06	--	8.51	--	39.09
					09/05/08	--	9.43	--	38.17
					01/26/09	--	9.01	--	39.56
					04/06/09	--	7.72	--	40.85
					07/06/09	--	9.13	--	39.44
					01/25/10	--	7.37	--	41.20
					04/05/10	--	6.65	--	41.92
					07/06/10	--	9.50	--	39.07
					09/22/10	--	10.41	--	38.16
					01/06/11	--	8.42	--	40.15
					04/11/11	--	7.21	--	41.36
					08/22/11	--	10.28	--	38.29
					12/05/11	--	9.82	--	38.75
					04/02/12	--	7.06	--	41.51
					10/08/12	--	10.90	--	37.67

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Seattle, Washington

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Bulk Terminal Property									
Shallow Water-Bearing Zone									
01MW39	Former Tank Yard	48.80	7	22	09/27/06	--	14.81	--	33.99
					12/11/06	--	14.37	--	34.43
					09/05/08	--	14.45	--	34.35
		48.79			01/26/09	--	14.44	--	34.35
					04/06/09	--	14.04	--	34.75
					07/06/09	--	14.05	--	34.74
					01/25/10	--	13.84	--	34.95
					04/05/10	--	13.30	--	35.49
					07/06/10	--	13.68	--	35.11
					01/06/11	--	12.61	--	36.18
					04/11/11	--	12.57	--	36.22
					08/22/11	--	13.64	--	35.15
					12/05/11	--	14.39	--	34.40
					04/02/12	--	13.49	--	35.30
					10/08/12	--	14.17	--	34.62
01MW40	Former Tank Yard	49.13	7	22	09/27/06	--	16.10	--	33.03
					12/11/06	--	15.64	--	33.49
					09/05/08	--	15.64	--	33.49
		49.01			01/26/09	--	15.44	--	33.57
					04/06/09	--	15.04	--	33.97
					07/06/09	--	15.21	--	33.80
					10/06/09	--	16.14	--	32.87
					01/25/10	--	15.00	--	34.01
					04/05/10	--	14.46	--	34.55
					07/06/10	--	14.96	--	34.05
					09/22/10	--	15.52	--	33.49
					01/06/11	--	13.25	--	35.76
					04/11/11	--	13.50	--	35.51
					08/22/11	--	14.88	--	34.13
					12/05/11	--	15.52	--	33.49
					04/02/12	--	14.35	--	34.66
					10/08/12	--	15.94	--	33.07
01MW41	Former Tank Yard	48.06	7	22	09/27/06	--	11.47	--	36.59
					12/11/06	7.68	7.90	0.22	40.34
					09/05/08	8.38	11.01	2.63	39.15
		48.02			01/26/09	8.36	8.39	0.03	39.65
					04/06/09	5.19	9.68	4.49	41.93
					07/06/09	9.40	12.11	2.71	38.08
					10/06/09	9.81	11.18	1.37	37.94
					01/25/10	6.41	6.93	0.52	41.51
					04/05/10	6.01	6.38	0.37	41.94
					07/06/10	11.53	13.00	1.47	36.20
					09/22/10	12.98	13.67	0.69	34.90
					01/06/11	8.26	8.56	0.30	39.70
					04/11/11	7.51	7.54	0.03	40.50
					08/22/11	Encountered	11.99	Encountered	--
					12/05/11	--	9.73	--	38.29
					04/02/12	--	5.54	--	42.48
					07/09/12	--	9.38	--	38.64
					10/08/12	Not measured; inaccessible			
01MW42	Former Tank Yard	47.93	7	22	09/27/06	--	12.17	--	35.76
					12/11/06	--	6.72	--	41.21
					09/05/08	--	8.64	--	39.29
		47.89			01/26/09	--	8.62	--	39.27
					04/06/09	--	7.48	--	40.41
					07/06/09	--	10.30	--	37.59
					10/06/09	--	10.08	--	37.81
					01/25/10	--	5.92	--	41.97
					04/05/10	--	5.64	--	42.25

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Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
Bulk Terminal Property									
Shallow Water-Bearing Zone									
01MW42 (continued)	Former Tank Yard	47.89	7	22	07/06/10	--	11.13	--	36.76
					09/22/10	--	10.13	--	37.76
					01/06/11	--	7.02	--	40.87
					04/11/11	--	6.39	--	41.50
					08/22/11	--	12.09	--	35.80
					12/05/11	--	9.09	--	38.80
					04/02/12	--	5.01	--	42.88
					10/08/12	--	13.82	--	34.07
01MW43	Former Loading Racks	45.64	7	22	09/27/06	--	11.52	--	34.12
					12/11/06	6.80	7.10	0.30	38.78
					09/05/08	6.58	6.68	0.10	39.04
		45.65			01/26/09	6.51	7.35	0.84	38.97
					04/06/09	3.73	4.20	0.47	41.83
					07/06/09	9.75	10.40	0.65	35.77
					10/06/09	7.80	8.47	0.67	37.72
					01/25/10	4.75	5.24	0.49	40.80
					04/05/10	4.30	4.72	0.42	41.27
					07/06/10	9.72	10.20	0.48	35.83
					09/22/10	Unknown	5.90	--	39.75
					01/06/11	4.90[4]	5.53	0.63	40.62
					04/11/11	4.75	--	--	--
					08/22/11	11.02	11.51	0.49	34.53
					12/05/11	5.88	6.29	0.41	39.69
					04/02/12	Not measured; wellhead submerged			
					10/08/12	12.49	13.68	1.19	32.92
01MW59	Former HQ USTs	46.49	13	28.5	11/25/08	--	14.90	--	31.59
					01/26/09	--	15.13	--	31.36
					04/06/09	--	14.01	--	32.48
					07/06/09	--	15.37	--	31.12
					01/25/10	--	13.88	--	32.61
					04/05/10	--	13.43	--	33.06
					07/06/10	--	14.98	--	31.51
					01/06/11	--	13.04	--	33.45
					04/11/11	--	13.54	--	32.95
					08/22/11	--	15.44	--	31.05
					12/05/11	--	15.08	--	31.41
					04/02/12	--	13.21	--	33.28
					09/04/12	--	15.56	--	30.93
					10/08/12	--	15.98	--	30.51
01MW66	Southeast of TOC Headquarters	47.33	12	22	08/06/09	--	14.86	--	32.47
					10/06/09	--	15.50	--	31.83
					01/25/10	--	13.59	--	33.74
					04/05/10	--	13.33	--	34.00
					07/06/10	--	14.12	--	33.21
					09/22/10	--	14.51	--	32.82
					01/06/11	--	12.29	--	35.04
					04/11/11	--	12.93	--	34.40
					08/22/11	--	14.41	--	32.92
					12/05/11	--	14.62	--	32.71
					04/02/12	--	12.93	--	34.40
					10/08/12	--	15.74	--	31.59

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Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
Bulk Terminal Property									
Shallow Water-Bearing Zone									
01MW67[5]	East of TOC Headquarters	47.94 / 44.40	11	36	08/06/09	--	18.10	--	29.84
					10/06/09	--	18.93	--	29.01
					01/25/10	--	13.66	--	34.28
					04/05/10	--	15.40	--	29.00
					07/06/10	--	16.81	--	27.59
					09/22/10	--	17.07	--	27.33
					01/06/11	--	13.46	--	30.94
					04/11/11	--	14.60	--	29.80
					08/22/11	--	17.32	--	27.08
					12/05/11	--	17.29	--	27.11
					04/02/12	--	14.52	--	29.88
					10/08/12	--	18.58	--	25.82
01MW68	Northeast of TOC Headquarters	47.46	7	22	08/06/09	--	14.71	--	32.75
					10/09/09	15.18	15.56	0.38	32.20
					01/25/10	11.99	13.11	1.12	35.25
					04/05/10	11.54	12.55	1.01	35.72
					07/06/10	13.46	15.18	1.72	33.66
					09/22/10	Unknown	14.43	--	33.03
					01/06/11	13.74[4]	13.84	0.10	33.70
					04/11/11	11.64	14.04	0.30	33.66
					08/22/11	14.02	15.80	1.78	33.08
					12/05/11	13.51	14.86	1.35	33.68
					04/02/12	11.20	11.54	0.34	36.19
					07/09/12	12.76	13.37	0.61	34.58
					10/08/12	14.63	16.11	1.48	32.53
01MW69[5]	East of TOC Headquarters	47.67 / 44.14	11	36	08/06/09	--	18.09	--	29.58
					10/06/09	--	18.78	--	28.89
					01/25/10	--	15.41	--	32.26
					04/05/10	--	15.48	--	28.66
					07/06/10	--	16.46	--	27.68
					09/22/10	--	16.43	--	27.71
					01/06/11	--	13.55	--	30.59
					04/11/11	--	14.05	--	30.09
					08/22/11	--	16.67	--	27.47
					12/05/11	--	16.38	--	27.76
					04/02/12	--	13.52	--	30.62
					10/08/12	--	17.57	--	26.57
01MW72	Former Tank Yard	46.33	3	23	03/15/10	4.39	4.80	0.41	41.86
					04/05/10	4.10	4.27	0.17	42.20
					07/06/10	8.25	9.25	1.00	37.88
					09/22/10	Unknown	11.50	--	34.83
					01/06/11	6.53	6.54	0.01	39.80
					04/11/11	5.25	5.42	0.17	41.05
					08/22/11	8.72	9.46	0.74	37.46
					12/05/11	7.74	8.00	0.26	38.54
					04/02/12	Encountered	4.00	Encountered	42.33
					10/08/12	9.83	9.89	0.06	36.49

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Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
Bulk Terminal Property									
Shallow Water-Bearing Zone									
01MW73	Former Tank Yard	46.25	3	21	03/31/10	4.48	4.51	0.03	41.76
					04/05/10	4.01	5.30	1.29	41.98
					07/06/10	8.45	10.38	1.93	37.41
					09/22/10	Unknown	10.70	--	35.55
					01/06/11	9.05	10.55	1.50	36.90
					04/11/11	4.97	8.74	3.77	40.53
					08/22/11	8.73	11.28	2.55	37.01
					12/05/11	7.94	8.85	0.91	38.13
					04/02/12	3.43	7.60	4.17	41.99
					10/08/12	10.25	10.93	0.68	35.86
01MW74	Former Tank Yard	46.17	4	21	03/15/10	--	4.61	--	41.56
					04/05/10	--	4.38	--	41.79
					07/06/10	--	9.26	--	36.91
					09/22/10	--	10.46	--	35.71
					01/06/11	--	7.01	--	39.16
					04/11/11	--	5.76	--	40.41
					08/22/11	9.45	9.65	0.20	36.68
					12/05/11	--	8.14	--	38.03
					04/02/12	--	4.09	--	42.08
					10/08/12	--	11.49	--	34.68
01MW75	Former Tank Yard	46.30	3	18	03/15/10	--	4.72	--	41.58
					04/05/10	--	4.80	--	41.50
					07/06/10	--	8.03	--	38.27
					09/22/10	--	9.09	--	37.21
					01/06/11	--	6.53	--	39.77
					04/11/11	--	5.35	--	40.95
					08/22/11	--	8.66	--	37.64
					12/05/11	--	8.00	--	38.30
					04/02/12	--	4.71	--	41.59
					10/08/12	--	9.59	--	36.71
01MW90	Former Tank Yard	46.66	3	18	01/30/12	--	5.69	--	40.97
					04/02/12	--	4.41	--	42.25
					10/08/12	--	9.33	--	37.33
01MW91	Former Tank Yard	46.52	3.5	18.5	01/30/12	--	5.72	--	40.80
					04/02/12	--	4.37	--	42.15
					10/08/12	--	9.70	--	36.82
C3IW01	Injection Grid	47.26	11	21	07/12/10	--	15.00	--	32.26
					04/11/11	--	12.97	--	34.29
					08/22/11	--	--	--	--
					12/05/11	--	15.12	--	32.14
					04/02/12	--	11.85	--	35.41
					07/09/12	--	13.86	--	33.40
					10/08/12	Not measured; inaccessible			

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Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
Bulk Terminal Property									
Shallow Water-Bearing Zone									
E9IW01	Injection Grid	46.97	6	21	07/08/10	--	11.21	--	35.76
					09/22/10	--	11.50	--	35.47
					04/11/11	--	6.49	--	40.48
					08/22/11	--	--	--	--
					12/05/11	--	8.44	--	38.53
					04/02/12	--	4.67	--	42.30
					07/09/12	--	8.67	--	38.30
					10/08/12	Not measured; inaccessible			
F4IW01	Injection Grid	47.93	10	20	07/12/10	--	15.29	--	32.64
					04/11/11	--	13.20	--	34.73
					08/22/11	--	--	--	--
					12/05/11	--	15.49	--	32.44
		48.34			04/02/12	--	11.60	--	36.74
					07/09/12	--	14.64	--	33.70
		DECOMMISSIONED 2012							
G7IW01	Injection Grid	47.11	6	21	04/11/11	6.64	7.35	0.71	40.33
					08/22/11	--	--	--	--
					12/05/11	--	8.86	--	38.25
					04/02/12	--	4.84	--	42.27
		DECOMMISSIONED 2012							
J7IW01	Injection Grid	47.13	6	21	12/05/11	--	8.89	--	38.24
					04/02/12	--	3.99	--	43.14
		DECOMMISSIONED 2012							
J10IW01	Injection Grid	47.22	6.5	21.5	07/08/10	--	10.97	--	36.25
					09/22/10	--	12.22	--	35.00
					04/11/11	--	6.86	--	40.36
					08/22/11	--	--	--	--
					12/05/11	--	9.18	--	38.04
					04/02/12	--	4.64	--	42.58
					07/09/12	--	8.44	--	38.78
		DECOMMISSIONED 2012							
K3IW01	Injection Grid	51.90	15	25	07/12/10	--	18.54	--	33.36
					09/22/10	--	19.17	--	32.73
					04/11/11	--	16.81	--	35.09
					08/22/11	--	--	--	--
					12/05/11	--	18.91	--	32.99
					04/02/12	--	17.32	--	34.58
					07/09/12	--	17.61	--	34.29
		DECOMMISSIONED 2012							
L2IW01	Injection Grid	51.21	15	25	08/31/10	--	18.46	--	32.75
					04/11/11	--	16.14	--	35.07
					08/22/11	--	--	--	--
					12/05/11	--	18.19	--	33.02
					04/02/12	--	16.65	--	34.56
					07/09/12	--	16.93	--	34.28
					10/08/12	Not measured; inaccessible			
M5IW01	Injection Grid	47.13	6.5	21.5	07/08/10	--	13.61	--	33.52
					09/22/10	--	14.14	--	32.99
					04/11/11	--	11.74	--	35.39
					08/22/11	--	--	--	--
					12/05/11	12.35	13.90	1.55	34.47
					04/02/12	--	12.49	--	34.64
					07/09/12	--	12.69	--	34.44
					10/08/12	--	11.20	--	35.93

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Summary of Groundwater Elevations
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Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
Bulk Terminal Property									
Shallow Water-Bearing Zone									
N7IW01 (Formerly IW04)	Injection Grid	47.43	6	23	12/05/11	--	9.12	--	38.31
					04/02/12	--	--	--	--
					07/09/12	--	8.40	--	39.03
					10/08/12	--	12.00	--	35.43
N10IW01	Injection Grid	47.40	6.5	21.5	07/08/10	--	10.88	--	36.52
					09/22/10	--	12.14	--	35.26
					04/11/11	--	6.91	--	40.49
					08/22/11	--	--	--	--
					12/05/11	Dry			
					04/02/12	--	4.93	--	42.47
					07/09/12	--	8.36	--	39.04
					10/08/12	--	12.27	--	35.13
O5IW01	Injection Grid	47.45	6	21	08/31/10	--	14.44	--	33.01
					04/11/11	--	10.78	--	36.67
					08/22/11	--	--	--	--
					12/05/11	--	11.93	--	35.52
					04/02/12	--	9.84	--	37.61
					07/09/12	--	10.78	--	36.67
					10/08/12	Not measured; inaccessible			
Q9IW01	Injection Grid	47.24	6	21	07/07/10	--	9.89	--	37.35
					09/22/10	--	11.40	--	35.84
					04/11/11	--	6.51	--	40.73
					08/22/11	--	--	--	--
					12/05/11	Inaccessible - Pump in well			
					04/02/12	--	4.82	--	42.42
					07/09/12	--	8.19	--	39.05
					10/08/12	--	10.92	--	36.32
IW03	Former PCP Mixing AST	47.03	6	23	12/13/11	--	8.85	--	38.18
					04/09/12	--	4.14	--	42.89
					10/08/12	--	11.54	--	35.49
East Waterfront Property									
Shallow Water-Bearing Zone									
02MW01	West of Parking Lot	24.19	10	20	06/20/06	--	5.16	--	19.03
					12/11/06	--	5.08	--	19.11
					09/05/08	--	5.60	--	18.59
		24.07			01/26/09	--	5.64	--	18.55
					04/06/09	--	4.49	--	19.58
					07/06/09	--	5.33	--	18.74
					01/25/10	--	4.30	--	19.77
					04/05/10	--	4.43	--	19.64
					07/06/10	--	4.90	--	19.17
					01/06/11	--	4.75	--	19.32
					04/11/11	--	4.53	--	19.54
					08/22/11	--	5.65	--	18.42
					12/05/11	--	5.41	--	18.66
					04/02/12	--	4.09	--	19.98
					10/08/12	--	6.16	--	17.91

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Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
East Waterfront Property									
Shallow Water-Bearing Zone									
02MW02	Shoreline	20.02	5	10	06/20/06	--	1.21	--	18.81
					12/11/06	--	1.92	--	18.10
					09/05/08	--	1.93	--	18.09
		19.98			01/26/09	--	2.68	--	17.34
					04/06/09	--	1.07	--	18.91
					07/06/09	--	1.77	--	18.21
					01/25/10	--	1.65	--	18.33
					04/05/10	--	1.08	--	18.90
					07/06/10	--	1.28	--	18.70
					01/06/11	--	1.95	--	18.03
					04/11/11	--	1.05	--	18.93
					08/22/11	--	2.19	--	17.79
					12/05/11	--	2.41	--	17.57
					04/02/12	--	0.91	--	19.07
					10/08/12	--	2.89	--	17.09
02MW03	Parking Lot	27.86	10	20	06/20/06	--	8.79	--	19.07
					12/11/06	--	8.53	--	19.33
					09/05/08	--	9.19	--	18.67
		27.78			01/26/09	--	9.25	--	18.61
					04/06/09	--	8.05	--	19.73
					07/06/09	--	8.99	--	18.79
					01/25/10	--	8.00	--	19.78
					04/05/10	--	8.00	--	19.78
					07/06/10	--	8.51	--	19.27
					01/06/11	--	8.34	--	19.44
					04/11/11	--	8.05	--	19.73
					08/22/11	--	9.26	--	18.52
					12/05/11	--	9.00	--	18.78
					04/02/12	--	7.76	--	20.02
					10/08/12	--	9.84	--	17.94
02MW04	Garage Entrance	27.17	10	20	06/20/06	--	8.36	--	18.81
					12/11/06	--	8.46	--	18.71
					09/05/08	--	8.80	--	18.37
		27.07			01/26/09	--	10.40	--	16.77
					04/06/09	--	8.44	--	18.63
					07/06/09	--	8.81	--	18.26
					01/25/10	--	8.65	--	18.42
					04/05/10	--	8.24	--	18.83
					07/06/10	--	8.29	--	18.78
					01/06/11	--	9.00	--	18.07
					04/11/11	--	8.23	--	18.84
					08/22/11	--	9.12	--	17.95
					12/05/11	--	9.10	--	17.97
					04/02/12	--	7.45	--	19.62
					10/08/12	--	9.83	--	17.24
02MW06	Inside Garage	26.54	10	20	06/20/06	--	7.73	--	18.81
					12/11/06	--	8.18	--	18.36
					09/05/08	--	8.13	--	18.41
		26.55			01/26/09	--	8.77	--	17.77
					04/06/09	--	7.72	--	18.83
					07/06/09	--	8.17	--	18.38
					01/25/10	--	8.10	--	18.45
					04/05/10	--	7.70	--	18.85
					07/06/10	--	7.64	--	18.91
					01/06/11	--	8.48	--	18.07
					04/11/11	--	7.65	--	18.90
					08/22/11	--	8.45	--	18.10
					12/05/11	--	6.55	--	20.00
					04/02/12	--	7.51	--	19.04
					10/08/12	--	9.18	--	17.37

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Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
East Waterfront Property									
Shallow Water-Bearing Zone									
02MW07	Shoreline	20.85	2	12	06/20/06	--	2.01	--	18.84
					12/11/06	--	1.17	--	19.68
					09/05/08	--	2.65	--	18.20
		20.78			01/26/09	--	3.11	--	17.74
					04/06/09	--	1.73	--	19.05
					07/06/09	--	4.91	--	15.87
					01/25/10	--	1.00	--	19.78
					04/05/10	--	1.46	--	19.32
					07/06/10	--	1.96	--	18.82
					01/06/11	--	2.25	--	18.53
					04/11/11	--	1.33	--	19.45
					08/22/11	--	2.91	--	17.87
					12/05/11	--	2.95	--	17.83
					04/02/12	--	1.35	--	19.43
					10/08/12	--	3.64	--	17.14
02MW08	Next to West Commodore Way	39.69	13	22	06/20/06	--	16.27	--	23.42
					12/11/06	--	14.63	--	25.06
					09/05/08	--	16.19	--	23.50
		39.62			01/26/09	--	9.65	--	30.04
					04/06/09	--	13.19	--	26.43
					07/06/09	--	15.92	--	23.70
					01/25/10	--	13.75	--	25.87
					04/05/10	--	13.92	--	25.70
					07/06/10	--	15.32	--	24.30
					01/06/11	--	13.74	--	25.88
					04/11/11	--	14.03	--	25.59
					08/22/11	--	16.25	--	23.37
					12/05/11	--	14.51	--	25.11
					04/02/12	--	13.33	--	26.29
					10/08/12	--	16.39	--	23.23
02MW09	West of Parking Lot	30.27	7	12	01/26/09	--	9.36	--	20.91
					04/06/09	--	7.99	--	22.28
					07/06/09	--	9.16	--	21.11
					01/25/10	--	6.78	--	23.49
					04/05/10	--	7.71	--	22.56
					07/06/10	--	8.86	--	21.41
					01/06/11	--	7.46	--	22.81
					04/11/11	--	7.57	--	22.70
					08/22/11	--	9.45	--	20.82
					12/05/11	--	8.76	--	21.51
					04/02/12	--	7.04	--	23.23
					10/08/12	--	9.90	--	20.37
02MW10	Former Pipeline Utilidor	28.62	2.5	7.5	01/26/09	--	3.50	--	25.12
					04/06/09	--	1.81	--	26.81
					07/06/09	--	4.81	--	23.81
					01/25/10	--	2.70	--	25.92
					04/05/10	--	2.52	--	26.10
					07/06/10	--	3.94	--	24.68
					01/06/11	--	3.04	--	25.58
					04/11/11	--	3.00	--	25.62
					08/22/11	--	5.28	--	23.34
					12/05/11	--	3.05	--	25.57
					04/02/12	--	2.04	--	26.58
					10/08/12	--	4.98	--	23.64

