STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office • 3190 160th Ave SE • Bellevue, WA 98008-5452 • 425-649-7000
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October 8, 2015

Mr. Mark Chandler
TOC Holdings Co.
2737 West Commodore Way
Seattle, WA 98199

Re: Opinion Pursuant to WAC 173-340-515(5) on Proposed Remedial Action for the Following Hazardous Waste Site:

- **Name:** Time Oil 2754 Commodore
- **Address:** 2750 West Commodore Way, Seattle, WA 98199
- **Facility/Site No.:** 7417688
- **VCP No.:** NW2949
- **Cleanup Site ID No.:** 7740

Dear Mr. Chandler:

Thank you for submitting documents regarding your proposed remedial action for the **Time Oil 2949 Commodore** facility (Site) for review by the Washington State Department of Ecology (Ecology) under the Voluntary Cleanup Program (VCP). Ecology appreciates your initiative in pursuing this administrative option for cleaning up hazardous waste sites under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

This letter constitutes an advisory opinion regarding a review of submitted documents/reports pursuant to requirements of MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing the following releases at the Site:

- Total petroleum hydrocarbons in the gasoline, diesel and oil ranges (TPH-G, TPH-D and TPH-O), benzene, toluene, ethylbenzene and xylenes (BTEX) into the Soil and Ground Water;

- Lead into the Soil.

Ecology is providing this advisory opinion under the specific authority of RCW 70.105D.030(1)(i) and WAC 173-340-515(5).

This opinion does not resolve a person's liability to the state under MTCA or protect a person from contribution claims by third parties for matters addressed by the opinion. The state does

not have the authority to settle with any person potentially liable under MTCA except in accordance with RCW 70.105D.040(4). The opinion is advisory only and not binding on Ecology.

Ecology's Toxics Cleanup Program has reviewed the following information regarding your proposed remedial action:

1. SoundEarth Strategies, Inc., 2014. *Feasibility Study, East Waterfront Property, 2750 West Commodore Way, Seattle, WA.* June 12.

2. SoundEarth Strategies, Inc., 2014. *Remedial Investigation Report, East Waterfront Property, 2750 West Commodore Way, Seattle, WA.* June 10.

The reports listed above will be kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. Appointments can be made by calling the NWRO resource contact at (425) 649-7235 or sending an email to: nwro_public_request@ecy.wa.gov.

The Site is defined by the extent of contamination caused by the following releases:

- TPH-G, TPH-D and TPH-O and BTEX into the Soil and Ground Water;

- Lead into the Soil.

The Property is part of the Seattle Terminal Properties (STP) site. The STP includes: 1) Bulk Terminal Properties; 2) East Waterfront Property; 3) ASKO Hydraulic Property; 4) West Waterfront Property and 5) the Washington State Department of Natural Resources (DNR) Aquatic Lease Land Property.

Based on a review of supporting documentation listed above, pursuant to **requirements contained in MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing the releases at the Site, Ecology has determined:**

- It appears that the characterization of the upland portion of the Site is sufficient to establish cleanup standards and select a cleanup action however sediments along the shoreline of the Property have not yet been characterized.

- Soil samples from borings advanced during the RI indicated that soil on the Site is contaminated with TPH-G, TPH-D, TPH-O and BTEX at concentrations exceeding Method A cleanup levels.

- TPH-G, TPH-D, TPH-O and BTEX concentrations in ground water on the Site exceed Method A cleanup levels but have been delineated and do not extend off the Property.

- The following three cleanup action alternatives for the Property were proposed in the FS:

    - Alternative 1 – Excavation with off-Site disposal. Soil with concentrations of contaminants of concern exceeding preliminary cleanup levels in three areas on the Site will be removed. Dewatering may be required. The estimated remediation time frame for the excavation was not provided in the FS but is assumed to be one to two years. The estimated time frame for follow up ground water monitoring and attainment of cleanup levels is three years with an additional two years of subsequent ground water monitoring if necessary to attain cleanup levels. The total estimated time frame is five to seven years.

    - Alternative 2 – Air sparging (AS) with soil vapor extraction (SVE). The installation of 17 air sparge wells and shallow (approximately three feet below the ground surface) horizontal SVE trenches to remediate soil and ground water. The entire treatment area would be capped prior to implementation. Ground water quality would be monitored quarterly throughout the operational time frame and for a minimum of four quarters following operation of the AS/SVE system to confirm compliance with preliminary cleanup levels. The estimated remediation time frame is 7 years.

    - Alternative 3 – Dual-phase extraction (DPE) and treatment. Approximately 20 DPE wells would be installed to screen the entire saturated zone and at least five feet above the historical high water elevation. The entire treatment area would be capped prior to implementation. Water recovered by the system would be treated on the Site using air stripping or granular activated carbon. Ground water quality would be monitored quarterly throughout the operational time frame and for a minimum of four quarters following operation of the DPE system to confirm compliance with cleanup levels. The estimated remediation time frame is 10 years.

Cleanup Action Alternative 1 was selected for the upland portion of the Site only. Ecology tentatively concurs with your selection of Alternative 1, Excavation with Off-Site Disposal, as a remedial alternative for soil and ground water on the Site with the exception that the soil removal must be completed