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Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
East Waterfront Property									
Shallow Water-Bearing Zone									
02MW11	Entrance Driveway	30.32	6	11	01/26/09	Not measured; unable to remove slip cap			
					04/06/09	Not measured; unable to remove slip cap			
					07/06/09	--	7.40	--	22.92
					01/25/10	--	5.64	--	24.68
					04/05/10	--	5.78	--	24.54
					07/06/10	--	6.67	--	23.65
					01/06/11	--	5.76	--	24.56
					04/11/11	--	5.84	--	24.48
					08/22/11	--	7.60	--	22.72
					12/05/11	--	5.97	--	24.35
					04/02/12	--	5.50	--	24.82
					10/08/12	--	7.93	--	22.39
02MW12	South of Former Warehouse	26.79	8.5	13.5	01/26/09	--	9.34	--	17.45
					04/06/09	--	7.00	--	19.79
					07/06/09	--	8.90	--	17.89
					01/25/10	--	7.44	--	19.35
					04/05/10	--	7.61	--	19.18
					07/06/10	--	7.69	--	19.10
					01/06/11	--	7.74	--	19.05
					04/11/11	--	7.23	--	19.56
					08/22/11	--	7.35	--	19.44
					12/05/11	--	7.73	--	19.06
					04/02/12	--	6.42	--	20.37
					10/08/12	--	8.96	--	17.83
02MW13	West of Parking Lot	30.05	5	15	01/26/09	--	8.88	--	21.17
					04/06/09	--	8.56	--	21.49
					07/06/09	--	10.06	--	19.99
					01/25/10	--	7.47	--	22.58
					04/05/10	--	8.24	--	21.81
					07/06/10	--	9.18	--	20.87
					01/06/11	--	7.77	--	22.28
					04/11/11	--	7.88	--	22.17
					08/22/11	--	9.70	--	20.35
					12/05/11	--	9.70	--	20.35
					04/02/12	--	7.70	--	22.35
					10/08/12	--	10.26	--	19.79
East Waterfront Property									
Intermediate Water-Bearing Zone									
02MW05	Entrance Driveway	36.59	20	35	06/20/06	--	15.24	--	21.35
					12/11/06	--	14.00	--	22.59
					09/05/08	--	15.03	--	21.56
		36.45			01/26/09	--	14.44	--	22.01
					04/06/09	--	12.65	--	23.80
					07/06/09	--	15.59	--	20.86
					01/25/10	--	13.16	--	23.29
					04/05/10	--	13.22	--	23.23
					07/06/10	--	14.31	--	22.14
					01/06/11	--	13.19	--	23.26
					04/11/11	--	13.29	--	23.16
					08/22/11	--	15.18	--	21.27
					12/05/11	--	13.62	--	22.83
					04/02/12	--	12.59	--	23.86
					10/08/12	--	15.60	--	20.85

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Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
West Commodore Way									
Shallow Water-Bearing Zone									
01MW02	Former HQ USTs	44.78	10	25	06/20/06	--	15.33	0.01	29.46
					12/11/06	--	14.25	0.01	30.54
					09/05/08	--	15.03	--	29.75
		44.77			01/26/09	--	14.43	--	30.34
					04/06/09	--	12.54	--	32.23
					07/06/09	--	13.18	--	31.59
					01/25/10	--	12.82	--	31.95
					04/05/10	--	12.28	--	32.49
					07/06/10	--	14.72	--	30.05
					01/06/11	--	12.76	--	32.01
					04/11/11	--	13.25	--	31.52
					08/22/11	--	15.51	--	29.26
					12/05/11	--	14.20	--	30.57
					04/02/12	--	11.70	--	33.07
					10/08/12	--	15.82	--	28.95
01MW03	Former HQ USTs	44.35	10	25	06/20/06	--	14.99	--	29.36
					12/11/06	--	13.65	--	30.70
					09/05/08	--	14.74	--	29.61
		44.22			01/26/09	--	14.26	--	29.96
					04/06/09	--	12.15	--	32.07
					07/06/09	--	14.88	--	29.34
					01/25/10	--	12.38	--	31.84
					04/05/10	--	11.23	--	32.99
					07/06/10	--	14.47	--	29.75
					01/06/11	--	12.40	--	31.82
					04/11/11	--	13.08	--	31.14
					08/22/11	--	15.15	--	29.07
					12/05/11	--	14.13	--	30.09
					04/02/12	--	10.90	--	33.32
					10/08/12	--	15.40	--	28.82
01MW09	Former HQ USTs	43.91	10	25	10/01/02	--	--	0.01[3]	—
					06/20/06	--	16.68	--	27.23
					12/11/06	Not measured; skimmer in well			
		43.87			09/05/08	16.52	16.53	0.01	27.39
					01/26/09	--	15.95	--	27.92
					04/06/09	--	14.90	--	28.97
					07/06/09	--	16.55	--	27.32
					01/25/10	--	14.89	--	28.98
					04/05/10	--	14.53	--	29.34
					07/06/10	--	16.06	--	27.81
					01/06/11	--	14.60	--	29.27
					04/11/11	--	15.17	--	28.70
					08/22/11	--	16.69	--	27.18
					12/05/11	--	15.97	--	27.90
					04/02/12	--	14.40	--	29.47
					10/08/12	--	16.93	--	26.94

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Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
West Commodore Way									
Shallow Water-Bearing Zone									
01MW10	Former Loading Racks	44.02	10	24.9	10/01/03	--	23.50	0.49	20.91
					01/01/04	--	22.50	1.65	22.84
					04/01/04	--	22.98	0.90	21.76
					07/15/04	22.32	23.03	0.71	21.56
					11/17/04	21.95	23.35	1.40	21.79
					10/24/05	21.18	23.47	2.29	22.38
					06/20/06	18.84	22.63	3.79	24.42
					12/11/06	17.57	22.73	5.16	25.42
					09/05/08	18.62	20.49	1.87	25.03
		44.95			01/26/09	17.11	21.21	4.10	27.02
					04/06/09	14.47	14.90	0.43	30.39
					07/06/09	17.95	20.06	2.11	26.58
					10/07/09	19.18	21.47	2.29	25.31
					01/25/10	15.61	20.52	4.91	28.36
					04/05/10	16.48	19.99	3.51	27.77
					07/06/10	17.20	20.01	2.81	27.19
					01/06/11	19.85[4]	19.95	0.10	25.08
					04/11/11	15.08	20.35	5.27	28.82
					08/22/11	17.93	19.35	1.42	26.74
					12/05/11	16.39	16.40	0.01	28.56
					04/02/12	13.79	14.84	1.05	30.95
					07/09/12	14.16	17.29	3.13	30.16
					10/08/12	16.25	19.94	3.69	27.96
01MW11	Former Loading Racks	46.10	15	30	06/20/06	--	22.63	--	23.47
					12/11/06	--	22.39	--	23.71
					09/05/08	--	22.44	--	23.66
		46.04			01/26/09	--	22.26	--	23.78
					04/06/09	--	20.85	--	25.19
					07/06/09	--	22.31	--	23.73
					01/25/10	--	21.26	--	24.78
					04/05/10	--	21.44	--	24.60
					07/06/10	--	19.59	--	26.45
					01/06/11	--	19.80	--	26.24
					04/11/11	--	19.68	--	26.36
					08/22/11	--	21.67	--	24.37
					12/05/11	--	21.30	--	24.74
					04/02/12	--	20.36	--	25.68
					10/08/12	--	21.70	--	24.34
01MW16	Former Loading Racks	44.95	10	20	04/02/02	--	--	0.01[3]	--
					07/02/02	--	--	0.01[3]	--
					10/02/02	--	--	0.01[3]	--
					10/01/03	18.38	19.74	1.36	26.30
					01/01/04	16.73	19.16	2.43	27.73
					04/01/04	17.40	19.64	2.24	27.10
					07/15/04	17.93	19.20	1.27	26.77
					11/17/04	17.67	17.97	0.30	27.22
					10/24/05	18.03	19.40	1.37	26.65
					06/20/06	18.82	18.83	0.01	26.13
					12/11/06	16.57	17.31	0.74	28.23
					09/05/08	16.93	18.31	1.38	27.74

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West Commodore Way									
Shallow Water-Bearing Zone									
01MW16 (continued)	Former Loading Racks	44.86	10	20	01/26/09	16.32	17.75	1.43	28.25
					04/06/09	14.40	16.95	2.55	29.95
					07/06/09	17.16	18.55	1.39	27.42
					10/09/09	17.99	18.65	0.66	26.74
					01/25/10	15.28	15.80	0.52	29.48
					04/05/10	15.31	16.00	0.69	29.41
					07/06/10	16.91	17.42	0.51	27.85
					01/06/11	15.83[4]	15.93	0.10	29.01
					04/11/11	15.60	15.98	0.38	29.18
					08/22/11	17.65	18.02	0.37	27.14
					12/05/11	17.13	17.14	0.01	27.73
					04/02/12	15.03	15.29	0.26	29.78
					07/09/12	16.61	16.66	0.05	28.24
					10/08/12	17.88	18.14	0.26	26.93
01MW30	Barrel Incline	44.50	15	28	06/20/06	--	22.37	--	22.13
					12/11/06	--	22.81	--	21.69
					09/05/08	--	23.51	--	20.99
		44.42			01/26/09	--	22.92	--	21.50
					04/06/09	--	22.78	--	21.64
					07/06/09	--	23.24	--	21.18
					01/25/10	--	22.15	--	22.27
					04/05/10	--	22.49	--	21.93
					07/06/10	--	22.85	--	21.57
					01/06/11	--	21.86	--	22.56
					04/11/11	--	22.09	--	22.33
					08/22/11	--	23.14	--	21.28
					12/05/11	--	22.95	--	21.47
					04/02/12	--	22.38	--	22.04
					09/04/12	--	23.10	--	21.32
					10/08/12	--	23.30	--	21.12
01MW31	North Shoulder	43.80	5	15	07/13/06	Dry			
					12/11/06	Dry			
					09/05/08	Dry			
					01/26/09	Dry			
					04/06/09	Dry			
					07/06/09	Dry			
					01/25/10	Dry			
					04/05/10	--	14.95	--	28.85
					07/06/10	Dry			
					01/06/11	Dry			
					04/11/11	Dry			
					08/22/11	--	14.93	--	28.87
					12/05/11	--	14.85	--	28.95
					04/02/12	--	14.80	--	29.00
					10/08/12	Dry			
01MW32	North Shoulder	44.40	17	27	07/13/06	--	25.03	--	19.37
					12/11/06	--	23.15	--	21.25
					09/05/08	--	24.67	--	19.73
		44.33			01/26/09	--	21.82	--	22.51
					04/06/09	--	20.44	--	23.89
					07/06/09	--	23.40	--	20.93
					01/25/10	--	19.84	--	24.49
					04/05/10	--	20.64	--	23.69
					07/06/10	--	20.68	--	23.65
					01/06/11	--	19.25	--	25.08
					04/11/11	--	19.18	--	25.15
					08/22/11	--	21.12	--	23.21
					12/05/11	--	20.16	--	24.17
					04/02/12	--	18.39	--	25.94
					10/08/12	--	17.82	--	26.51

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West Commodore Way									
Shallow Water-Bearing Zone									
01MW33	Former Loading Rack	45.14	5	20	07/13/06	--	11.31	--	33.83
					12/11/06	--	8.35	--	36.79
					09/05/08	7.65	7.72	0.07	37.48
		45.07			01/26/09	8.20	8.80	0.60	36.75
					04/06/09	5.75	5.95	0.20	39.28
					07/06/09	10.40	10.90	0.50	34.57
					10/06/09	9.08	9.44	0.36	35.92
					01/25/10	6.70	6.76	0.06	38.36
					04/05/10	6.39	6.52	0.13	38.65
					07/06/10	10.31	10.82	0.51	34.66
					01/06/11	6.50[4]	6.61	0.11	38.55
					04/11/11	6.59	7.53	0.94	38.29
					08/22/11	11.12	11.35	0.23	33.90
					12/05/11	7.41	7.60	0.19	37.62
					04/02/12	5.35	5.36	0.01	39.72
					10/08/12	12.43	12.86	0.01	32.22
01MW34	North Shoulder	45.29	11	21	07/13/06	Dry			
					12/22/06	--	19.66	--	25.63
					09/05/08	Dry			
		45.21			01/26/09	--	19.59	--	25.62
					04/06/09	--	19.15	--	26.06
					07/06/09	--	19.96	--	25.25
					01/25/10	--	19.44	--	25.77
					04/05/10	--	19.59	--	25.62
					07/06/10	--	19.79	--	25.42
					01/06/11	19.47	19.48	0.01	25.74
					04/11/11	--	19.41	--	25.80
					08/22/11	--	20.74	--	24.47
					12/05/11	--	19.60	--	25.61
					04/02/12	--	19.29	--	25.92
					10/08/12	--	20.73	--	24.48
01MW35	North Shoulder	44.63	10	20	07/13/06	Dry			
					12/11/06	--	19.48	--	25.15
					09/05/08	--	19.89	--	24.74
		44.55			01/26/09	--	19.74	--	24.81
					04/06/09	--	17.80	--	26.75
					07/06/09	Dry			
					01/25/10	--	18.53	--	26.02
					04/05/10	--	19.13	--	25.42
					07/06/10	--	19.36	--	25.19
					04/11/11	--	18.44	--	26.11
					08/22/11	--	19.92	--	24.63
					12/05/11	--	19.74	--	24.81
					04/02/12	--	18.05	--	26.50
					10/08/12	--	19.93	--	24.62
01MW36	North Shoulder	45.27	10	20	07/13/06	--	19.18	--	26.09
					12/11/06	--	18.76	--	26.51
					09/05/08	--	19.05	--	26.22
		45.19			01/26/09	--	18.93	--	26.26
					04/06/09	--	18.23	--	26.96
					07/06/09	--	19.39	--	25.80
					01/25/10	--	18.90	--	26.29
					04/05/10	--	19.44	--	25.75
					07/06/10	--	19.12	--	26.07
					01/06/11	--	18.62	--	26.57
					04/11/11	--	18.50	--	26.69
					08/22/11	--	19.58	--	25.61
					12/05/11	--	19.02	--	26.17
					04/02/12	--	18.42	--	26.77
					10/08/12	--	19.77	--	25.42

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Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
West Commodore Way									
Shallow Water-Bearing Zone									
01MW47	Eastbound Lane	43.90	6	21	12/22/06	--	18.76	--	25.14
					09/05/08	--	18.42	--	25.48
		43.87			01/26/09	--	18.27	--	25.60
					04/06/09	--	16.79	--	27.08
					07/06/09	18.35	18.63	0.28	25.46
					01/25/10	16.73	17.20	0.47	27.05
					04/05/10	16.46	16.73	0.27	27.36
					07/06/10	17.82	18.46	0.64	25.92
					01/06/11	16.59	17.09	0.50	27.18
					04/11/11	17.06	17.57	0.51	26.71
					08/22/11	18.52	19.14	0.62	25.23
					12/05/11	18.18	18.19	0.01	25.69
					04/02/12	16.52	16.53	0.01	27.35
					10/08/12	18.65	19.26	0.61	25.10
01MW49	Eastbound Lane	45.95	15	25	12/22/06	--	19.24	--	26.71
					09/05/08	--	25.12	--	20.83
		44.17			01/26/09	--	25.15	--	19.02
					04/06/09	--	24.50	--	19.67
					07/06/09	--	24.90	--	19.27
					01/25/10	--	24.41	--	19.76
					04/05/10	--	24.50	--	19.67
					07/06/10	--	24.23	--	19.94
					01/06/11	24.05	24.06	0.01	20.12
					04/11/11	--	24.19	--	19.98
					08/22/11	--	19.10	--	25.07
					12/05/11	--	24.49	--	19.68
					04/02/12	--	23.62	--	20.55
					10/08/12	--	24.28	--	19.89
01MW50	Eastbound Lane	43.51	15	25	12/22/06	--	21.48	--	22.03
					09/05/08	--	22.44	--	21.07
		43.48			01/26/09	--	21.71	--	21.77
					04/06/09	--	21.33	--	22.15
					07/06/09	--	22.13	--	21.35
					01/25/10	--	20.86	--	22.62
					04/05/10	--	23.31	--	20.17
					07/06/10	--	21.65	--	21.83
					01/06/11	--	20.54	--	22.94
					04/11/11	--	20.86	--	22.62
					08/22/11	--	22.00	--	21.48
					12/05/11	--	21.62	--	21.86
					04/02/12	--	20.94	--	22.54
					10/08/12	--	22.23	--	21.25
01MW52	Eastbound Lane	43.50	14	24	09/05/08	--	24.21	--	19.29
					01/26/09	--	23.94	--	19.56
					04/06/09	--	23.88	--	19.62
					07/06/09	--	24.23	--	19.27
					01/25/10	--	23.35	--	20.15
					04/05/10	--	23.58	--	19.92
					07/06/10	--	23.82	--	19.68
					01/06/11	--	23.27	--	20.23
					04/11/11	--	23.32	--	20.18
					08/22/11	--	24.02	--	19.48
					12/05/11	--	24.19	--	19.31
					04/02/12	--	23.61	--	19.89
					09/04/12	--	24.11	--	19.39
					10/08/12	--	24.24	--	19.26

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Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
West Commodore Way									
Shallow Water-Bearing Zone									
01MW53	Eastbound Lane	43.11	16	26	09/05/08	--	23.52	--	19.59
					01/26/09	--	23.56	--	19.55
					04/06/09	--	23.53	--	19.58
					07/06/09	--	23.50	--	19.61
					01/25/10	--	23.72	--	19.39
					04/05/10	--	23.30	--	19.81
					07/06/10	--	23.37	--	19.74
					01/06/11	--	23.26	--	19.85
					04/11/11	--	23.19	--	19.92
					08/22/11	--	23.33	--	19.78
					12/05/11	--	23.53	--	19.58
					04/02/12	--	23.46	--	19.65
					09/04/12	--	23.56	--	19.55
					10/08/12	--	23.54	--	19.57
01MW83	North Shoulder	42.67	14	24	04/22/11	--	21.22	--	21.45
					04/25/11	--	21.24	--	21.43
					08/22/11	--	22.44	--	20.23
					12/05/11	--	22.31	--	20.36
					04/02/12	--	20.96	--	21.71
					10/08/12	--	22.83	--	19.84
01MW84	North Shoulder	43.62	13	23	04/22/11	--	18.05	--	25.57
					04/25/11	--	18.10	--	25.52
					08/22/11	--	18.23	--	25.39
					12/05/11	--	18.12	--	25.50
					04/02/12	--	16.95	--	26.67
					10/08/12	--	19.47	--	24.15
01MW85	South Shoulder	44.05	18	27	04/22/11	--	23.57	--	20.48
					08/22/11	--	23.74	--	20.31
					12/05/11	--	23.95	--	20.10
					04/02/12	Not measured; inaccessible			
					09/04/12	--	23.94	--	20.11
					10/08/12	--	24.02	--	20.03
01MW86	Eastbound Lane	44.80	14.5	24.5	04/22/11	--	18.93	--	25.87
					04/25/11	--	18.97	--	25.83
					08/22/11	--	19.02	--	25.78
					12/05/11	--	19.74	--	25.06
					04/02/12	--	18.82	--	25.98
					10/08/12	--	19.95	--	24.85
01MW87	Eastbound Lane	45.27	11	21	04/25/11	--	13.95	--	31.32
					08/22/11	--	13.97	--	31.30
					12/05/11	--	13.32	--	31.95
					04/02/12	--	11.55	--	33.72
					10/08/12	--	18.08	--	27.19
01MW88	North Shoulder	45.1	11	21	04/25/11	--	18.75	--	26.35
					08/22/11	--	18.92	--	26.18
					12/05/11	--	19.47	--	25.63
					04/02/12	--	18.15	--	26.95
					10/08/12	--	19.55	--	25.55
01MW89	South Shoulder	43.26	18	26	04/22/11	--	23.25	--	20.01
					04/25/11	--	23.25	--	20.01
					08/22/11	--	23.77	--	19.49
					12/05/11	--	23.96	--	19.30
					04/02/12	--	23.52	--	19.74
					09/04/12	--	23.89	--	19.37
					10/08/12	--	23.99	--	19.27

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Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
West Commodore Way									
Intermediate Water-Bearing Zone									
01MW48	Eastbound Lane	44.73	27	32	12/22/06	--	26.85	--	17.88
					09/05/08	--	26.25	--	18.48
		44.72			01/26/09	--	25.76	--	18.96
					04/06/09	--	24.80	--	19.92
					07/06/09	--	25.95	--	18.77
					01/25/10	--	24.10	--	20.62
					04/05/10	--	24.26	--	20.46
					07/06/10	--	24.32	--	20.40
					01/06/11	--	24.85	--	19.87
					04/11/11	--	23.48	--	21.24
					08/22/11	--	24.70	--	20.02
					12/05/11	--	24.66	--	20.06
					04/02/12	--	23.75	--	20.97
					10/08/12	--	24.45	--	20.27
01MW51	Eastbound Lane	44.20	29	39	12/22/06	--	26.48	--	17.72
					09/05/08	--	25.20	--	19.00
		44.93			01/26/09	--	19.90	--	25.03
					04/06/09	--	18.42	--	26.51
					07/06/09	--	20.19	--	24.74
					01/25/10	--	18.72	--	26.21
					04/05/10	--	19.25	--	25.68
					07/06/10	--	16.58	--	28.35
					01/06/11	--	16.01	--	28.92
					04/11/11	--	16.92	--	28.01
					08/22/11	--	24.69	--	20.24
					12/05/11	--	18.53	--	26.40
					04/02/12	17.52	17.53	0.01	27.41
					10/08/12	--	19.24	--	25.69
ASKO Hydraulic Property									
Perched Water									
MW03	Former Steam Cleaning Area	46.27	7	14	04/25/06	--	9.69	--	36.58
					08/17/06	--	11.41	--	34.86
					12/14/06	--	12.61	--	33.66
					09/05/08	--	10.71	--	35.56
		46.2			01/26/09	--	9.99	--	36.21
					04/06/09	--	9.50	--	36.70
					07/06/09	--	10.15	--	36.05
					01/25/10	--	9.84	--	36.36
					04/05/10	--	9.54	--	36.66
					07/06/10	--	9.84	--	36.36
					01/06/11	--	9.53	--	36.67
					04/11/11	--	9.49	--	36.71
					08/22/11	--	10.26	--	35.94
					12/05/11	--	9.90	--	36.30
					04/02/12	--	9.49	--	36.71
					09/04/12	--	10.51	--	35.69
					10/08/12	--	10.82	--	35.38
01SVE01	New Barrel Shed	50.18	5	13	04/05/10	--	--	--	--
					07/06/10	--	--	--	--
					01/06/11	--	--	--	--
					04/11/11	--	--	--	--
					08/22/11	Dry			
					12/05/11	Dry			
					04/02/12	--	--	--	--
					09/04/12	Dry			
					10/08/12	Dry			

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Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
ASKO Hydraulic Property									
Perched Water									
01MW70/01SVE02	New Barrel Shed	58.14	5	20	04/05/10	--	3.29	--	54.85
					07/06/10	--	7.62	--	50.52
					01/06/11	--	6.58	--	51.56
					04/11/11[6]	--	6.16	--	51.98
					08/22/11[6]	--	10.33	--	47.81
					12/05/11	--	7.83	--	50.31
					04/02/12	--	6.08	--	52.06
					09/04/12	--	9.60	--	48.54
					10/08/12	--	11.68	--	46.46
01MW71/01SVE03	New Barrel Shed	58.38	5	20	04/05/10	--	6.26	--	52.12
					07/06/10	--	7.58	--	50.80
					01/06/11	--	6.70	--	51.68
					04/11/11[6]	--	6.21	--	52.17
					08/22/11[6]	--	9.36	--	49.02
					12/05/11	--	7.94	--	50.44
					04/02/12	--	6.20	--	52.18
					09/04/12	--	9.42	--	48.96
					10/08/12	--	11.34	--	47.04
01MW79	New Barrel Shed	54.36	5	19	04/11/11[6]	--	8.06	--	46.30
					08/22/11[6]	--	9.23	--	45.13
					12/05/11	--	8.70	--	45.66
					04/02/12	--	8.16	--	46.20
					09/04/12	--	9.43	--	44.93
					10/08/12	--	10.03	--	44.33
Shallow Water-Bearing Zone									
MW01	West Side	46.53	18	28	04/26/06	--	23.26	--	23.27
					08/17/06	--	23.31	--	23.22
					12/13/06	--	23.30	--	23.23
					09/05/08	--	23.31	--	23.22
		46.44			01/26/09	--	23.46	--	22.98
					04/06/09	--	23.37	--	23.07
					07/06/09	--	23.29	--	23.15
					01/25/10	--	23.17	--	23.27
					04/05/10	--	23.12	--	23.32
					07/06/10	--	23.15	--	23.29
					01/06/11	--	23.06	--	23.38
					04/11/11	--	23.05	--	23.39
					08/22/11	--	23.01	--	23.43
					12/05/11	--	23.18	--	23.26
					04/02/12	--	23.00	--	23.44
					09/04/12	--	23.12	--	23.32
					10/08/12	--	23.11	--	23.33
MW02	West Side	46.81	18	28	04/26/06	--	25.01	--	21.80
					08/17/06	--	25.03	--	21.78
					12/13/06	--	25.02	--	21.79
					09/05/08	--	25.03	--	21.78
		46.73			01/26/09	--	25.16	--	21.57
					04/06/09	--	25.08	--	21.65
					07/06/09	--	24.98	--	21.75
					01/25/10	--	24.77	--	21.96
					04/05/10	--	24.77	--	21.96
					07/06/10	--	24.84	--	21.89
					01/06/11	--	24.68	--	22.05
					04/11/11	--	24.63	--	22.10
					08/22/11	--	24.83	--	21.90
					12/05/11	--	24.97	--	21.76
					04/02/12	--	24.68	--	22.05
					09/04/12	--	24.88	--	21.85
					10/08/12	--	24.92	--	21.81

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Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
ASKO Hydraulic Property									
Shallow Water-Bearing Zone									
MW04	Former Steam Cleaning Area	46.33	18	28	04/25/06	--	22.38	--	23.95
					08/17/06	--	22.52	--	23.81
					12/13/06	--	22.51	--	23.82
					09/05/08	--	22.47	--	23.86
		46.27			01/26/09	--	22.63	--	23.64
					04/06/09	--	22.50	--	23.77
					07/06/09	--	22.45	--	23.82
					01/25/10	--	22.35	--	23.92
					04/05/10	--	22.29	--	23.98
					07/06/10	--	22.32	--	23.95
					01/06/11	--	22.25	--	24.02
					04/11/11	--	22.22	--	24.05
					08/22/11	--	22.19	--	24.08
					12/05/11	--	22.36	--	23.91
					04/02/12	--	22.23	--	24.04
					09/04/12	--	22.27	--	24.00
					10/08/12	--	22.81	--	23.46
MW05	Former Steam Cleaning Area	45.88	19	29	04/25/06	--	21.79	--	24.09
					08/17/06	--	21.89	--	23.99
					12/13/06	--	21.84	--	24.04
					09/05/08	--	21.81	--	24.07
		45.82			01/26/09	--	21.99	--	23.83
					04/06/09	--	21.86	--	23.96
					07/06/09	--	21.81	--	24.01
					01/25/10	--	21.72	--	24.10
					04/05/10	--	21.63	--	24.19
					07/06/10	--	21.69	--	24.13
					01/06/11	--	22.62	--	23.20
					04/11/11	--	21.58	--	24.24
					08/22/11	--	21.53	--	24.29
					12/05/11	--	21.68	--	24.14
					04/02/12	--	21.57	--	24.25
					09/04/12	--	21.63	--	24.19
					10/08/12	--	21.63	--	24.19
MW06	Former Heating Fuel UST	45.82	18	28	04/25/06	--	23.20	--	22.62
					08/17/06	--	23.33	--	22.49
					12/13/06	--	23.32	--	22.50
					09/05/08	--	23.27	--	22.55
		45.76			01/26/09	--	23.35	--	22.41
					04/06/09	--	23.25	--	22.51
					07/06/09	--	23.18	--	22.58
					01/25/10	--	23.00	--	22.76
					04/05/10	--	22.95	--	22.81
					07/06/10	--	23.08	--	22.68
					01/06/11	--	22.99	--	22.77
					04/11/11	--	22.92	--	22.84
					08/22/11	--	23.02	--	22.74
					12/05/11	--	23.21	--	22.55
					04/02/12	--	23.01	--	22.75
					09/04/12	--	23.14	--	22.62
					10/08/12	--	23.17	--	22.59
01MW07	Barrel Incline	45.17	15	30	06/20/06	--	23.51	--	21.66
					12/11/06	--	23.32	--	21.85
					09/05/08	--	23.35	--	21.82
		45.09			01/26/09	--	23.33	--	21.76
					04/06/09	--	23.28	--	21.81
					07/06/09	--	23.24	--	21.85
					01/25/10	--	22.16	--	22.93
					04/05/10	--	23.12	--	21.97
					07/06/10	--	23.09	--	22.00
					01/06/11	--	22.94	--	22.15

SoundEarth Strategies

Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
ASKO Hydraulic Property									
Shallow Water-Bearing Zone									
01MW07 (continued)	Barrel Incline	45.09	15	30	04/11/11	--	22.90	--	22.19
					08/22/11	--	22.88	--	22.21
					12/05/11	--	23.01	--	22.08
					04/02/12	--	23.05	--	22.04
					09/04/12	--	23.01	--	22.08
					10/08/12	--	23.04	--	22.05
01MW15	New Barrel Shed	50.89	10	30	06/20/06	--	22.90	--	27.99
					12/11/06	--	23.71	--	27.18
					09/05/08	--	22.79	--	28.10
		50.83			01/26/09	--	25.50	--	25.33
					04/06/09	--	22.84	--	27.99
					07/06/09	--	22.73	--	28.10
					01/25/10	--	22.80	--	28.03
					04/05/10	--	22.55	--	28.28
					07/06/10	--	22.65	--	28.18
					01/06/11	--	22.55	--	28.28
					04/11/11	--	22.56	--	28.27
					08/22/11	--	22.28	--	28.55
					12/05/11	--	22.49	--	28.34
					04/02/12	--	22.60	--	28.23
					09/04/12	--	22.45	--	28.38
					10/08/12	--	22.37	--	28.46
01MW44	West of Barrel Incline	49.50	15	30	09/27/06	--	22.63	--	26.87
					12/12/06	--	22.52	--	26.98
					09/05/08	--	22.56	--	26.94
		49.46			01/26/09	--	22.76	--	26.70
					04/06/09	--	22.61	--	26.85
					07/06/09	--	22.56	--	26.90
					01/25/10	--	22.56	--	26.90
					04/05/10	--	22.38	--	27.08
					07/06/10	--	22.42	--	27.04
					01/06/11	--	22.33	--	27.13
					04/11/11	--	22.32	--	27.14
					08/22/11	--	22.13	--	27.33
					12/05/11	--	22.29	--	27.17
					04/02/12	--	22.28	--	27.18
					09/04/12	--	22.28	--	27.18
					10/08/12	--	22.22	--	27.24
01MW45	West of Barrel Incline	45.83	12	27	09/27/06	--	26.30	--	19.53
					12/12/06	--	24.30	--	21.53
					09/05/08	--	24.22	--	21.61
		45.89			01/26/09	--	24.28	--	21.61
					04/06/09	--	24.18	--	21.71
					07/06/09	--	24.15	--	21.74
					01/25/10	--	24.10	--	21.79
					04/05/10	--	24.04	--	21.85
					07/06/10	--	24.00	--	21.89
					01/06/11	--	23.90	--	21.99
					04/11/11	--	23.91	--	21.98
					08/22/11	--	23.77	--	22.12
					12/05/11	--	23.90	--	21.99
					04/02/12	--	24.00	--	21.89
					09/04/12	--	23.91	--	21.98
					10/08/12	--	23.96	--	21.93

SoundEarth Strategies

Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
ASKO Hydraulic Property									
Shallow Water-Bearing Zone									
01MW46	West of Barrel Incline	47.70	13	28	09/27/06	--	26.89	--	20.81
					12/12/06	--	25.46	--	22.24
					09/05/08	--	25.51	--	22.19
		46.68			01/26/09	--	25.55	--	21.13
					04/06/09	--	25.45	--	21.23
					07/06/09	--	25.44	--	21.24
					01/25/10	--	25.38	--	21.30
					04/05/10	--	25.31	--	21.37
					07/06/10	--	25.28	--	21.40
					01/06/11	--	25.18	--	21.50
					04/11/11	--	25.17	--	21.51
					08/22/11	--	25.00	--	21.68
					12/05/11	--	25.22	--	21.46
					04/02/12	--	25.26	--	21.42
					09/04/12	Not measured; inaccessible			
					10/08/12	--	25.30	--	21.38
01MW55	New Barrel Shed	50.37	14.8	29.8	11/25/08	--	22.54	--	27.83
					01/26/09	--	23.38	--	26.99
					04/06/09[6]	--	23.33	--	27.04
					07/06/09[6]	--	23.25	--	27.12
					01/25/10[6]	--	23.22	--	27.15
					04/05/10[6]	--	22.35	--	28.02
					07/06/10[6]	--	22.91	--	27.46
					01/06/11[6]	--	22.59	--	27.78
					04/11/11[6]	--	22.47	--	27.90
					08/22/11[6]	--	22.71	--	27.66
					12/05/11	--	22.82	--	27.55
					04/02/12	--	22.29	--	28.08
					09/04/12	--	22.90	--	27.47
					10/08/12	--	22.89	--	27.48
01MW56	West of Barrel Incline	44.50	16.5	26.5	11/25/08	--	23.05	--	21.45
					01/26/09	--	23.08	--	21.42
					04/06/09	--	23.00	--	21.50
					07/06/09	--	22.98	--	21.52
					01/25/10	--	22.88	--	21.62
					04/05/10	--	22.82	--	21.68
					07/06/10	--	22.80	--	21.70
					01/06/11	--	22.65	--	21.85
					04/11/11	--	22.65	--	21.85
					08/22/11	--	22.56	--	21.94
					12/05/11	--	22.72	--	21.78
					04/02/12	--	22.76	--	21.74
					09/04/12	--	22.71	--	21.79
					10/08/12	--	22.75	--	21.75
01MW58	Former Steam Cleaning Area	52.00	25.9	36	11/25/08	--	26.55	--	25.45
					01/26/09	--	26.78	--	25.22
					04/06/09	--	26.59	--	25.41
					07/06/09	--	26.55	--	25.45
					01/25/10	--	26.52	--	25.48
					04/05/10	--	26.38	--	25.62
					07/06/10	--	26.40	--	25.60
					01/06/11	--	26.34	--	25.66
					04/11/11	--	26.40	--	25.60
					08/22/11	--	26.15	--	25.85
					12/05/11	--	26.28	--	25.72
					04/02/12	--	26.39	--	25.61
					09/04/12	--	26.30	--	25.70
					10/08/12	--	26.22	--	25.78

SoundEarth Strategies

Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
ASKO Hydraulic Property									
Shallow Water-Bearing Zone									
01MW60	North of Former Rail Spurs	58.01	24	39	01/26/09	--	30.12	--	27.89
					04/06/09	--	29.97	--	28.04
					07/06/09	--	29.81	--	28.20
					01/25/10	--	29.89	--	28.12
					04/05/10	--	29.56	--	28.45
					07/06/10	--	29.78	--	28.23
					01/06/11	--	29.64	--	28.37
					04/11/11	--	29.69	--	28.32
					08/22/11	--	29.28	--	28.73
					12/05/11	--	29.59	--	28.42
					04/02/12	--	29.80	--	28.21
					09/04/12	--	29.55	--	28.46
					10/08/12	--	29.40	--	28.61
01MW61	North of Former Rail Spurs	58.93	22.5	37.5	01/26/09	--	30.29	--	28.64
					04/06/09	--	30.12	--	28.81
					07/06/09	--	29.96	--	28.97
					01/25/10	--	30.00	--	28.93
					04/05/10	--	29.68	--	29.25
					07/06/10	--	29.93	--	29.00
					01/06/11	--	29.82	--	29.11
					04/11/11	--	29.81	--	29.12
					08/22/11	--	29.42	--	29.51
					12/05/11	--	29.82	--	29.11
					04/02/12	--	29.98	--	28.95
					09/04/12	--	29.77	--	29.16
					10/08/12	--	29.55	--	29.38
01MW62	North of Former Rail Spurs	58.54	24	39	01/26/09	--	31.24	--	27.30
					04/06/09	--	31.10	--	27.44
					07/06/09	--	31.00	--	27.54
					01/25/10	--	31.00	--	27.54
					04/05/10	--	30.83	--	27.71
					07/06/10	--	31.91	--	26.63
					01/06/11	--	30.81	--	27.73
					04/11/11	--	30.83	--	27.71
					08/22/11	--	30.55	--	27.99
					12/05/11	--	30.75	--	27.79
					04/02/12	--	30.90	--	27.64
					09/04/12	--	30.73	--	27.81
					10/08/12	--	30.62	--	27.92
01MW63	New Barrel Shed	54.38	19.5	32	01/26/09	--	27.09	--	27.29
					04/06/09[6]	--	26.86	--	27.52
					07/06/09[6]	--	26.83	--	27.55
					01/25/10[6]	--	26.82	--	27.56
					04/05/10[6]	--	26.48	--	27.90
					07/06/10[6]	--	26.65	--	27.73
					01/06/11[6]	--	26.49	--	27.89
					04/11/11[6]	--	26.37	--	28.01
					08/22/11[6]	--	26.22	--	28.16
					12/05/11	--	26.49	--	27.89
					04/02/12	--	26.26	--	28.12
					09/04/12	--	26.37	--	28.01
					10/08/12	--	26.35	--	28.03

SoundEarth Strategies

Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
ASKO Hydraulic Property									
Shallow Water-Bearing Zone									
01MW64	North of Former Rail Spurs	57.74	25	40	04/06/09	--	31.32	--	26.42
					07/06/09	--	31.27	--	26.47
					01/25/10	--	31.28	--	26.46
					04/05/10	--	31.14	--	26.60
					07/06/10	--	31.14	--	26.60
					01/06/11	--	31.05	--	26.69
					04/11/11	--	31.10	--	26.64
					08/22/11	--	30.90	--	26.84
					12/05/11	--	31.01	--	26.73
					04/02/12	--	31.09	--	26.65
					09/04/12	--	30.99	--	26.75
					10/08/12	--	30.97	--	26.77
01MW80	Former Steam Cleaning Area	44.83	20	28	04/22/11	--	23.96	--	20.87
					04/25/11	--	23.95	--	20.88
					08/22/11	--	24.00	--	20.83
					12/05/11	--	24.21	--	20.62
					04/02/12	--	24.14	--	20.69
					09/04/12	--	24.22	--	20.61
					10/08/12	--	24.27	--	20.56
01MW81	Former Steam Cleaning Area	45.86	19.5	28.5	04/25/11	--	21.35	--	24.51
					08/22/11	--	--	--	--
					12/05/11	--	21.78	--	24.08
					04/02/12	--	21.68	--	24.18
					09/04/12	--	21.72	--	24.14
					10/08/12	--	21.73	--	24.13
01MW82	Former Steam Cleaning Area	45.68	19	27	04/25/11	--	21.06	--	24.62
					08/22/11	--	--	--	--
					12/05/11	--	21.34	--	24.34
					04/02/12	--	21.25	--	24.43
					09/04/12	--	21.28	--	24.40
					10/08/12	--	21.27	--	24.41
ASKO Hydraulic Property									
Intermediate Water-Bearing Zone									
01MW54	West of Barrel Incline	49.25	37	42	11/25/08	--	30.34	--	18.91
					01/26/09	--	30.32	--	18.93
					04/06/09[6]	--	29.96	--	19.29
					07/06/09[6]	--	30.73	--	18.52
					01/25/10[6]	--	30.13	--	19.12
					04/05/10[6]	--	31.57	--	17.68
					07/06/10[6]	--	30.02	--	19.23
					01/06/11[6]	--	29.83	--	19.42
					04/11/11[6]	--	29.96	--	19.29
					08/22/11[6]	--	30.13	--	19.12
					12/05/11	--	30.39	--	18.86
					04/02/12	--	30.31	--	18.94
					10/08/12	--	30.44	--	18.81
01MW57	Former Steam Cleaning Area	45.77	35.5	41	11/25/08	--	26.75	--	19.02
					01/26/09	--	26.73	--	19.04
					04/06/09	--	26.57	--	19.20
					07/06/09	--	26.58	--	19.19
					01/25/10	--	26.43	--	19.34
					04/05/10	--	26.39	--	19.38
					07/06/10	--	26.42	--	19.35
					01/06/11	--	26.31	--	19.46
					04/11/11	--	26.48	--	19.29
					08/22/11	--	26.51	--	19.26
					12/05/11	--	26.72	--	19.05
					04/02/12	--	26.90	--	18.87
					10/08/12	--	26.85	--	18.92

Table 15
Summary of Groundwater Elevations
TOC Holdings Co. Facility No. 01-600
Seattle Terminal Properties
Seattle, Washington

Soil Boring/ Well Identification	Well Location	Top of Casing Elevation[1] (feet above MSL)	Depth to Top of Well Screen (feet approximate)	Depth to Bottom of Well Screen (feet approximate)	Date	Depth to LNAPL[2] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[1] (feet above MSL)
ASKO Hydraulic Property									
Intermediate Water-Bearing Zone									
01MW76	West of Barrel Incline	45.79	35	40	04/11/11[6]	--	25.89	--	19.90
					08/22/11[6]	--	26.25	--	19.54
					12/05/11	--	26.30	--	19.49
					04/02/12	--	26.23	--	19.56
					10/08/12	--	26.45	--	19.34
01MW77	New Barrel Shed	50.3	36	41	04/11/11[6]	--	29.85	--	20.45
					08/22/11[6]	--	29.57	--	20.73
					12/05/11	--	30.07	--	20.23
					04/02/12	--	29.99	--	20.31
					10/08/12	--	29.66	--	20.64
01MW78	North of Former Rail Spurs	58.17	45	50	04/11/11[6]	--	37.77	--	20.40
					08/22/11[6]	--	37.45	--	20.72
					12/05/11	--	37.98	--	20.19
					04/02/12	--	37.92	--	20.25
					10/08/12	--	37.52	--	20.65
ASKO Hydraulic Property									
Deep Water-Bearing Zone									
01MW65	New Barrel Shed	50.42	52	62	04/06/09	--	34.15	--	16.27
					07/06/09	--	33.88	--	16.54
					01/25/10	--	33.88	--	16.54
					04/05/10	--	33.52	--	16.90
					07/06/10	--	33.90	--	16.52
					01/06/11	--	34.12	--	16.30
					04/11/11	--	34.02	--	16.40
					08/22/11	--	33.72	--	16.70
					12/05/11	--	34.43	--	15.99
					04/02/12	--	34.03	--	16.39
					10/08/12	--	33.94	--	16.48
West Waterfront Property									
Shallow Water-Bearing Zone									
02MW14	Parking Lot	30.97	4	15	11/25/08	--	11.16	--	19.81
					01/26/09	--	11.08	--	19.89
					04/06/09	--	11.77	--	19.20
					07/06/09	--	10.41	--	20.56
					01/25/10	--	8.48	--	22.49
					04/05/10	--	9.24	--	21.73
					07/06/10	--	10.09	--	20.88
					01/06/11	--	9.01	--	21.96
					04/11/11	--	8.94	--	22.03
					08/22/11	--	10.69	--	20.28
					12/05/11	--	10.85	--	20.12
					04/02/12	--	9.05	--	21.92
					10/08/12	--	11.24	--	19.73

NOTES:

On 8/22/11 LNAPL was encountered in well 01MW41 but could not be measured due to interference with probe; therefore the LNAPL thickness and groundwater elevation could not be calculated.

[1] Initial elevation data for wells 01MW01 through 01MW29 obtained from the *Final Cleanup Action Plan* prepared by Foster Wheeler and dated May 2003. Foster Wheeler survey based on North American Vertical Datum of 1988. Additional elevations obtained from surveys completed by Axis Survey and Mapping or SoundEarth between January 23, 2009 and June 7, 2012, and based on North American Vertical Datum of 1988. The specific gravity for LNAPL is estimated at 0.80 for petroleum hydrocarbon mixtures.

[2] As measured from a fixed spot on the well casing rim.

[3] LNAPL thickness not reported by previous consultant.

[4] Estimate for LNAPL.

[5] Wells installed at 45 degree angle. Measurements based off of auger length, not actual depth.

[6] DNAPL measurements were conducted, however, DNAPL was not encountered.

-- = not applicable/not measured
AST = aboveground storage tank
DNAPL = dense non-aqueous phase liquid
Dry = measurable groundwater not encountered in well
HQ = headquarters
LNAPL = light non-aqueous phase liquid
MSL = mean sea level
PCP = pentachlorophenol
UST = underground storage tank

APPENDIX A

KING COUNTY ASSESOR RECORDS

PARCEL DATA

Parcel	112503-9120
Name	TOC HOLDINGS INC
Site Address	2750 W COMMODORE WAY
Geo Area	12-50
Spec Area	0-0
Property Name	GEORGE BROOM'S SONS INC

Jurisdiction	SEATTLE
Levy Code	0010
Property Type	C
Plat Block / Building Number	
Plat Lot / Unit Number	
Quarter-Section-Township-Range	SW-11-25-3

Legal Description

E 330.04 FT OF GL 5 N OF W COMMODORE WY LESS POR PLTD LESS ST & E 78.025 FT OF LOT 5 & ALL LOTS 6-7-8 & 9 BLK 7 SEATTLE TIDE LANDS ADD

LAND DATA

Highest & Best Use As If Vacant	COMMERCIAL SERVICE
Highest & Best Use As Improved	OTHER
Present Use	Terminal(Marine)
Base Land Value SqFt	0
Base Land Value	3,994,500
% Base Land Value Impacted	100
Base Land Valued Date	5/1/2012
Base Land Value Tax Year	2013
Land SqFt	140,160
Acres	3.22

Percentage Unusable	0
Unbuildable	NO
Restrictive Size Shape	NO
Zoning	IG2 U/65
Water	WATER DISTRICT
Sewer/Septic	PUBLIC
Road Access	PUBLIC
Parking	ADEQUATE
Street Surface	PAVED

Views

Rainier	
Territorial	
Olympics	
Cascades	
Seattle Skyline	
Puget Sound	
Lake Washington	
Lake Sammamish	
Lake/River/Creek	
Other View	

Waterfront

Waterfront Location	SHIP CANAL
Waterfront Footage	
Lot Depth Factor	
Waterfront Bank	
Tide/Shore	UPLANDS WITH TIDELANDS/SHORELANDS
Waterfront Restricted Access	
Waterfront Access Rights	NO
Poor Quality	
Proximity Influence	NO

Designations

Historic Site	
Current Use	
Nbr Bldg Sites	
Adjacent to Golf Fairway	NO
Adjacent to Greenbelt	NO
Other Designation	NO
Deed Restrictions	NO
Development Rights Purchased	NO

Nuisances

Topography	NO
Traffic Noise	
Airport Noise	
Power Lines	NO
Other Nuisances	NO

Problems

Water Problems	NO
Transportation Concurrency	NO
Other Problems	NO

Reference Links:

- King County Tax Links
- Property Tax Advisor
- Washington State Department of Revenue (External link)
- Washington State Board of Tax Appeals (External link)
- Board of Appeals/Equalization
- Districts Report
- iMap
- Recorder's Office

  Scanned images of surveys and other map documents

Easements	NO
Native Growth Protection Easement	NO
DNR Lease	NO

Environmental

Environmental	NO

BUILDING

Building Number	1
Building Description	WAREHOUSE
Number Of Buildings Aggregated	1
Predominant Use	WAREHOUSE OFFICE (810)
Shape	Rect or Slight Irreg
Construction Class	WOOD FRAME
Building Quality	LOW/AVERAGE
Stories	1
Building Gross Sq Ft	7,872
Building Net Sq Ft	7,872
Year Built	1932
Eff. Year	1970
Percentage Complete	0
Heating System	(unknown)
Sprinklers	
Elevators	

1 2 3

Picture of Building 1

Section(s) Of Building Number: 1

Section Number	Section Use	Description	Stories	Height	Floor Number	Gross Sq Ft	Net Sq Ft
1	STORAGE WAREHOUSE (406)		1	16	0	6,400	6,400
2	STORAGE WAREHOUSE (406)		1	16	0	1,472	1,472

TAX ROLL HISTORY

Account	Valued Year	Tax Year	Omit Year	Levy Code	Appraised Land Value	Appraised Imps Value	Appraised Total Value	New Dollars	Taxable Land Value	Taxable Imps Value	Taxable Total Value	Tax Value Reason
112503912001	2012	2013		0010	$3,419,600	$1,000	$3,420,600	$0	$3,419,600	$1,000	$3,420,600	
112503912001	2011	2012		0010	$4,499,100	$1,000	$4,500,100	$0	$4,499,100	$1,000	$4,500,100	
112503912001	2010	2011		0010	$3,263,500	$1,000	$3,264,500	$0	$3,263,500	$1,000	$3,264,500	
112503912001	2009	2010		0010	$3,263,500	$1,000	$3,264,500	$0	$3,263,500	$1,000	$3,264,500	
112503912001	2008	2009		0010	$6,206,700	$0	$6,206,700	$0	$6,206,700	$0	$6,206,700	

SALES HISTORY

REVIEW HISTORY

Tax Year	Review Number	Review Type	Appealed Value	Hearing Date	Settlement Value	Decision	Status
2011	1001369	Local Appeal	$3,264,500	1/1/1900	$0		Completed
2010	0904698	Local Appeal	$5,257,000	8/11/2010	$3,264,500	REVISE, ASSESSOR RECOMMENDED	Completed

PERMIT HISTORY

HOME IMPROVEMENT EXEMPTION

Updated: Sept. 7, 2011

Easements	NO
Native Growth Protection Easement	NO
DNR Lease	NO

Environmental

Environmental	NO

BUILDING

Building Number	2
Building Description	WAREHOUSE
Number Of Buildings Aggregated	1
Predominant Use	STORAGE WAREHOUSE (406)
Shape	Rect or Slight Irreg
Construction Class	PREFAB STEEL
Building Quality	LOW COST
Stories	1
Building Gross Sq Ft	1,920
Building Net Sq Ft	1,920
Year Built	1970
Eff. Year	1970
Percentage Complete	0
Heating System	(unknown)
Sprinklers	
Elevators	

1 2 3

Picture of Building 1

Section(s) Of Building Number: 2

Section Number	Section Use	Description	Stories	Height	Floor Number	Gross Sq Ft	Net Sq Ft
1	STORAGE WAREHOUSE (406)		1	12	0	1,920	1,920

TAX ROLL HISTORY

Account	Valued Year	Tax Year	Omit Year	Levy Code	Appraised Land Value	Appraised Imps Value	Appraised Total Value	New Dollars	Taxable Land Value	Taxable Imps Value	Taxable Total Value	Tax Value Reason
112503912001	2012	2013		0010	$3,419,600	$1,000	$3,420,600	$0	$3,419,600	$1,000	$3,420,600	
112503912001	2011	2012		0010	$4,499,100	$1,000	$4,500,100	$0	$4,499,100	$1,000	$4,500,100	
112503912001	2010	2011		0010	$3,263,500	$1,000	$3,264,500	$0	$3,263,500	$1,000	$3,264,500	
112503912001	2009	2010		0010	$3,263,500	$1,000	$3,264,500	$0	$3,263,500	$1,000	$3,264,500	
112503912001	2008	2009		0010	$6,206,700	$0	$6,206,700	$0	$6,206,700	$0	$6,206,700	

SALES HISTORY

REVIEW HISTORY

Tax Year	Review Number	Review Type	Appealed Value	Hearing Date	Settlement Value	Decision	Status
2011	1001369	Local Appeal	$3,264,500	1/1/1900	$0		Completed
2010	0904698	Local Appeal	$5,257,000	8/11/2010	$3,264,500	REVISE, ASSESSOR RECOMMENDED	Completed

PERMIT HISTORY

HOME IMPROVEMENT EXEMPTION

Updated: Sept. 7, 2011

Easements	NO
Native Growth Protection Easement	NO
DNR Lease	NO

Environmental

Environmental	NO

BUILDING

Building Number	3
Building Description	Storage
Number Of Buildings Aggregated	1
Predominant Use	STORAGE WAREHOUSE (406)
Shape	Approx Square
Construction Class	PREFAB STEEL
Building Quality	LOW COST
Stories	1
Building Gross Sq Ft	192
Building Net Sq Ft	192
Year Built	2004
Eff. Year	2004
Percentage Complete	0
Heating System	(unknown)
Sprinklers	
Elevators	

1 2 3

Picture of Building 1

TAX ROLL HISTORY

Account	Valued Year	Tax Year	Omit Year	Levy Code	Appraised Land Value	Appraised Imps Value	Appraised Total Value	New Dollars	Taxable Land Value	Taxable Imps Value	Taxable Total Value	Tax Value Reason
112503912001	2012	2013		0010	$3,419,600	$1,000	$3,420,600	$0	$3,419,600	$1,000	$3,420,600	
112503912001	2011	2012		0010	$4,499,100	$1,000	$4,500,100	$0	$4,499,100	$1,000	$4,500,100	
112503912001	2010	2011		0010	$3,263,500	$1,000	$3,264,500	$0	$3,263,500	$1,000	$3,264,500	
112503912001	2009	2010		0010	$3,263,500	$1,000	$3,264,500	$0	$3,263,500	$1,000	$3,264,500	
112503912001	2008	2009		0010	$6,206,700	$0	$6,206,700	$0	$6,206,700	$0	$6,206,700	

SALES HISTORY

REVIEW HISTORY

Tax Year	Review Number	Review Type	Appealed Value	Hearing Date	Settlement Value	Decision	Status
2011	1001369	Local Appeal	$3,264,500	1/1/1900	$0		Completed
2010	0904698	Local Appeal	$5,257,000	8/11/2010	$3,264,500	REVISE, ASSESSOR RECOMMENDED	Completed

PERMIT HISTORY

HOME IMPROVEMENT EXEMPTION

Updated: Sept. 7, 2011

2737 Commodore Way,
Seattle, Washington.
November 17, 1941.

Mr. Harold Sparkman,
Chief Land and Improvement Deputy,
County Assessors Office,
Seattle, Washington.

Dear Sir:

We are writing you in regard to the property which we purchased from the Rattan Furniture Co. in 1939, the description of which is as follows:

Tax lot #63--East 111.04 feet of Government Lot #5, lying North of Commodore Way.

The buildings which have in the past been assessed to this tax lot are no longer in existance. They were destroyed in the latter part of 1940.

We are therefore requesting that you strike this part of your valuation from your tax rolls. We would appreciate your notifying us when this has been done.

Yours very truly,

JOBBERS ~~OIL~~ CO.

BY Jack J. Reed

JJR:j

DISTRICT 10-B. ADDITION Section 11 Twp. 25 Range 3 Ewm Block Tract or Lot TAX LOT 63 #251

PERMIT No.

DATE

Bldg "N"

Fee Owner

Address of Property About 2746 Commodore Way

Condition of Exterior FAIR Interior POOR Foundation POOR Floor Plan: Good Accept Poor Architect

USE WAREHOUSE

1	No. Stories
	No. Stores
1	No. Rooms
	Basement
	No. Offices
	No. Apartments
	1 rm. 2 rm. 3 rm.
	4 rm. 5 rm. 6 rm.

ROOF CONSTRUCTION

X	Frame Lam
	Mill Construction
	Rein. Concrete
	No. Trusses
	Wood Steel

ROOFING MATERIAL

	Tar and Gravel
Or	TAR PAPER

FLOOR FINISHES

X	Fir Maple
	Oak 2" x 6" T&G
	Lino. 3" x 6" T&G
	Cement
	Terrazzo
	Raecolith
	Tile
Or	

Tile Lino.

Tile Total: Baths Fl. Walls; Sq. Ft. N Floors; Sq. Ft. O Walls; Lin. Ft. N Dr. Bds.

Lino. Total: Sq. Ft. E Floors; Sq. Ft. Walls; Lin. Ft. Dr. Bds.; Kit's. Fl. Walls

PLUMBING

	No. Fixtures
N	Toilets
O	Tubs, Leg or Pem.
N	Basins, Ped.
E	Sinks
	Urinals
	Showers (Tub) (Stall)
	Laundry Trays
	H. W. Tank Fl. Drains
NONE	Sprink. Sys. No. Hds.

TYPE OF CONSTRUCTION

X	Frame
	Single Double
	Ordinary Masonry
X	Mill Construction Light T
	Class A Rein. Con.
	Stru. Steel and Con.
	Tile Brick
	Con. Rein. Con.

Good Med Cheap

FOUNDATION

	Mud Sills
X	Post and Pier 80%
	Brick
	Concrete
X	Pile

BASEMENT

N	Full %
O	Sub-Basement
N	Size x
E	Garage No. Cars
	Floors
	Plastered
	Living Rooms
	Service Rooms

Date Built 1932 [X] Finished [ ] Unfinished [ ] Remodeled

Effective Age 16 Years Future Life 15 Years

Dep. For Cond. 40 Dep. For Ob. Dep. For Es. Total 40 50 K 78

REPRODUCTION COST Factor Make Up

Factor	Plus or Minus	Dimensions	S. F. Area	Factor	Cost

Sup. Building A. V. $

Total $

HEATING

	Stove
N	Pipeless Furnace
O	Gravity H. A
N	Air Cond., Fan
E	Arcola
	1-Pipe Steam
	2-Pipe St. or Vapor
	Hot Water
	Oil Burner
	Coal Stoker

WIRING

	Knobe & Tube
	Flex Cable
X	Conduit
	Power Wiring
	Range Wiring
	No. Outlets

ELEVATORS

N	Pass.	Freight
O	Auto.	Elec.
N	Man.	Hyd.
E		Man.

4100 4200 8300

EXTERIOR WALL CONSTR.

	Single Double
	2" x 4" Stud Walls
X	2" x 6" Stud Walls 2'0. C.
	Brick Walls
	Brick With Pilasters
	Concrete Walls
	Con. With Pilasters
	Tile Walls
	Rein. Con. Skel.
	Filler Walls
	Laminated Walls

EXTERIOR FACING

	Siding Shingles
	Shakes Stucco
	Brick Veneer
X	BOARD & BATTEN Rind
	Stone Cast S.
	Terra Cotta
	Struct. Glass
	Trim

FLOOR CONSTRUCTION

Joist Con. Size SEE x PLAN

O. C. In Bridg

	Mill Construction
	Rein. Con.

INTERIOR WALLS

	Stud and Plaster
O	Lam. Plastered
P	Ply Wood
E	Ceiled
N	Plaster Board
	Painted
S	Stain Varnish
T	Kalsomine
U	Whitewashed
O	Unfinished
S	

INTERIOR TRIM

	Fir
N	Mah. Oak
O	Metal
N	Doors
E	Windows
	Stained
	Varnished
	Painted
	Unfinished

GAS STATIONS

	Frame
	Metal
	Masonry
	Plastered or Ceiled
	Floors

SERVICE BUILDING

	Frame
	Metal
	Masonry
	Plastered or Ceiled
	Floors

TANKS, ETC., LIST

	Hoists: Elect. Hyd.

DOCKS AND PIERS

	Treated Piles and Timbers
	Untreated
	Treated Piles only
	Average Length
	Paved

C. H.	
S.B.	
B	
1	
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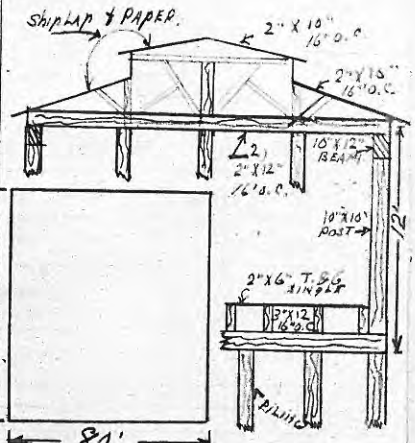
22	

GROUND FLOOR AREA

TOTAL FLOOR AREA 6400

This Bldg was formerly on Tax Lot 50 it was cut in half to a size 80' x 80' and moved to Tax Lot 63



Other Buildings	Construction	Floor	Roof	Stories	Dimensions	S. F. Area	Factor	Value	% Dep.	Deprec.	Net Value
Garage					x			$		$	$
					x			$		$	$
					x			$		$	$
					x			$		$	$

LAND INFORMATION

1 Size of Lot or Tract ____ x ____ Steep ____ Sloping ____ Level ____ Above or Below Grade ____ Ft.

2 Street or Road Graded ____ Paved, Hard Surface or Gravel ____ Alley ____ Paved ____

Sidewalk ____ Sewer ____ Cesspool ____ Septic Tank ____ Well ____ Electric Pump ____

4 Landscaping ____ Condition ____

5 Trend of District ____ Static ____ Up ____ Down ____ Value of Lot or Tract $ ____ Front Street Factor $ ____ Side Street Factor $ ____

Depth Factor $ ____ Credit ____

6 Use of District Residential ____ Apartment ____ Business ____ Industrial ____ Water Front ____ View ____

7 Residential District Best ____ Good ____ Medium ____ Poor ____ Old ____ New ____ Zoned for ____

STORE BUILDING'S ORIGINAL COST ____

SALE PRICE $ ____

STORE SIZES ____

No.		x		Rent per Mo.
		x		
		x		
		x		
		x		
		x		
		x		
		x		
		x		

Potential Gross Income ____

Actual Gross Income ____

Rentals Include: Heat ____ Light ____

Number Stores With Plumbing ____

Number Stores Without Plumbing ____

REMARKS: ____

HOTELS AND APARTMENT'S ORIGINAL COST — UNFURNISHED

	Per Month	Total
No. Single Rooms ____ at ____		
No. 2 Room Apartments ____ at ____		
No. 3 Room Apartments ____ at ____		
No. 4 Room Apartments ____ at ____		
No. 5 Room Apartments ____ at ____		
No. 6 Room Apartments ____ at ____		
Garage, Number of Cars ____ at ____		
Potential Gross Income		
Actual Gross Income		

Rentals Include: Heat ____ Light ____

Phone Service ____ Janitor Service ____

Number Apartments Furnished ____

Number Apartments Unfurnished ____

Number Rooms or Apartments With Baths ____

Number Bath Rooms ____ Number Public Bath Rooms ____

REMARKS: ____

CHECKER'S REMARKS: CARL WHEN THE BLDG WAS ORGINALLY APPRAISED IT WAS APPRAISED AT 90¢. THE 90¢ PER SQUARE FOOT INCLUDED PLUMBING AND SPRINKLING SYSTEM. THE BLDG FORMERLY SET ON TAX LOT 50 IT WAS CUT IN HALF AND MOVED TO TAX LOT 63. (THIS WAS THE OLD WAREHOUSE OF THE RATTAN FURNITURE COMPANY.) IN MOVING THE BLDG IT WAS GUTTED ALL THROUGH THE INTERIOR, SO NOW ALL THAT REMAINS IS THE SHELL AND THE SUPPORTS. THE BLDG. DEPT. HAS LIMITED THE OWNERS AS TO LOAD LIMITS AND FORBID THEM TO INSTALL ANY MACHINERY. NOW ALL THEY USED THE BLDG FOR IS A SIGN SHOP. STORING OLD GAS PUMPS EMPTY OIL DRUMS ETC. THE FOUNDATION OF THE BLDG IS FAIR BUT THE REST OF THE BLDG IS IN POOR CONDITION. SO I THOUGHT CHANGING 70¢ A SQUARE FOOT WAS SUFFICIENT + ALLOWING 40% DEPRECIATION WAS NOT TOO MUCH Quitan

Appraised by Massar 11-18-44 Checked by ____ Date ____

REPRODUCTION COST (Revised)

Factor Make Up

Factor	Plus or Minus	Dimensions	S. F. Area	Factor	Cost	Cost	Cost	Cost	Cost
$		x		$	$				
		x			$				
		x			$				
		x			$				
		Pch.			$				
		Pch.			$				
			Total		$				
			Less Depreciation		$				
			Total		$				
			Other Buildings		$				
			Total Value (Full)		$				
			Assessed Valuation 50%		$				

W. P. Co. 8169

FOLIO 660

PERMIT NO.

DATE

ADDITION Tax Lot (50)

Section 11 Twp 25 Range 3 Ewm. Block — Tax Lot 50 Lot or Tract —

Address 2747 Commodore Way Bldg "K"

Bldg "F"

Fee Owner Sinclair Oil Co. Architect

Condition of Exterior good Interior good Foundation good Floor Plan: Good Accept X Good

USE Laboratory

- 1 No. Stories
- No. Stores
- 1 No. Rooms
- Basement
- No. Offices
- No. Apartments
- 1 rm. 2 rm. 3 rm.
- 4 rm. 5 rm. 6 rm.

TYPE OF CONSTRUCTION

- Frame
- Single Double
- X Ordinary Masonry
- Mill Construction
- Class A Rein. Con.
- Stru. Steel and Con
- Tile Brick
- Con. Rein. Con.

Good Med. X Cheap

FOUNDATION

- Mud Sills
- Post and Pier
- Brick
- X Concrete
- Pile

BASEMENT

- 0 Full %
- Sub-Basement
- Size
- Garage No. Cars
- Floors
- Plastered
- Living Rooms
- Service Rooms

EXTERIOR WALL CONST.

- Single Double
- 2" x 4" Stud Walls
- 2" x 6" Stud Walls
- Brick Walls
- Brick with Pilasters
- X Concrete ~~Walls~~ Block
- Con. with Pilasters
- Tile Walls
- Rein. Con. Skel.
- Filler Walls
- Laminated Walls

EXTERIOR FACING

- Siding Shingles
- Shakes Stucco
- Brick Veneer
- X Cone Block Kind
- Stone Cast S.
- Terra Cotta
- Struct. Glass
- Trim

FLOOR CONSTRUCTION

Joist Con. Size x

O.C. In Bridg

- Mill Construction
- X ~~Rein.~~ Con. Slab

ROOF CONSTRUCTION

- X Frame Lam
- Mill Construction
- Rein. Concrete
- No. Trusses Flat
- X Wood Steel

ROOFING MATERIAL

- X Tar and Gravel

Or

FLOOR FINISHES

- Fir Maple
- Oak 2"x6" T&G
- Lino. 3"x6" T&G
- X Cement
- Terrazzo
- Raecolith
- Tile

Or

Tile Lino.

Tile Total: Baths Fl. Walls; Sq. Ft. Floors; Sq. Ft. Walls; Lin. Ft. Dr. Bds.

Lino. Total: Sq. Ft. Floors; Sq. Ft. Walls; Lin. Ft. Dr. Bds.

Kit's Fl. Walls

PLUMBING

- 0 No. Fixtures
- Toilets
- Tube, Leg or Pem.
- Basins, Ped.
- Sinks
- Urinals
- Showers (Tub) (Stall)
- Laundry Trays
- H. W. Tank Fl. Drains
- Sprink. Sys. No. Hds.

HEATING

- 0 Stove
- Pipeless Furnace
- Gravity H. A.
- Air Cond., Fan
- Suspended Gas, Hot Water
- Steam Heat
- Hot Water
- Oil Burner

Date Built 1953 X Finished Unfinished Remodeled

Effective Age Years Future Life Years

Dep. for Cond Dep. for Ob Dep. for Es Total 30%

Year	Assessed Value
1951	300 Lot
64	350 A. & I.
	700

Hoists: Elec. Hyd.

Pass. Freight Auto. Elec. Man. Hyd. Man.

Untreated
Treated Piles only
Average Length
Paved

Flex. Cable
X Conduit
Power Wiring
Range Wiring
No. Outlets

INTERIOR WALLS

- Stud and Plaster
- Lam. Plastered
- Plywood
- Ceiled
- Plaster Board
- Painted
- Stain Varnish
- Kalsomine
- Whitewashed
- X Unfinished

INTERIOR TRIM

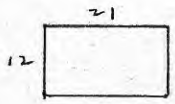
- X Fir
- Mah. Oak
- Metal
- Doors
- Windows
- Stained
- Varnished
- Painted
- Unfinished

C. H.

B 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

GROUND FLOOR AREA

TOTAL FLOOR AREA 252



	Other Buildings	Construction	Floor	Roof	Stories	Dimensions	S. F. Area	Factor	Value	% Dep.	Deprec.	Net Value
	Garage					x			$		$	$
						x			$		$	$
						x			$		$	$
						x			$		$	$

Conc. block oil testing laboratory, med const. 8/55 T+A.

King County

Assessor information for parcel number 1125039113

Taxpayer name	**DEPT OF NATURAL RESOURCES**
Mailing address	**PRODUCT SALES & LEASING DIV** **PO BOX 47016** **OLYMPIA WA 98504**
Address(es) at this parcel	**None**

Parcel number	**1125039113**
Tax Account number	**112503911300**
Levy code	0010
Jurisdiction	SEATTLE
Present use	**Marina**
Appraised value	**$361,000**

Legal description

POR FIRST CL TD LDS ADJ LOTS 7 TO 9 & E 45 FT LOT 6 BLK 7 SEATTLE TIDE LDS IN GL 5 STR 11-25-3 DAF - BEG NE COR SD LOT 9 TH N 88-52-20 W 369 FT TH N 13-22-40 E 111 FT TH S 75 E 357 FT TH S 13-22-40 W 25 FT TO POB DNR LEASE #20-010919 SEE TL #9050

Parcel description

Property name	**DNR MOORAGE - LEASE 20-010919**	Plat name		Water system	**WATER DISTRICT**
Property type	**C - COMMERCIAL**	Plat block		Sewer system	**PUBLIC**
Present use	**Marina**	Plat lot		Access	**PUBLIC**
Lot area	**24,000 sq. ft. (0.55 acres)**	Q-S-T-R	**SW-11-25-3**	Street surface	**PAVED**

Taxable value history

Tax year	Tax status	Taxable value reason	Appraised value	Taxable value
2010	EXEMPT	EXEMPT	$360,000 (land) + $1,000 (improvements) **$361,000** (total)	$0 (land) + $0 (improvements) **$0** (total)

Related resources

King County Assessor: Submit a request to correct information in this report
King County Assessor: eReal Property Report
King County Assessor: Quarter Section Map (PDF format requires Acrobat)
King County GIS: Property information FAQ
King County GIS: Districts and Development Conditions Report (a detailed report about the location of this property)
King County DDES: **Permit Applications Report** (for unincorporated areas only)
King County Treasury Operations: Property Tax Information for this property
King County Recorders Office: Excise Tax Affidavits Report
King County Recorders Office: **Scanned images of plats.**
King County Recorders Office: Scanned images of surveys and other map documents
Open iMAP to this property (requires a high speed internet connection)
Open Parcel Viewer to this property (any connection speed, but less features than iMAP)

This report was generated on 4/28/2010 2:58:21 PM
Contact us at giscenter@kingcounty.gov.

FOLIO 660

ADDITION Tax Lots

Section 11 Twp. 25 Range 3 Ewm. Block — Tax Lot 50 Lot or Tract

PERMIT NO.

DATE

Address 2747 - Commodore Way. "O" Bldg

Fee Owner Time Oil Co. Architect

Condition of Exterior Fair to Poor Interior Foundation Floor Plan: Good Accept Good

Remarks

USE Dock

- No. Stories
- No. Stores
- No. Rooms
- Basement
- No. Offices
- No. Apartments
- 1 rm. 2 rm. 3 rm. 4 rm. 5 rm. 6 rm.

TYPE OF CONSTRUCTION

- Frame
- Single Double
- Ordinary Masonry
- Mill Construction
- Class A Rein. Con.
- Stru. Steel and Con
- Tile Brick
- Con. Rein. Con.

Good Med Cheap

FOUNDATION

- Mud Sills
- Post and Pier
- Brick
- Concrete
- Pile

BASEMENT

- Full %
- Sub-Basement
- Size
- Garage No. Cars
- Floors
- Plastered
- Living Rooms
- Service Rooms

EXTERIOR WALL CONST.

- Single Double
- 2" x 4" Stud Walls
- 2" x 6" Stud Walls
- Brick Walls
- Brick with Pilasters
- Concrete Walls
- Con. with Pilasters
- Tile Walls
- Rein. Con. Skel.
- Filler Walls
- Laminated Walls

EXTERIOR FACING

- Siding Shingles
- Shakes Stucco
- Brick Veneer
- Kind
- Stone Cast S.
- Terra Cotta
- Struct. Glass
- Trim

FLOOR CONSTRUCTION

Joist Con. Size x

O.C. In Bridg

- Mill Construction
- Rein. Con.

ROOF CONSTRUCTION

- Frame Lam
- Mill Construction
- Rein. Concrete
- No. Trusses
- Wood Steel

ROOFING MATERIAL

- Tar and Gravel

Or

FLOOR FINISHES

- Fir Maple
- Oak 2"x6" T&G
- Lino. 3"x6" T&G
- Cement
- Terrazzo
- Raecolith
- Tile

Or

Tile Lino.

Tile Total: Baths Fl. Walls; Sq. Ft. Floors; Sq. Ft. Walls; Lin. Ft. Dr. Bds.

Lino. Total: Sq. Ft. Floors; Sq. Ft. Walls; Lin. Ft. Dr. Bds.

Kit's Fl. Walls

Date Built 1940 Finished Unfinished X Remodeled Add ?

Effective Age Years Future Life Years

Dep. for Cond. Dep. for Ob. Dep. for Es. Total

PLUMBING

- No. Fixtures
- Toilets
- Tube, Leg or Pem.
- Basins, Ped.
- Sinks
- Urinals
- Showers (Tub) (Stall)
- Laundry Trays
- H. W. Tank Fl. Drains
- Sprink. Sys. No. Hds.

HEATING

- Stove
- Pipeless Furnace
- Gravity H. A.
- Air Cond., Fan
- Suspended Gas, Hot Water
- Steam Heat
- Hot Water
- Oil Burner

Year	Assessed Value
1963	6000 Land
'64	40250 A.62
	20500

2-6" pipelines 800 LF Each

2-3" pipelines 800 LF Each

Hoists: Elec. Hyd.

Pass. Freight
Auto. Elec.
Man. Hyd. Man.

Treated Piles, Timb
Untreated
Treated Piles only
Average Length
Paved

Knobe & Tube
Flex. Cable
Conduit
Power Wiring
Range Wiring
No. Outlets

INTERIOR WALLS

- Stud and Plaster
- Lam. Plastered
- Plywood
- Ceiled
- Plaster Board
- Painted
- Stain Varnish
- Kalsomine
- Whitewashed
- Unfinished

INTERIOR TRIM

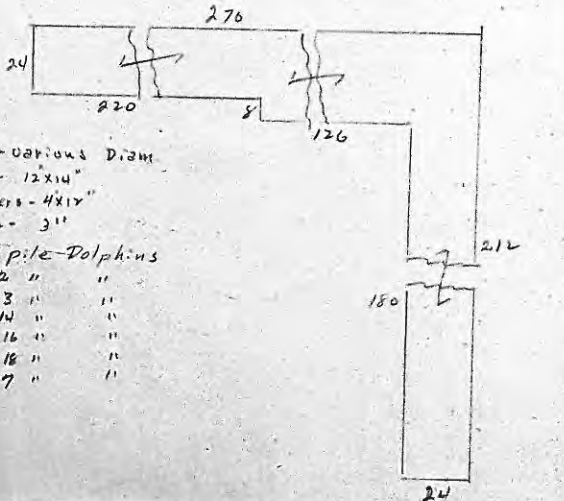
- Fir
- Mah. Oak
- Metal
- Doors
- Windows
- Stained
- Varnished
- Painted
- Unfinished

C. H.

B 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

GROUND FLOOR AREA

TOTAL FLOOR AREA



Pile - various Diam
Caps - 12x14"
Stringers - 4x12"
Deck - 3"
16 - 3 pile - Dolphins
2 - 12 " "
2 - 13 " "
2 - 14 " "
1 - 16 " "
1 - 18 " "
1 - 7 " "

	Other Buildings	Construction	Floor	Roof	Stories	Dimensions	S. F. Area	Factor	Value	% Dep.	Deprec.	Net Value
	Garage					x			$		$	$
						x			$		$	$
						x			$		$	$
						x			$		$	$

N.F.B.N. CO.

P 546 95-9 20000 12-1-72
Permit to repair dock. Replaced piling, exp. bulkhd. where rotted - Stillare old dock - untreated piles. N/C A 2-72 LL

widthg dock doubled also lengthened some time since orig. Const. previously assessed at 6216 ft - pile, caps + stringers in generally fair condition. decking is in poor cond. + needs replacing - There is a 10" pipe line on dock that belongs to G.N.Ry. and runs to their storage tank at salmon bay yards do not believe that time did should be assessed for this - Lengthg of 8 + 6" lines are sub- taken from acd sheet.

9/55 H.T.

7 - 12 pile dolphins at dock for tanker ship moorage, also 4 lite Stss with 2 flood lites ea.

BUILDING TYPE	CONSTRUCTION	SIZE	GRADE	AGE
~~GARAGE~~ DOLPHINS	21 W/3 PILES			
	1 W/7 PILES			
	1 W/11 PILES			
	3 W/12 PILES			
	2 W/13 PILES			
	3 W/16 PILES			
DET. SHED	MFL/MISS PL./MFL	7X20	5	12
14400# DOCK - UNTREAT. PILES		8' c.c.	B	26

APPENDIX B

SIDE SEWER CARD

CARD NO. 3724-5
End
City of Seattle 3724-5 11/15/01
See Card Obsolete file
5-11-93
12
S
W. COMMODORE WAY
n
2752
SP
Pump
3½d
ABS
wye up (11)
(Submit to Metro for approval.)
Drop Conn. MH
130
80+76.08
6" Std. P.
CB
81+15
81+09.5
12"
81+37.5
81+47.5
81+87.7
82+13.5
82+25
82+33
82+49
82+65.6
82+86.5
-3.78
25'
6"
SP
144" Trunk Sewer
83+37.5
83+49.5
83+58.5
6" Std. P.
83+79.5
83+99.5
84+28
84+37
84+78
85+08
85+22
85+70
85+86
86+20
86+71
Metro
(Comb.)
℄ Street ℄ Sewer all wye's 8" unless designated.
sta. 87+00
C.I.P.
350
4'd.
446
4'd.
2737
2751
out
SP
3"
6"
4"
4"
3"
29TH AVE. W.
28TH PL. W.
12
11
10
9
8
9
10
OK temp Trailer into storm SS up to 1 year 1-17-78 EW
4
LAWTON
5
PARK ADD.
PLAN NOS. .... TRUNK SEWER 782-10
drop MH & 8" SEWERS 855-70
C.W.
PAV. 808-46
L. I. D.'s 1537
St. Use Permit H6050
5912
BOOKS 148
101
SW-11-25-3
PHOTO DATE

APPENDIX C
HISTORICAL RECORDS

IMAGE SOURCE: UNIVERSITY OF WASHINGTON MAP LIBRARY

SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE: 03/21/14
DRAWN BY: JQC
CHECKED BY: JAB
CAD FILE: 01-600_2013RI_AERIAL

PROJECT NAME: SEATTLE TERMINAL PROPERTIES
PROJECT NUMBER: 0440-004
STREET ADDRESS: 2737, 2750, 2800, AND 2805 WEST COMMODORE WAY
CITY, STATE: SEATTLE WASHINGTON

1 □□6
AERIAL PHOTOGRAPH

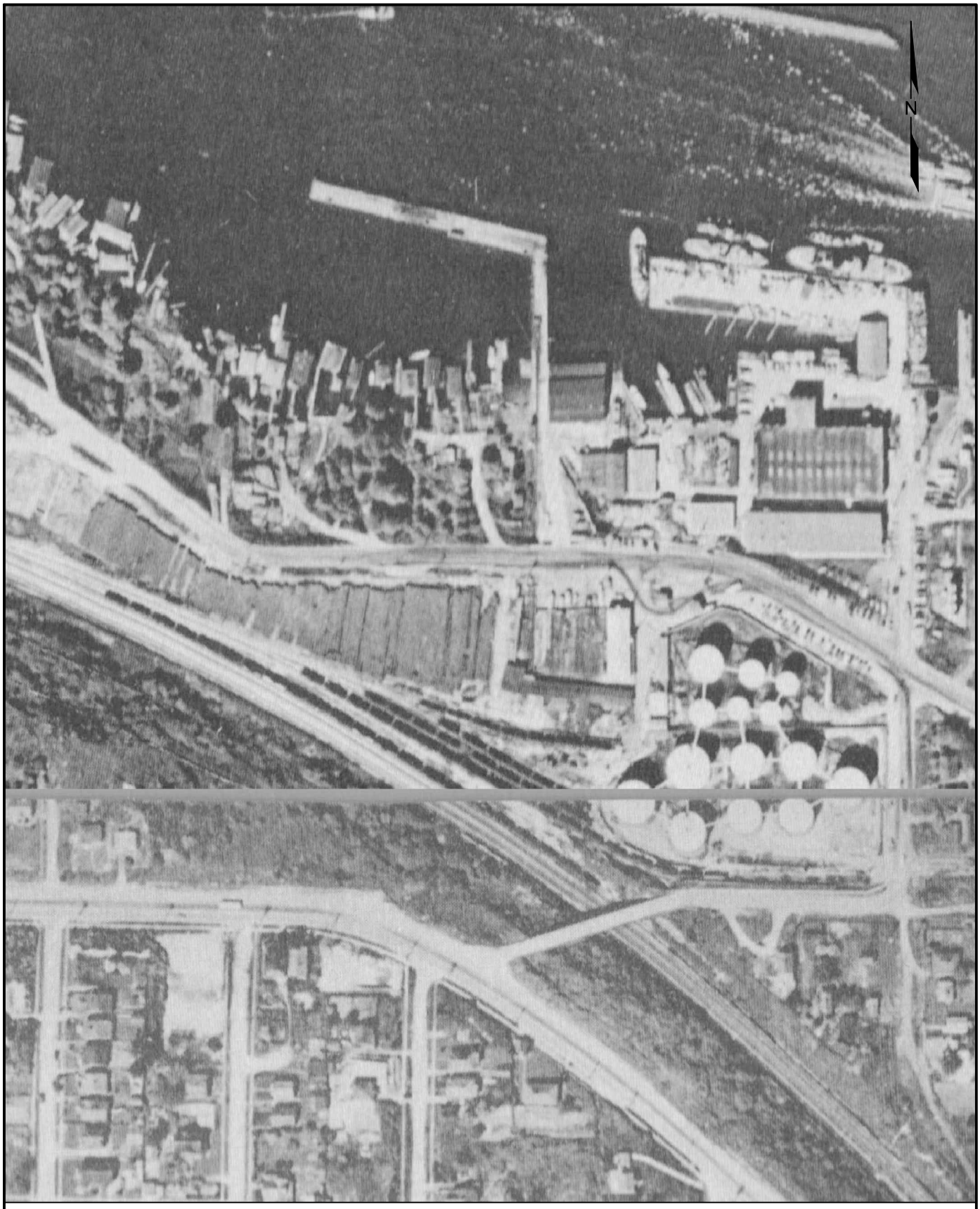


IMAGE SOURCE: UNIVERSITY OF WASHINGTON MAP LIBRARY

SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE: 03/21/14
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PROJECT NUMBER: 0440-004
STREET ADDRESS: 2737, 2750, 2800, AND 2805 WEST COMMODORE WAY
CITY, STATE: SEATTLE WASHINGTON

1 □□6
AERIAL PHOTOGRAPH COMPOSITE

IMAGE SOURCE: UNIVERSITY OF WASHINGTON MAP LIBRARY

SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE: 03/21/14
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CITY, STATE: SEATTLE WASHINGTON

1□□□
AERIAL PHOTOGRAPH

3/21/2014

P:\0440 TOC HOLDINGS CO\01-600 SEATTLE TERMINAL\DELIVERABLES\2013\BTP\RI\APPENDIX C- HISTORICAL RECORDS\AERIAL PHOTOGRAPHS\01-600_2013RI_AERIAL.DWG

WWW.SOUNDEARTHINC.COM

IMAGE SOURCE: UNIVERSITY OF WASHINGTON MAP LIBRARY

SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE: 03/21/14
DRAWN BY: JQC
CHECKED BY: JAB
CAD FILE: 01-600_2013RI_AERIAL

PROJECT NAME: SEATTLE TERMINAL PROPERTIES
PROJECT NUMBER: 0440-004
STREET ADDRESS: 2737, 2750, 2800, AND 2805 WEST COMMODORE WAY
CITY, STATE: SEATTLE WASHINGTON

1 □61
AERIAL PHOTOGRAPH

3/21/2014

P:\0440 TOC HOLDINGS CO\01-600 SEATTLE TERMINAL\DELIVERABLES\2013\BTP\RI\APPENDIX C- HISTORICAL RECORDS\AERIAL PHOTOGRAPHS\01-600_2013RI_AERIAL.DWG

WWW.SOUNDEARTHINC.COM

IMAGE SOURCE: UNIVERSITY OF WASHINGTON MAP LIBRARY

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PROJECT NUMBER: 0440-004
STREET ADDRESS: 2737, 2750, 2800, AND 2805 WEST COMMODORE WAY
CITY, STATE: SEATTLE WASHINGTON

1□6□
AERIAL PHOTOGRAPH COMPOSITE

IMAGE SOURCE: UNIVERSITY OF WASHINGTON MAP LIBRARY

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CITY, STATE: SEATTLE WASHINGTON

1
AERIAL PHOTOGRAPH COMPOSITE

IMAGE SOURCE: UNIVERSITY OF WASHINGTON MAP LIBRARY

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1
AERIAL PHOTOGRAPH

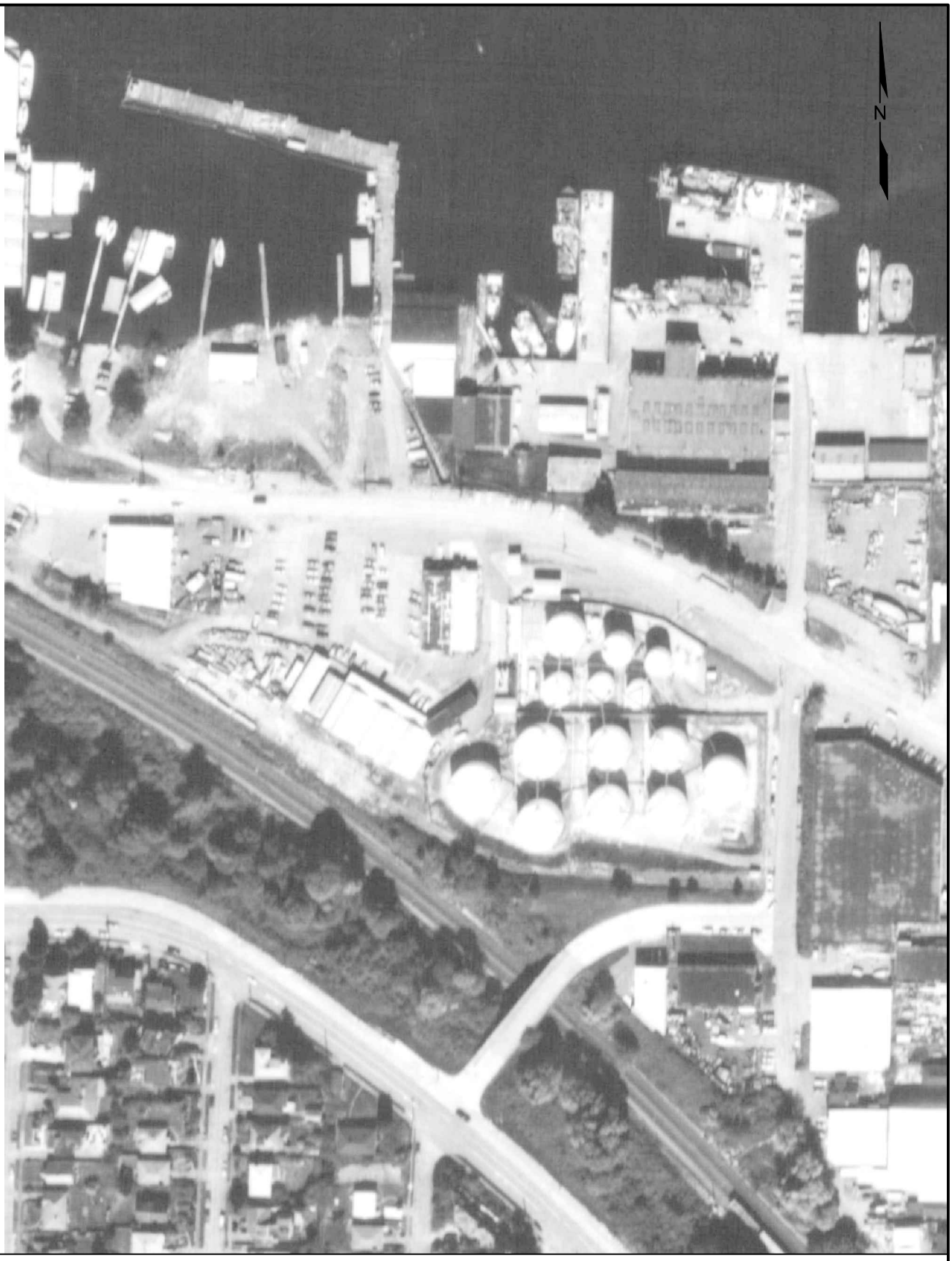

IMAGE SOURCE: UNIVERSITY OF WASHINGTON MAP LIBRARY

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IMAGE SOURCE: UNIVERSITY OF WASHINGTON MAP LIBRARY

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PROJECT NUMBER: 0440-004
STREET ADDRESS: 2737, 2750, 2800, AND 2805 WEST COMMODORE WAY
CITY, STATE: SEATTLE WASHINGTON

□□□1
AERIAL PHOTOGRAPH

TOC Seattle Terminal
2737 W Commodore Way
Seattle, WA 98199

Inquiry Number: 2757993.1
April 29, 2010

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

4/29/10

Site Name:
TOC Seattle Terminal
2737 W Commodore Way
Seattle, WA 98199

Client Name:
Sound Environmental
2811 Fairview Avenue East
Seattle, WA 98102-0000

EDR Inquiry # 2757993.1

Contact: Daniel Krause

EDR® Environmental Data Resources Inc

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by Sound Environmental Strategies were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name: TOC Seattle Terminal
Address: 2737 W Commodore Way
City, State, Zip: Seattle, WA 98199
Cross Street:
P.O. # NA
Project: NA
Certification # BFEA-46E6-9519

Maps Provided:

1966
1950
1930
1917

Sanborn® Library search results
Certification # BFEA-46E6-9519

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✓ Library of Congress
- ✓ University Publications of America
- ✓ EDR Private Collection

The Sanborn Library LLC Since 1866™

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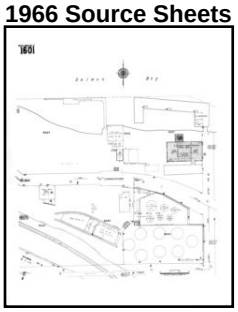
Sanborn Sheet Thumbnails

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1966 Source Sheets



Volume 11, Sheet 1601

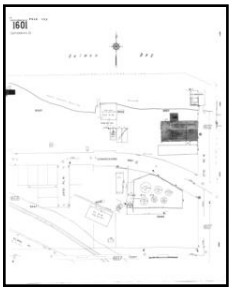
Volume 11, Sheet 1602

Volume 11, Sheet 1607

1950 Source Sheets

Volume 5, Sheet 587

Volume 5, Sheet 599c



Volume 11, Sheet 1601

Volume 11, Sheet 1602

Volume 11, Sheet 1607

1930 Source Sheets

Volume 11, Sheet 1601

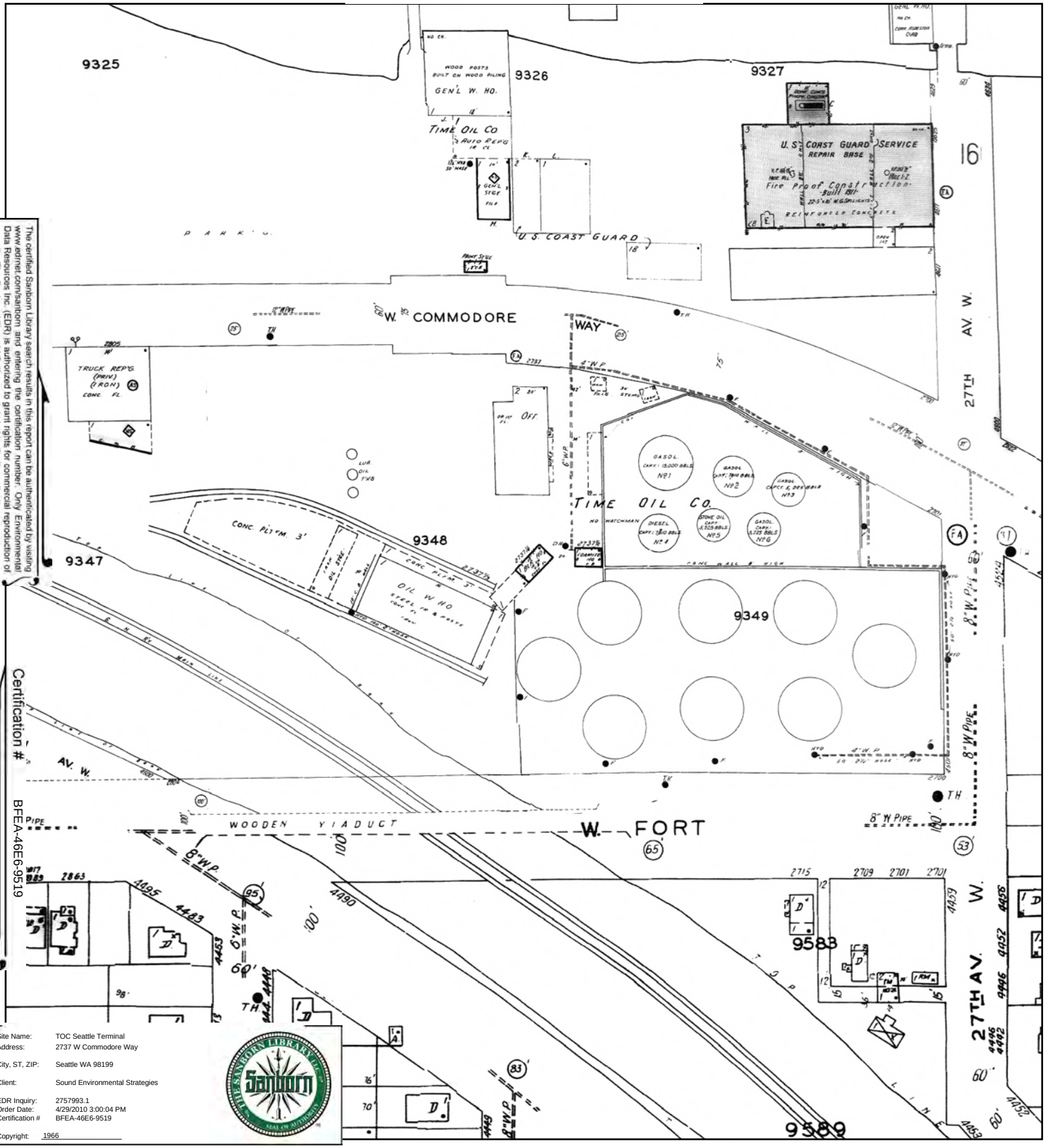
Volume 11, Sheet 1607

1917 Source Sheets

Volume 5, Sheet 587

Volume 5, Sheet 599c

1966 Certified Sanborn Map



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Certification # BFEA-46E6-9519

Site Name:	TOC Seattle Terminal
Address:	2737 W Commodore Way
City, ST, ZIP:	Seattle WA 98199
Client:	Sound Environmental Strategies
EDR Inquiry:	2757993.1
Order Date:	4/29/2010 3:00:04 PM
Certification #	BFEA-46E6-9519
Copyright:	1966

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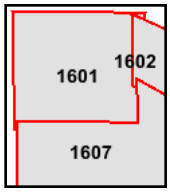
Outlined areas indicate map sheets within the collection.

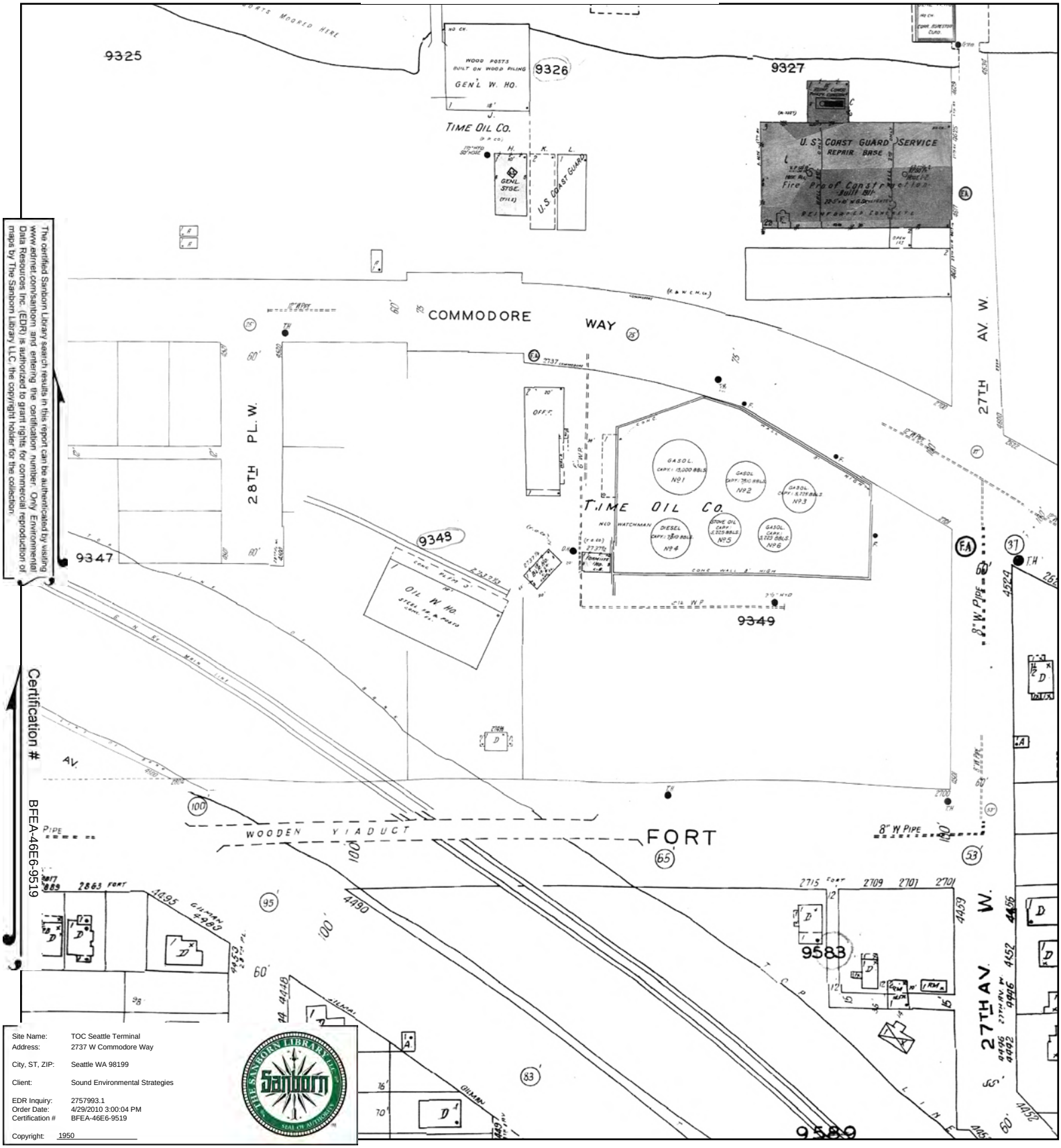
0 Feet 150 300 600



Volume 11, Sheet 1601
Volume 11, Sheet 1602
Volume 11, Sheet 1607

N

1950 Certified Sanborn Map



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Certification # BFEA-46E6-9519

Site Name:	TOC Seattle Terminal
Address:	2737 W Commodore Way
City, ST, ZIP:	Seattle WA 98199
Client:	Sound Environmental Strategies
EDR Inquiry:	2757993.1
Order Date:	4/29/2010 3:00:04 PM
Certification #	BFEA-46E6-9519
Copyright:	1950

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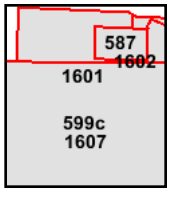
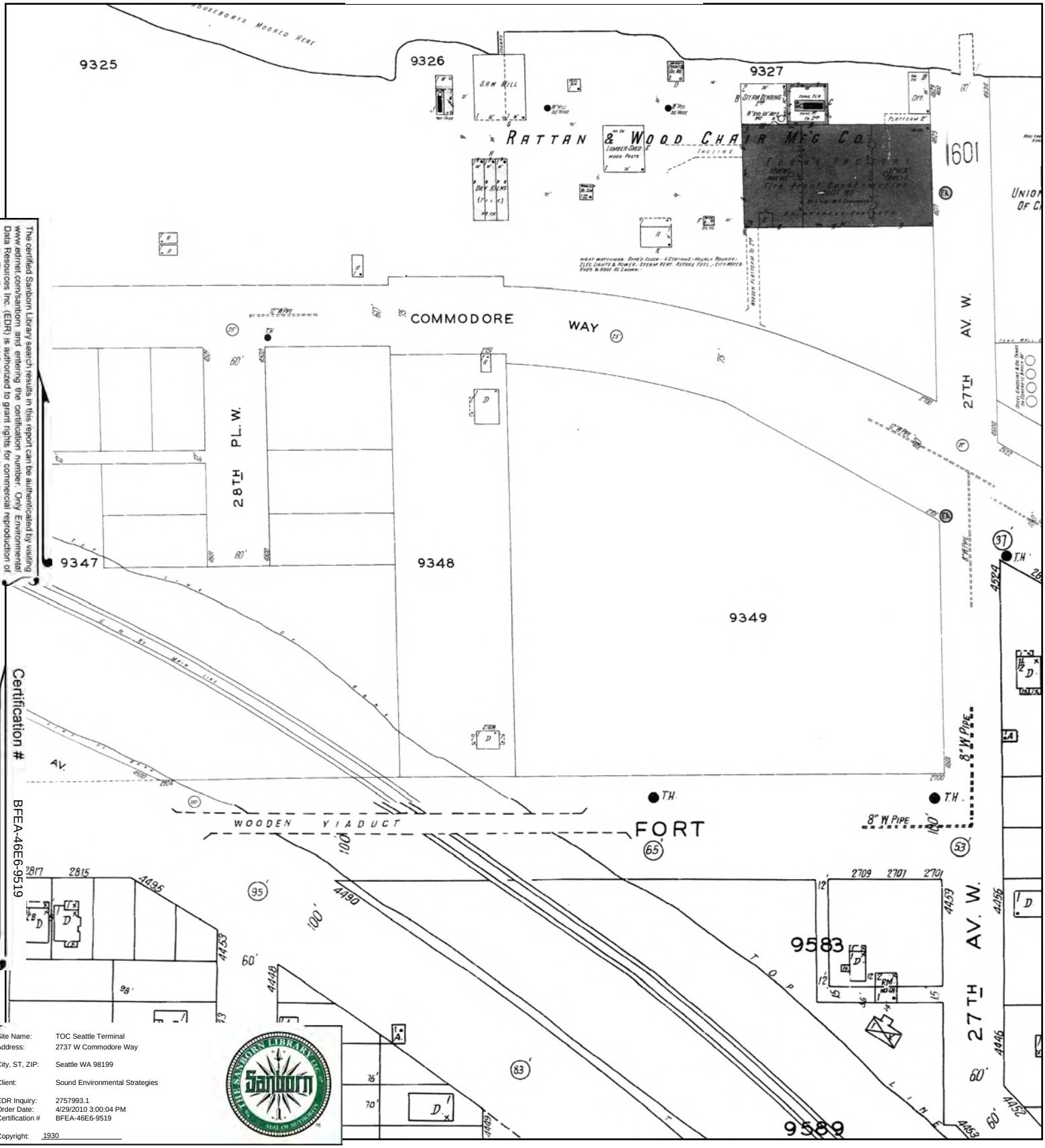


Volume 5, Sheet 587
Volume 5, Sheet 599c
Volume 11, Sheet 1601
Volume 11, Sheet 1602
Volume 11, Sheet 1607

N

1930 Certified Sanborn Map

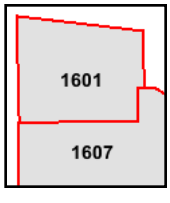


Certification # BFEA-46E6-9519

Site Name: TOC Seattle Terminal
Address: 2737 W Commodore Way
City, ST, ZIP: Seattle WA 98199
Client: Sound Environmental Strategies
EDR Inquiry: 2757993.1
Order Date: 4/29/2010 3:00:04 PM
Certification # BFEA-46E6-9519
Copyright: 1930

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

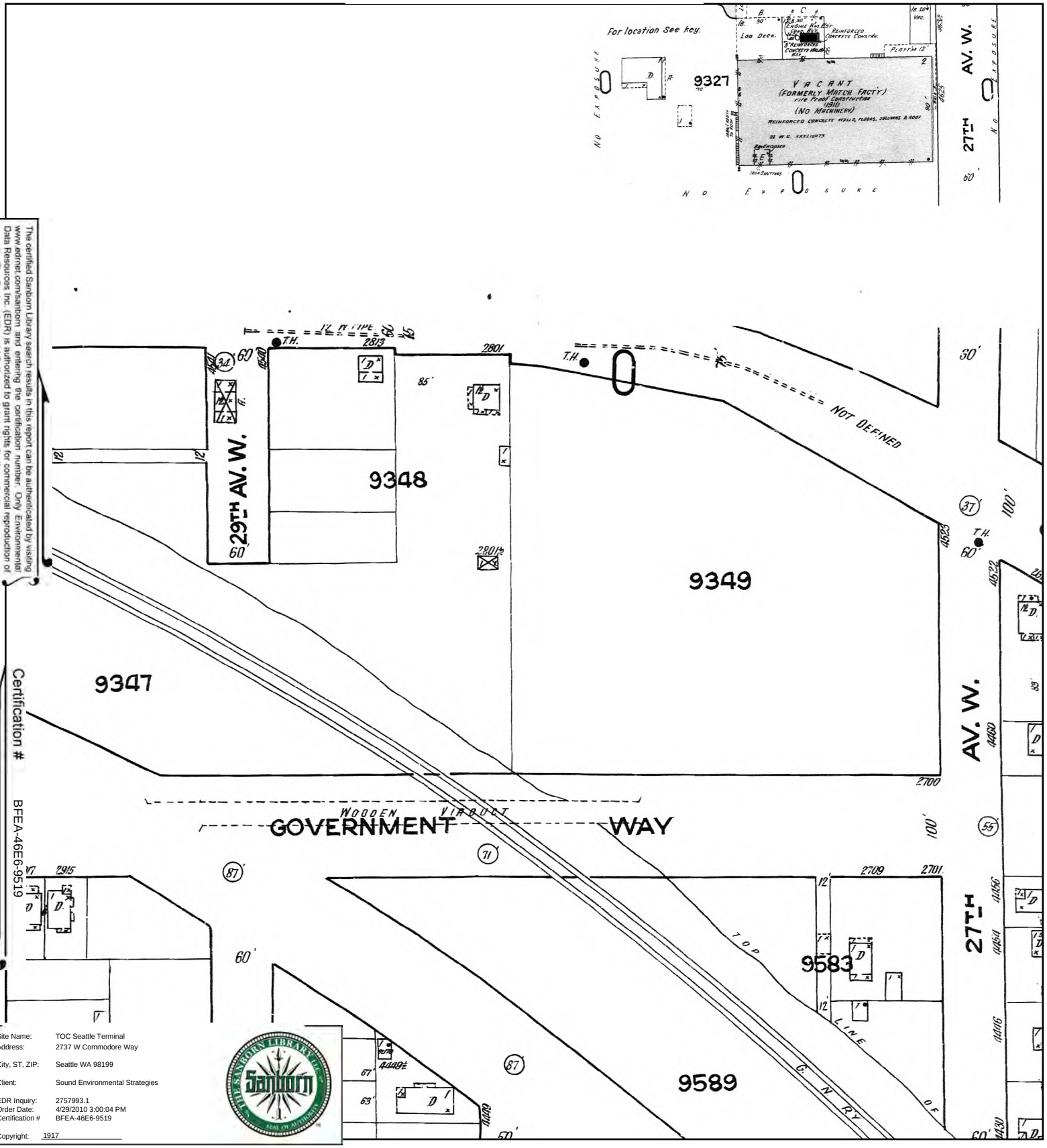
0 Feet 150 300 600



Volume 11, Sheet 1601
Volume 11, Sheet 1607

N

1917 Certified Sanborn Map



Certification # BFEA-46E6-9519

Site Name: TOC Seattle Terminal
Address: 2737 W Commodore Way
City, ST, ZIP: Seattle WA 98199
Client: Sound Environmental Strategies
EDR Inquiry: 2757993.1
Order Date: 4/29/2010 3:00:04 PM
Certification # BFEA-46E6-9519
Copyright: 1917

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

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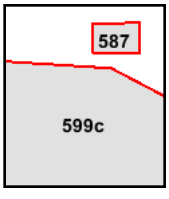
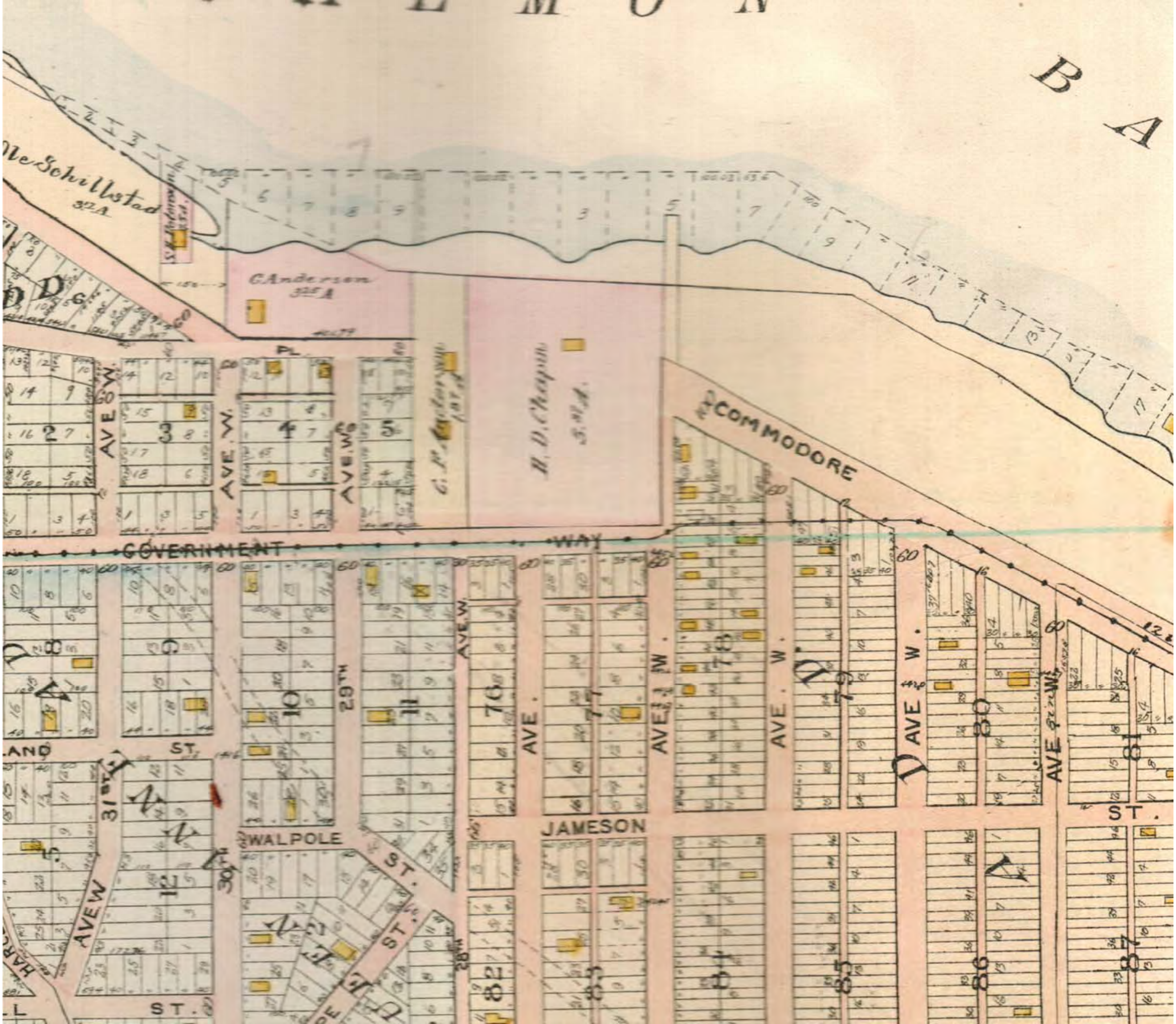


Volume 5, Sheet 587
Volume 5, Sheet 599c

N


ALMON
SEATTLE
Gustaff Anderson
2.65 A
Herman Chapin
5.49 A
Smith Core Land Co.
RESERVE A
9.60 A.
COMMODORE WAY
GOVERNMENT
JAMESON
WALPOLE PL. ST.
HARLEY
HARCOURT
31ST
30TH
29TH
28TH
AVE. W.
LAWTON


SURVEYS OF
22
HARLEY ST.
MAURICE ST.
WALPOLE ST.
ROOKE ST.
JAMESON ST.
AVE. W.
O. Schilkstaad
15A.
S.H. Peterson
7.54.
G. Anderson
9.40 A.
C. F. Anderson
1.87 A
H. D. Chapin
5.87 A.
MULLIN SHINGLE CO.
2ND AVE W.
SHILSHOLE
TERRWAY
LMON


B A
Mc Schillstad
3½ A
G. Anderson
3½ A
H. D. Chapin
3¾ A
PL.
COMMODORE
GOVERNMENT
WAY
AVE. W.
29TH
30TH
31ST
LAND
ST.
WALPOLE
ST.
JAMESON
ST.
D AVE W.
AVE W
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87

2737 W Commodore Way
2737 W Commodore Way
Seattle, WA 98199

Inquiry Number: 2318160.4
September 15, 2008

The EDR-City Directory Abstract

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR City Directory Abstract

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening report designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

SUMMARY

- ***City Directories:***

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1920 through 2005. (These years are not necessarily inclusive.) A summary of the information obtained is provided in the text of this report.

This report compiles information by geocoding the subject properties (that is, plotting the latitude and longitude for such subject properties and obtaining data concerning properties within 1/8th of a mile of the subject properties). There is no warranty or guarantee that geocoding will report or list all properties within the specified radius of the subject properties and any such warranty or guarantee is expressly disclaimed. Accordingly, some properties within the aforementioned radius and the information concerning those properties may not be referenced in this report.

Date EDR Searched Historical Sources: September 15, 2008

Target Property:
2737 W Commodore Way
Seattle, WA 98199

Year	***Uses***	***Source***
1920	Address Not Listed in Research Source	R.L. Polk Co publishers
1925	Address Not Listed in Research Source	R.L. Polk Co publishers
1930	Address Not Listed in Research Source	R.L. Polk Co publishers
1935	Address Not Listed in Research Source	R.L. Polk Co publishers
1940	Address Not Listed in Research Source	R.L. Polk Co publishers
1944	Address Not Listed in Research Source	Pacific Telephone Telegraph Co
1951	Address Not Listed in Research Source	R.L. Polk Co publishers
1955	Address Not Listed in Research Source	R.L. Polk Co publishers
1960	Address Not Listed in Research Source	R.L. Polk Co publishers
1966	****W COMMODORE WAY**** TIME OIL CO AT (2737) ADMIRAL TANK LINES AT (2737)	R.L. Polk Co publishers
1969	Address Not Listed in Research Source	R.L. Polk Co. Publishers
1970	****W COMMODORE WAY**** ADMIRAL TANK LINES AT (2737) TIME OIL CO FUEL AT (2737)	R.L. Polk Co Publishers
1971	Address Not Listed in Research Source	Pacific Northwest Bell Telephone Company
1975	****W COMMODORE WAY**** TIME OIL CO F VIEL (2737)	R.L. Polk Co. Publishers
1977	Address Not Listed in Research Source	R.L. Polk Co. Publishers

Year	Uses	Source
1980	****W COMMODORE WAY****	R.L. Polk Co. Publishers
	TIME OIL CO FUEL (2737)	
	MERCURY OIL SLA WHOL (2737)	
1981	Address Not Listed in Research Source	R. L. Polk Co. Publisher
1985	Address Not Listed in Research Source	R. L. Polk Co. Publisher
1986	****W COMMODORE WAY****	R.L. Polk Co. Publishers
	TIME OIL CO FUEL (2737)	
1990	****W COMMODORE WAY****	R.L. Polk Co. Publishers
	TIME OIL CO FUEL (2737)	
1991	Address Not Listed in Research Source	R.L Polk Co Publishers
1996	****W COMMODORE WAY****	R.L. Polk Co. Publishers
	TIME OIL CO (2737)	
2005	****W COMMODORE WAY****	Cole Information Services
	JACOT CONVENIENCE STORES (2737)	

Adjoining Properties

SURROUNDING

Multiple Addresses
Seattle, WA 98199

Year	Uses	Source
1920	****W 26TH AVE****	R.L. Polk Co publishers
	LOSSIUS TRINE WID VICTOR H (4446)	
	LOSSIUS HARDIS R (4449)	
	LEE SIGURD S R (4463)	
	LEE AUGU LENA LAB H (4463)	
	UGUS WI D SEMON H (4463)	
	****W 26TH PL****	R.L. Polk Co publishers
	CLEFSTAD ESTHER STIGR R (4463)	
	****W 27TH AVE****	R.L. Polk Co publishers
	SANDBERG ANDW LAB R (4446)	
	CARLSON JOHN LAB R (4446)	
	SELBERG ANTON LAB R (4446)	
	JOHNSON WM J LAB R (4446)	
	LARSON JOHN A CARP R (4446)	
	NELSON LOUIS LAB R (4446)	
1925	****W 26TH AVE****	R.L. Polk Co publishers
	LORENTZEN EUNICE L R (4449)	

Year	Uses	Source
1925 (continued)		
	LORENTZEN CHAS LOUISA MASTER MARINER H (4449)	
	LORENTZEN KENNETH B LAB R (4449)	
	OLSON EMIL BERTHA LAB H (4451)	
	VAN ANTWERP CECIL T ELETHA DRI (4459)	
	GOODMAN GUS ANNA LAB H (4463)	
	GOODMAN FLOYD ELIZAB WELDER H (4463)	
	FRANK G DRIVER R (4463)	
	****W 27TH AVE****	R.L. Polk Co publishers
	WEDEL IVAN LAB R (4446)	
	JOHNSON GUST PNTR H (4446)	
	BISHOP JULIA E MRS H (4456)	
	GODFREY FRANK E LINEMN R (4456)	
	HILL NELLIE P MRS R (4456)	
1930	****W 26TH AVE****	R.L. Polk Co publishers
	SUNDE FRED MECH WESTERN ENGINEERING CORP R (4459)	
	RUMBLE WM T APPR JOHNSONS BINDERY & PTG CO R (4463)	
	EDW MSNGR T&MILNC R (4463)	
	RUMBLE MARY R (4463)	
	MC JAS E PLMBR H (4463)	
	MC EDITH A TCHR GARFIELD HIGH SCH R 1422 (4463)	
	****W 27TH AVE****	R.L. Polk Co publishers
	OLSEENE ALFD BLKSMITH B CLCO R (4446)	
	FRISCH PETER LAB R (4446)	
1935	****W 26TH AVE****	R.L. Polk Co publishers
	Y NORMA STDT R (4449)	
	Y WILBUR F ELK CITY LIGHT DEPT R (4449)	
	Y INGA M WID FRED H (4449)	
	PEARSON BEATRICE R (4463)	
	****W 27TH AVE****	R.L. Polk Co publishers
	ELLIOTT STEPH LAB R (4446)	
	ELLIOTT O E STDT R (4446)	
	FRISCH PETER LAB H (4446)	
	****26TH AVE W****	R.L. Polk Co publishers
	Y INGA M WID FRED H (4449)	
	MARGT STDT R (4449)	
1940	****W 26TH AVE****	R.L. Polk Co publishers
	JONES GEO C (4449)	
	BURDE FRITZ W (4451)	
	STONE JAS (4459)	
	THORSEN CARRIE V MRS (4463)	
	CHRISTNER FORREST M (4463)	

Year	Uses	Source
1940 (continued)		
	****W 27TH AVE****	R.L. Polk Co publishers
	FRISCH PETER (4446)	
	US COAST GUARD REPAIR (4456)	
	MACHS (4456)	
	PETRICH MACHINE WORKS (4456)	
	MARITIME SHIPYARDS INC (4456)	
	VACANT (4456)	
1944	****26TH AVE W****	Pacific Telephone Telegraph Co
	JONES GEO C (4449)	
	BURDE FRITZ W (4451)	
	DEAN WM M (4459)	
	CHRISTNER FORREST M (4463)	
	THORSEN CARRIE V MRS (4463)	
	FOLKMAN EDW R (4467)	
	****27TH AVE W****	Pacific Telephone Telegraph Co
	SPRAGUE AL (4446)	
	FRISCH PETER (4452)	
	US COAST GUARD STATION (4456)	
	MORRIS EDW W (4456)	
	MARITIME SHIPYARDS (4456)	
	PETRICH MACHINE WORKS MACHS (4456)	
1951	****26TH AVE W****	R.L. Polk Co publishers
	KEENE JACK 0 GA (4459)	
	CHRISTNER F M GA (4463)	
	DAHL VIRGINIA MRS (4467)	
	****27TH AVE W****	R.L. Polk Co publishers
	PURDY ELSIE MRS AL (4446)	
	EDENLOFF E P GA (4452)	
	KNAST H J (4453)	
	PETRICH MACHINE WKS (4456)	
	MORRIS E W (4456)	
	MARITIME SHIPYARDS GA (4456)	
	TSC 0 SEATTLE BASE (4456)	
	BROOMS GEO SONS SAILMKRS (4456)	
	OLYMPIC PROPELLER CO (4456)	
1955	****26TH AVE W****	R.L. Polk Co publishers
	JONES GEO C (4449)	
	ANDERSON MELVIN (4451)	
	KEENE JOHN D (4459)	
	CHRISTNER FORREST M (4463)	
	NO RETURN (4467)	

Year	Uses	Source
1955 (continued)		
	****27TH AVE W****	R.L. Polk Co publishers
	PURDY ELSIE T MIRS (4446)	
	JENKINS BENJ L (4449)	
	EDENLOFF EVERETT P (4452)	
	GRANT HENRY (4456)	
	USCG SEATTLE BASE (4456)	
1960	****W 26TH AVE****	R.L. Polk Co publishers
	JONES GEO C A AT (4449)	
	ANDERSON ALF A A AT (4451)	
	KEENE JOLHN D A AT (4459)	
	CHRISTNER FORROST MI A AT (4463)	
	GOULD ERNEST L (4467)	
	****W 27TH AVE****	R.L. Polk Co publishers
	PURDY ELSIE I MRS (4446)	
	THORSEN WARREN JR A AT (4449)	
	EDENLOFF EVERETT P A ASE (4452)	
	USCG BASE A AT (4456)	
	TURNER BOBBY D (4456)	
1966	****W 26TH AVE****	R.L. Polk Co publishers
	JONES GEO C AT (4449)	
	ANDERSEN MELVIN T B AT (4451)	
	KEENE JOHN 0 0 AT (4459)	
	CHRISTNER FOREST M (4463)	
	VACANT (4467)	
	****W 27TH AVE****	R.L. Polk Co publishers
	PURDY ELSIE Q MRS (4446)	
	VACANT (4449)	
	VACANT (4452)	
	VACANT (4456)	
	****W FORT ST****	R.L. Polk Co publishers
	EARNEST ALBERT C (2709)	
	PRATT CARL J AT (2715)	
	****W COMMODORE WAY****	R.L. Polk Co publishers
	BUDGET LANE WHOL (2600)	
	SECOMA DISTRIBUTING CO INC COSMETICS AT (2600)	
	COSMETICS AT (2600)	
	MARITIME SHIPYARDS INC BLDRS AT (2620)	
	OLYMPIC PROPELLER CO INC REPR AT (2620)	
	PETRICH MACHINE WORKS AT (2620)	
	BROOMS GEO SONS SAIL (2620)	
	MKRS AT 2 08 OO (2620)	

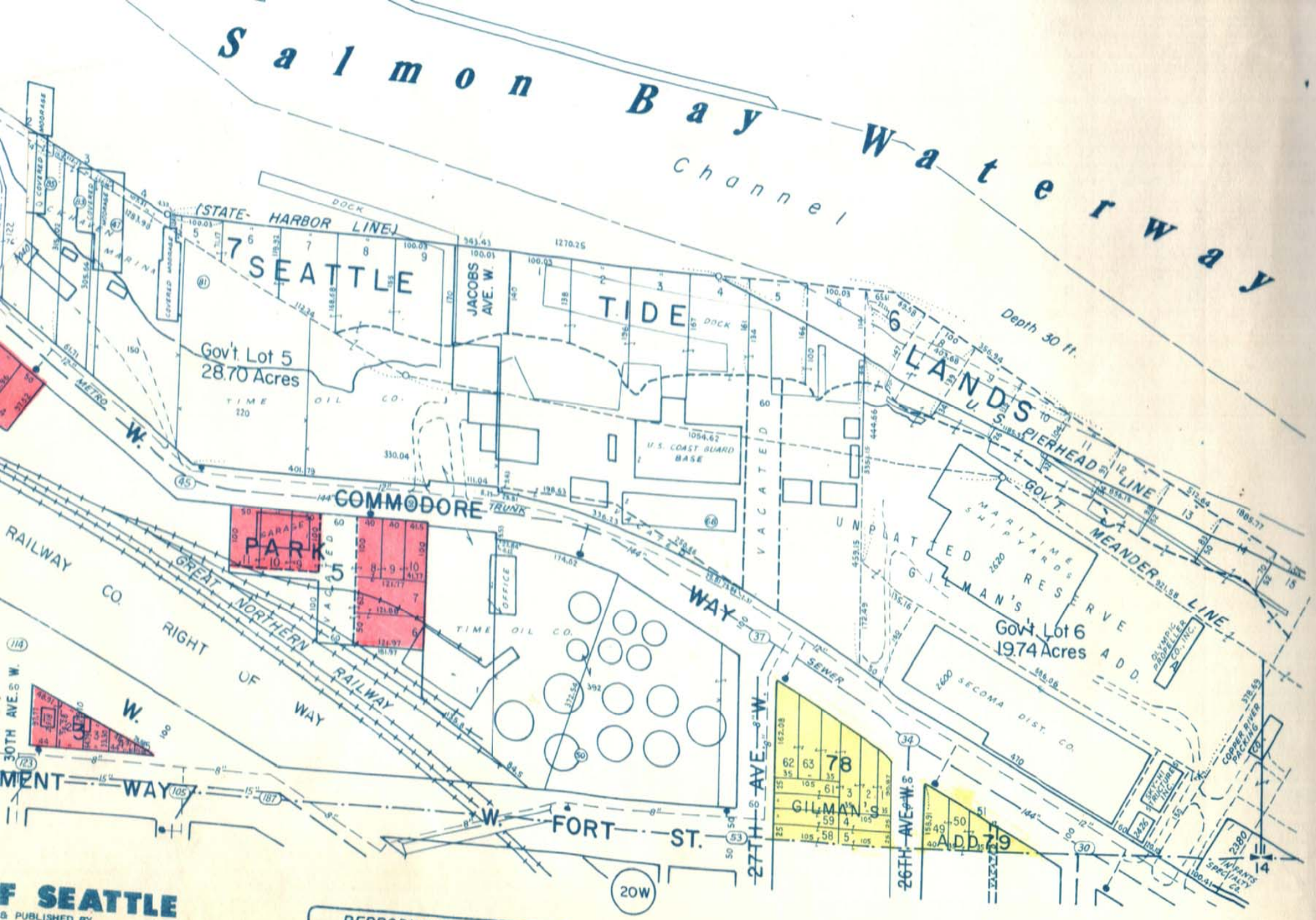
Year	Uses	Source
1966	(continued)	
	KAYLER DAHL FISH CO INC CANNERS AT (2620)	
	U S C G BASE M (2700)	
	TIME OIL CO PIER AT (2750)	
1969	Address Not Listed in Research Source	R.L. Polk Co. Publishers
1970	****W 26TH AVE****	R.L. Polk Co Publishers
	JONES GEO C AT (4449)	
	ANDERSEN MELVIN T O AT (4451)	
	KEENE JAY V AT (4459)	
	VACANT (4463)	
	****W 27TH AVE****	R.L. Polk Co Publishers
	SCHREIB WM AT (4446)	
	SMILEY DELBERT R (4449)	
	VACANT (4452)	
	VACANT (4456)	
	****W FORT ST****	R.L. Polk Co Publishers
	NO RETURN (2709)	
	VAN BUSKIRK JOHN A AT (2715)	
	****W COMMODORE WAY****	R.L. Polk Co Publishers
	NORTHWEST BROKERAGE CO CANDY BROKERAGE AT (2600)	
	REGAL CANDIES INC WHOL AT (2600)	
	GLASER BROS WHOL CIGARS AT (2601)	
	PURITAN MILL MARINE DIV AT (2620)	
	PETRICH MACHINE WORKS (2620)	
	NORTHWEST BROKERAGE CO CANDY BROKERAGE AT (2620)	
	MARITIME SHIPYARDS INC BLDRS AT (2620)	
	OLYMPIC PROPELLER CO INC REPR AT (2620)	
	CONTD I (2620)	
	BROOMS GEORGE SONS SAIL MKRS & RIGGERS AT (2620)	
	U S C G BASE M (2700)	
	TIME OIL CO PIER AT (2750)	
1971	Address Not Listed in Research Source	Pacific Northwest Bell Telephone Company
1975	****W 26TH AVE****	R.L. Polk Co. Publishers
	JONES GEO C (4449)	
	PERRY WM B (4451)	
	KEENE JACK D (4459)	
	OLYMPIC PROPELLER CO INC (4463)	
	****W 27TH AVE****	R.L. Polk Co. Publishers
	OLENEC CHESTER JR (4446)	
	STOETZEL WM (4449)	

Year	Uses	Source
1975	(continued)	
	KENNEDY MICHL (4452)	
	NO RETURN (4456)	
	****W FORT ST****	R.L. Polk Co. Publishers
	KENNEDY JOHN (2709)	
	VACANT (2715)	
	****W COMMODORE WAY****	R.L. Polk Co. Publishers
	NORDBY SUPPLY CO (2600)	
	GLASER BROS WHOL CIGARS (2601)	
	VACANT (2620)	
	U S C G BASE (2700)	
	BROOMS GEORGE & SONS SAIL MKRA & RIGGERS (2750)	
	TIME OIL CO PIER (2750)	
1977	Address Not Listed in Research Source	R.L. Polk Co. Publishers
1980	****W 26TH AVE****	R.L. Polk Co. Publishers
	HENSON K B (4449)	
	PARKING LOT (4451)	
	VACANI (4459)	
	OLYMPIC PROPELLER CO INC PROPELLER MFRA (4463)	
	OLYMPIC PROPELLER CO MARINE SUP (4463)	
	****W 27TH AVE****	R.L. Polk Co. Publishers
	GAR DI CO RUBBER PROD MFRS (4447)	
	UNICORN INDUSTRIES MACH SHOP (4447)	
	YACHT RIGGER MASTS MFRS (4448)	
	CROOKS JACKIE L (4452)	
	NO RETURN (4456)	
	****W FORT ST****	R.L. Polk Co. Publishers
	NO RETURN (2709)	
	****W COMMODORE WAY****	R.L. Polk Co. Publishers
	NORDBY SUPPLY CO (2600)	
	GLASER BROS WHOL CIGARS (2601)	
	WHITNEY FIDALGO SEAFOODS INC NORTHBOUND (2620)	
	REC PLANT (2620)	
	U S C G BASE (2700)	
	BROOM GEORGE & SONS SAIL MKRS & RIGGERS (2750)	
	TIME OIL CO PIER (2750)	
	ICICLE SEAFOODS (2752)	
	SELECT INDUSTRIES HYDRAULIC SPLAT (2805)	
1981	Address Not Listed in Research Source	R. L. Polk Co. Publisher
1985	Address Not Listed in Research Source	R. L. Polk Co. Publisher

Year	Uses	Source
1986	****W 26TH AVE****	R.L. Polk Co. Publishers
	VACANT (4449)	
	NO RETURN (4459)	
	PROPELLER SPLSTS (4463)	
	KRUGER HOWARD & SONS MARINE (4463)	
	****W 27TH AVE****	R.L. Polk Co. Publishers
	GAR DI CO RUBBER PROD WHOLE SLS (4447)	
	YACHT RIGGERS MFRS (4448)	
	****W FORT ST****	R.L. Polk Co. Publishers
	VACANT (2709)	
	****W COMMODORE WAY****	R.L. Polk Co. Publishers
	KING MARINE INC MFG DIST OF MARINE PROD (2600)	
	ABELLA WOODWORKING (2600)	
	NORTH ELECTRIC SALES (2600)	
	SEATTLE STAGE LIGHTING & EQUIPMENT CO INC (2600)	
	CENTURY TWNETY ONE PROMOTIONS (2601)	
	COASTAL TRANSPORTATION INC NORTHBOUND REC PLANT (2620)	
	U S C G ADDL SP STORAGE (2700)	
	TOSCO CORPORATION WHOL GAS SAS (2740)	
	BROOM GEORGE SONS SAIL MKRS & RIGGERS (2750)	
	TIME OIL CO PIER (2750)	
	ICICLE SEAFOODS (2752)	
	ASKO HYDROLIC REPAIR INC (2805)	
1990	****W 26TH AVE****	R.L. Polk Co. Publishers
	HENSON K (4449)	
	VACANT (4459)	
	KRUGER & SONS MARINE PROPELLER SPLSTS (4463)	
	****W 27TH AVE****	R.L. Polk Co. Publishers
	RAPP HYDEMA INC ADDL SP (4447)	
	YACHT RIGGERS MFRS (4448)	
	****W FORT ST****	R.L. Polk Co. Publishers
	SILHOUETTE PAPERS INC IMPORTERS (2713)	
	CAMPBELL TOWING CO (2713)	
	GRANT LARRY & ASSOC MFG REP (2715)	
	****W COMMODORE WAY****	R.L. Polk Co. Publishers
	ABELLA WOODWORKING (2600)	
	NORTH ELECTRIC SALES (2600)	
	PUGET SOUND SEED CO INC (2600)	
	KING MARINE INC MFG DIST OF MARINE PROD (2600)	
	CENTURY TWENTY ONE PROMOTIONS RLTY (2601)	

Year	Uses	Source
1990	(continued)	
	COASTAL TRANSPORTATION INC NORTHBOUND REC PLANT (2620)	
	U S C G ADDL SP STORAGE CUTTER BAYBERRY (2700)	
	VACANT (2740)	
	BROOM GEORGE SONS SAIL MKRS & RIGGERS (2750)	
	TIME OIL CO PIER (2750)	
	ICICLE SEAFOODS BOAT REPR (2752)	
	ASKO HYDRAULIC REPAIR MACH (2805)	
1991	Address Not Listed in Research Source	R.L Polk Co Publishers
1996	****W 26TH AVE****	R.L. Polk Co. Publishers
	KRUGER & SONS MARINE (4463)	
	PROPELLER (4463)	
	****W 27TH AVE****	R.L. Polk Co. Publishers
	YACHT RIGGERS (4448)	
	****W FORT ST****	R.L. Polk Co. Publishers
	RUSSIAN AMERICAN CO (2713)	
	SVC O (2713)	
	PACIFIC SHT FPING (2713)	
	CAMPHEDL RINHARD (2713)	
	INDUSTRIAL RELATIONS (2713)	
	TRADING CO (2713)	
	SILHOUETTE PAPERS INC (2713)	
	****26TH AVE****	R.L. Polk Co. Publishers
	VOLIAND M F (4449)	
	26TH AVE CONTD (4449)	
	ADDAES ZIP+4 C RR RTE PHONA (4449)	
	****W COMMODORE WAY****	R.L. Polk Co. Publishers
	PRODUCTS (2600)	
	LIGHTING & EQUIP (2600)	
	MERVIN MANUFACTURI NG (2600)	
	KING MARINE INC (2600)	
	KING MARINE CANVAS (2600)	
	FABRIC 1279 C (2600)	
	SEATTLE STAGE (2600)	
	NORTH WEST AWNING (2600)	
	KODIAK FISHMEAL CO (2600)	
	PROMOTIONS INC (2601)	
	PROMOTIONS INC (2601)	
	CENTURY (2601)	
	ETHICS 1231 C (2601)	
	SANDLAND JOSEPH (2620)	

Year	Uses	Source
1996	(continued)	
	THOMPSON STN S (2700)	
	MAPLE BAY BOATYARD (2700)	
	GEORGE BROOM SONS (2750)	
	WHINE WIITM (2754)	
	WHHA DONNA (2754)	
	HANSEN UNS (2754)	
	REPAIR (2805)	
	ASKO INDUSTRIAL (2805)	
2005	****E 27TH AVE****	Cole Information Services
	ALAN J CHUN (4530)	
	APR IL KATSUKO SASAKI (4530)	
	****W 26TH AVE****	Cole Information Services
	KRUGER & SONS PROPELLER INC (4463)	
	****W 27TH AVE****	Cole Information Services
	NORTHWEST AWNING & FABRC INC (4448)	
	****W FORT ST****	Cole Information Services
	T SCAN (2713)	
	IMAGINE COLOR SERVICE LIC (2715)	
	IMAGINE COLOR SERVICES LI (2715)	
	****W COMMODORE WAY****	Cole Information Services
	MERVIN (2600)	
	KODIAK FISHMEAL CO (2600)	
	ETH ICS (2601)	
	CENTURY 21 PROMOTIONS INC (2601)	
	NEW HOPE MARINE INC (2620)	
	AZ MI ILLER& MILLER BOATYARD CO (2700)	
	BUILDING (2700)	
	EZE B DIESEL POWER INC (2700)	
	+ HORTH STAR INSURANCE SERVICES 01 206 285 A (2700)	
	THE PINK ALGTR LLC (2700)	
	BR OONOM GEO SONS INC (2750)	
	ASKO SELECTIVE PLATING (2752)	
	ASKO INDUSTRIAL REPAIR (2805)	



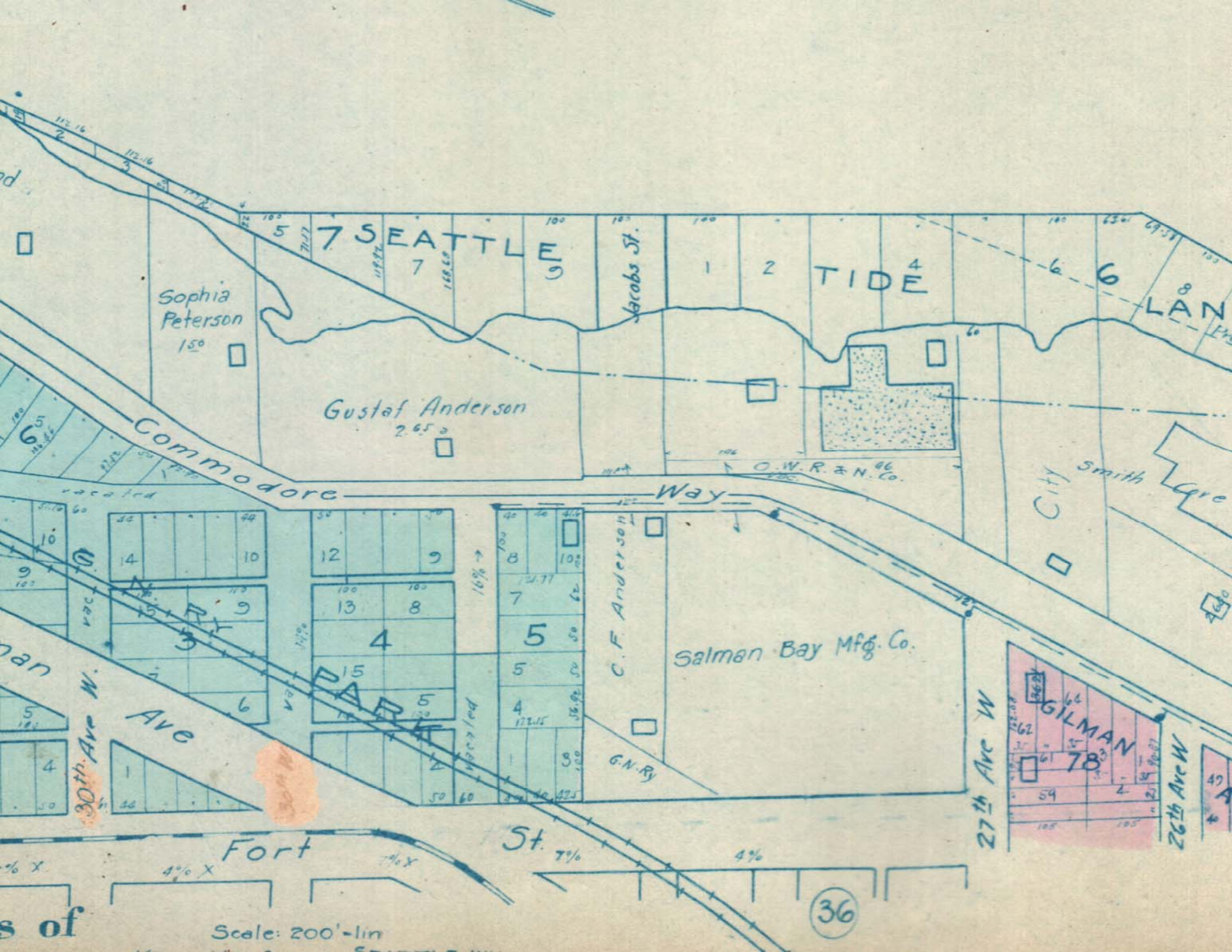
F SEATTLE

& PUBLISHED BY
PANY, INC., SEATTLE

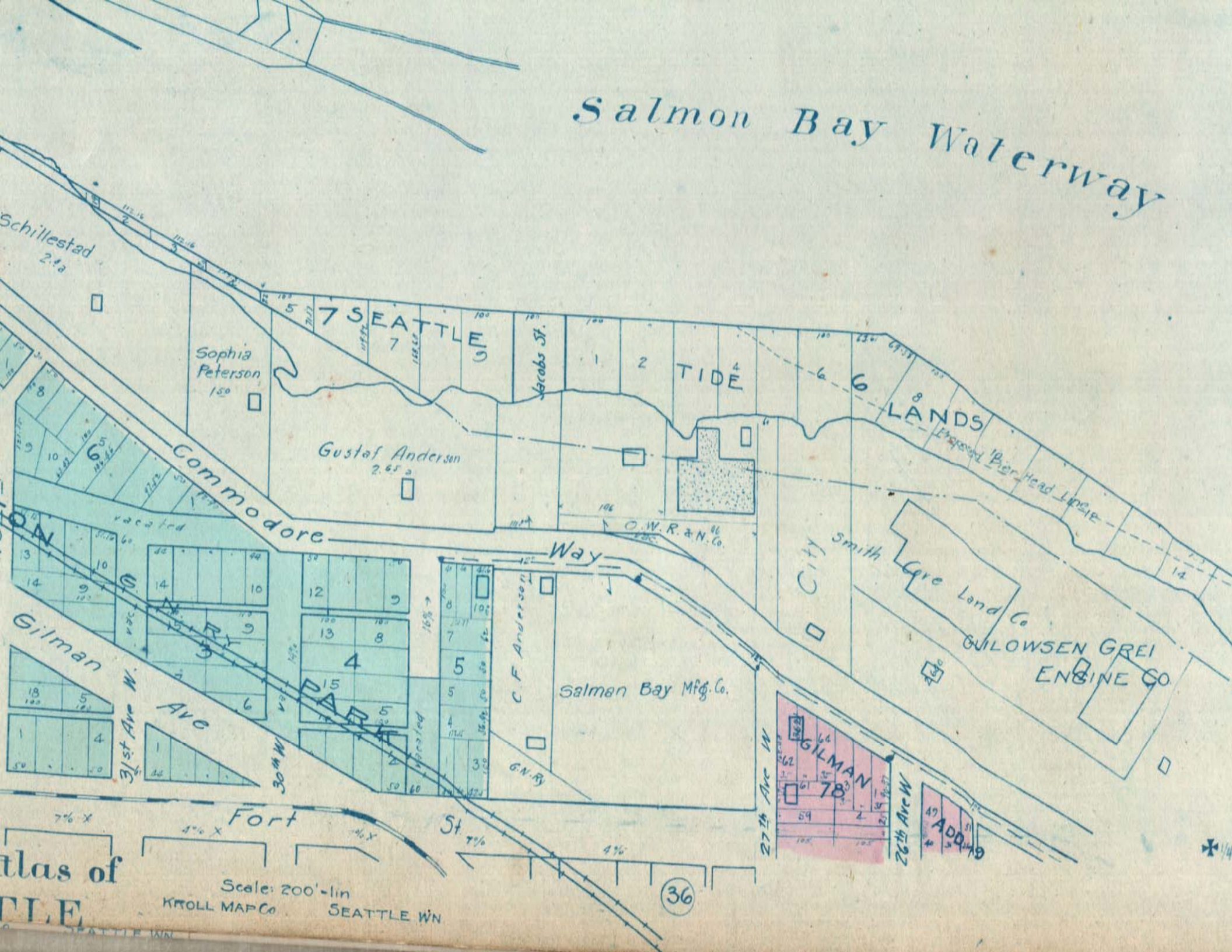
CH = 200 FEET

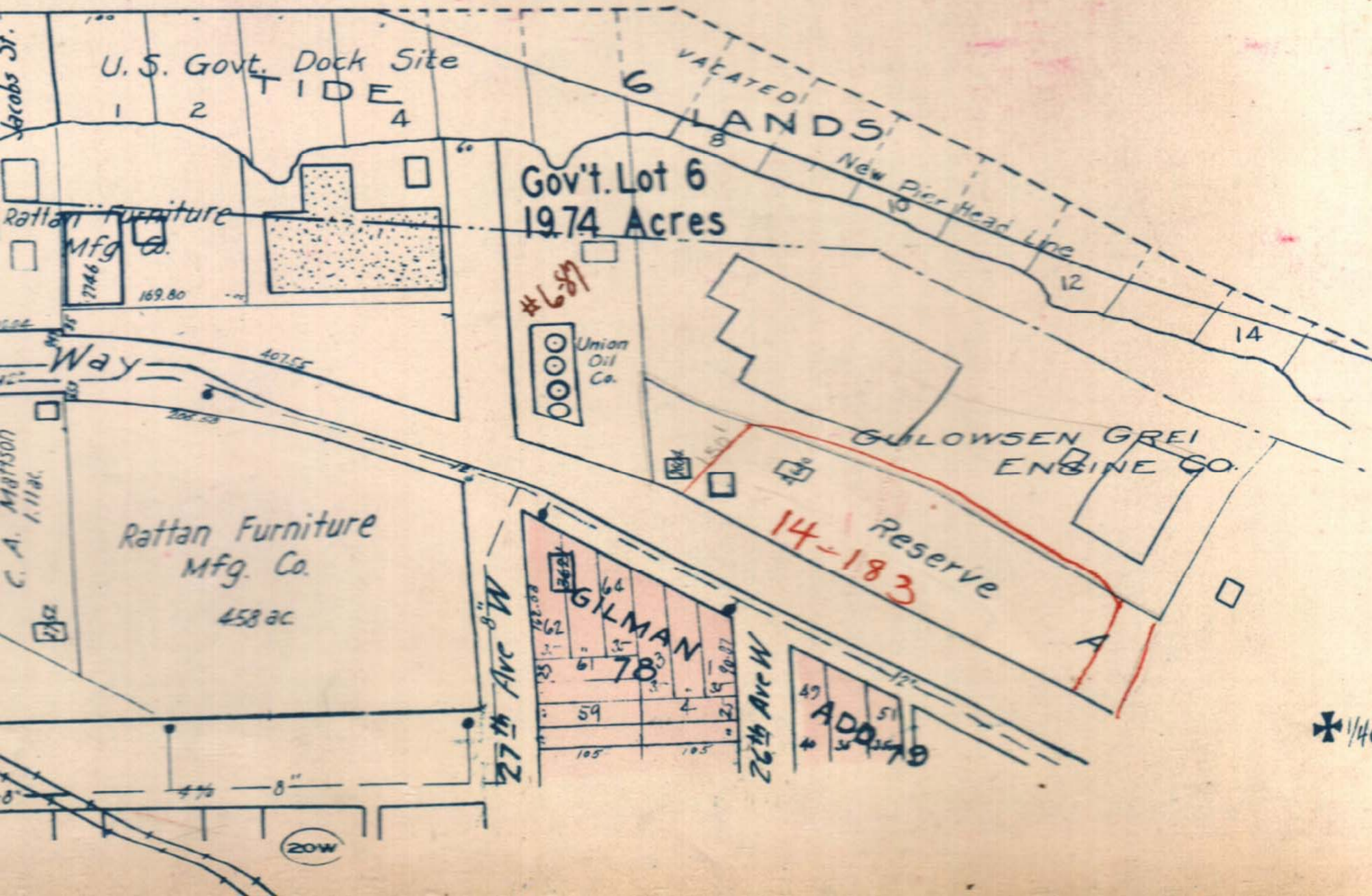
LEGEND

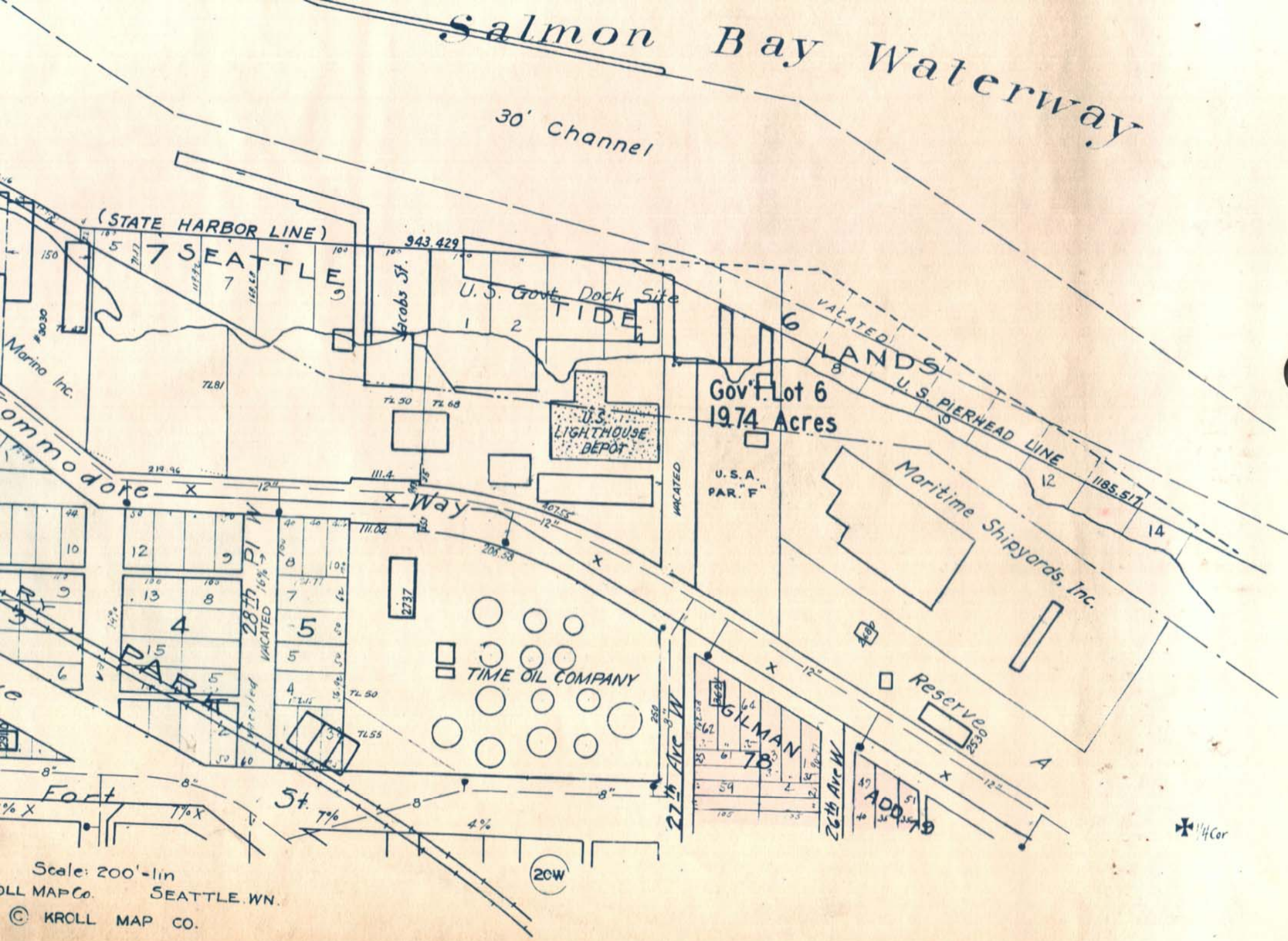
BUILDING
RAILROAD
ELEVATION (76) (in feet, refers to C of S datum = 0.0')
APPROX STORIES 5
WATER MAIN —8"—
HOUSE NUMBER 9604
SEWER —10"—
TAX LOT NUMBER (21)

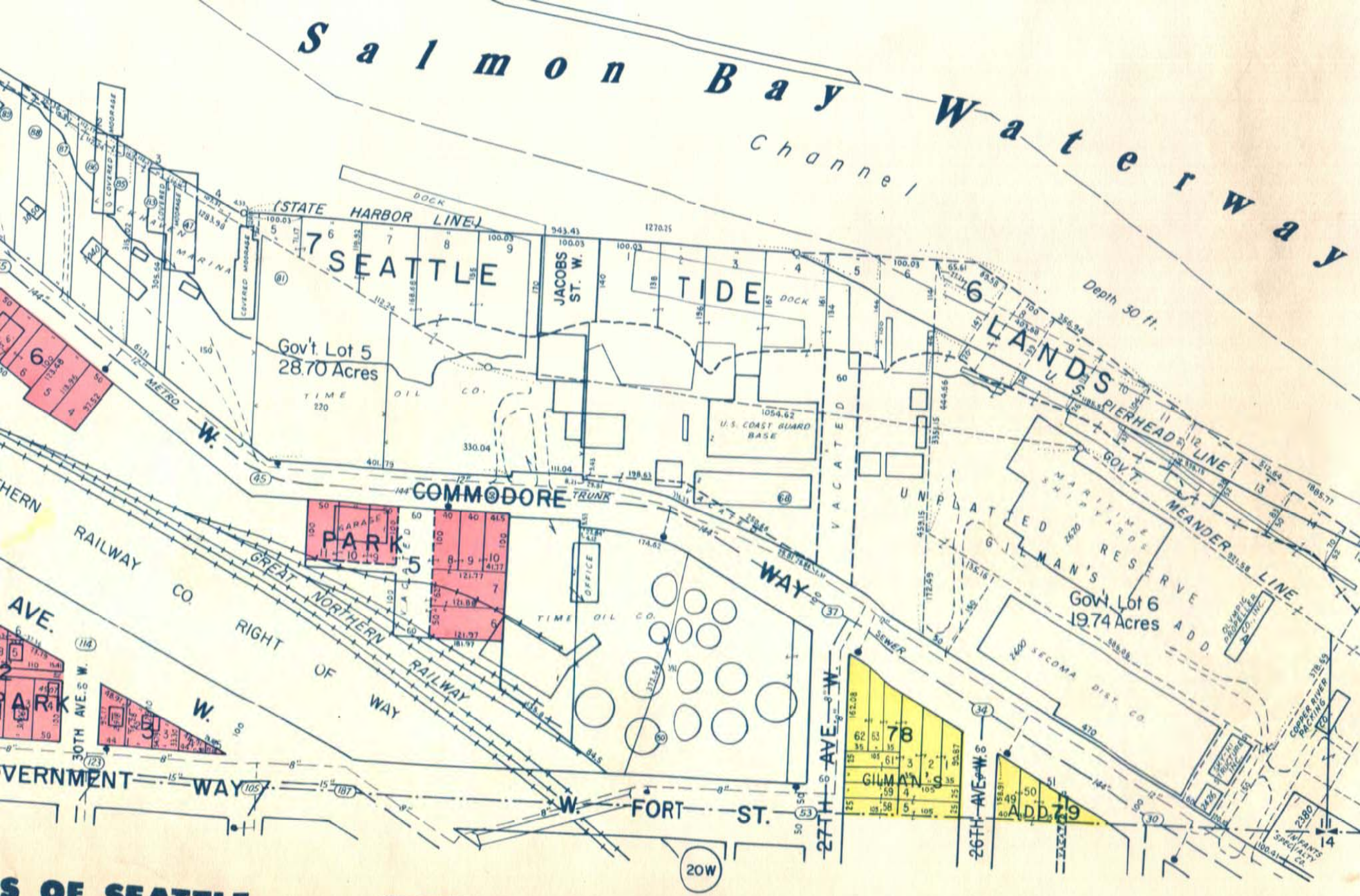


Scale: 200'-1in


Salmon Bay Waterway
Schillestad
2.4a
Sophia Peterson
150
Gustaf Anderson
2.65a
SEATTLE
TIDE LANDS
Jacobs St.
Commodore Way
vacated
O.W.R. & N. Co.
C.F. Anderson
Salmon Bay Mfg. Co.
City
Smith Gre Land Co
GILOWSEN GREI
ENGINE CO
GILMAN
ADD
Gilman Ave
31st Ave W.
30th Ave W
27th Ave W
26th Ave W
Fort St
G.N.Ry
Scale: 200'-1in
KROLL MAP CO SEATTLE WN
36

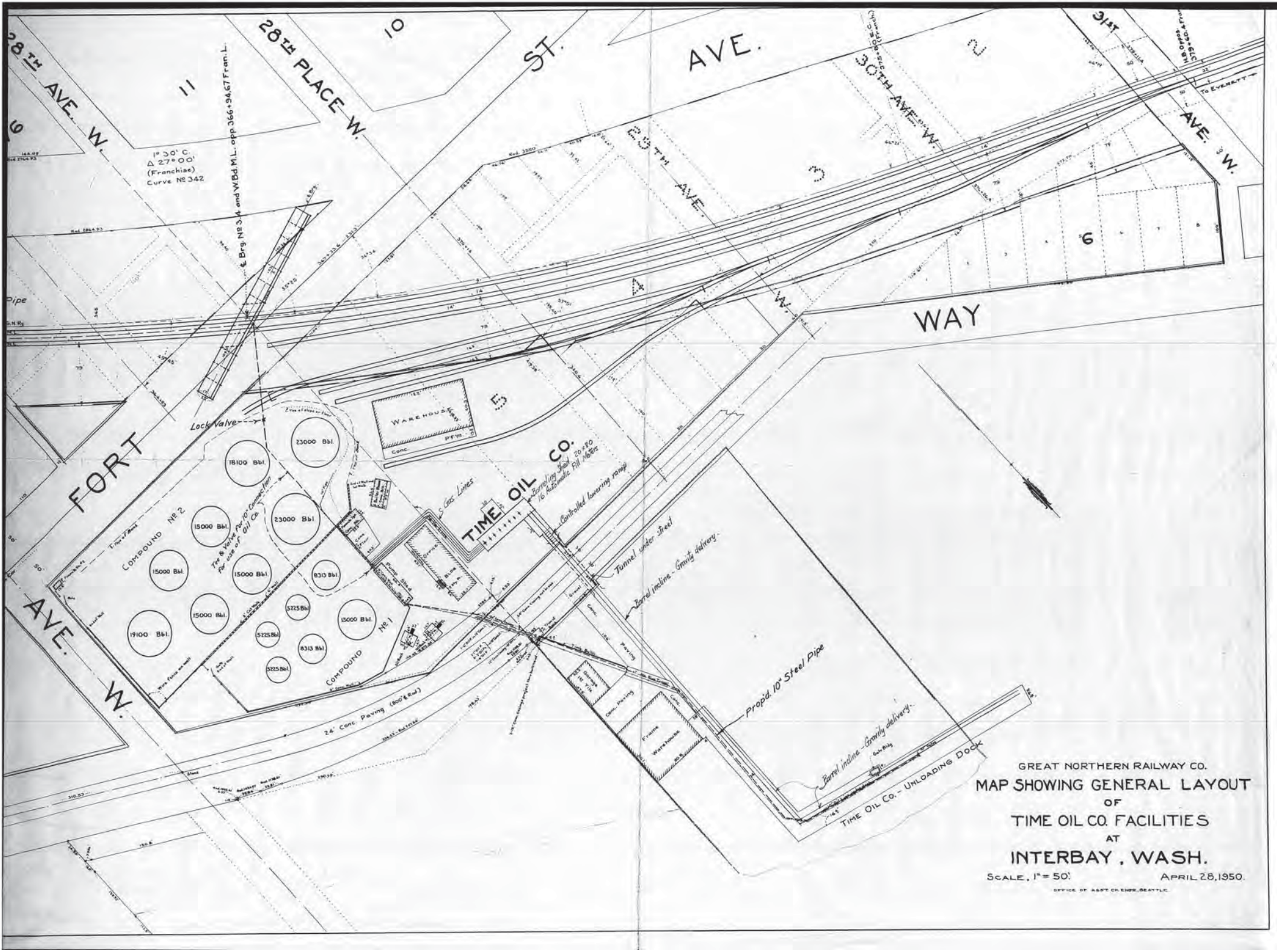

Jacobs St.
U.S. Govt. Dock Site
TIDE
LANDS
VACATED
New Pier Head Line
Gov't. Lot 6
1.974 Acres
Rattan Furniture Mfg. Co.
2746
169.80
Union Oil Co.
#689
Way
407.55
GULOWSEN GREI ENGINE CO.
Reserve
14-183
Rattan Furniture Mfg. Co.
458 ac.
C. A. Matson
1.11 ac.
27th Ave W
GILMAN
78
ADD
59
105
20W
12
14


Salmon Bay Waterway
30' Channel
(STATE HARBOR LINE)
7 SEATTLE
943.429
Grabs St.
U.S. Govt. Dock Site
TIDE
6 LANDS
VACATED
U.S. PIERHEAD LINE
Gov't Lot 6
1.974 Acres
U.S. LIGHTHOUSE DEPOT
U.S.A. PAR. "F"
Maritime Shipyards, Inc.
Marina Inc.
Commodore Way
28th Pl W
VACATED
PARK
TIME OIL COMPANY
Reserved
GILMAN
78
ADD
27½ Ave W
26½ Ave W
Fort St.
1/4 Cor
Scale: 200'-1in
SEATTLE. WN.
© KROLL MAP CO.



LEGEND

BUILDING — APPROX. STORIES — HOUSE NUMBER
RAILROAD — WATER MAIN — SEWER
ELEVATION (in feet, refers to C of S datum = 0.0') — TAX LOT NUMBER



GREAT NORTHERN RAILWAY CO.

MAP SHOWING GENERAL LAYOUT OF TIME OIL CO. FACILITIES AT INTERBAY, WASH.

SCALE, 1" = 50'. APRIL 28, 1950.

OFFICE OF ASST. CH. ENGR., SEATTLE.

APPENDIX D
REPORTS BY OTHERS

This appendix is included at the end of the report on the attached CD.

APPENDIX E

LABORATORY ANALYTICAL REPORTS

This appendix is included at the end of the report on the attached CD.

APPENDIX F

BORING LOGS

This appendix is included at the end of the report on the attached CD.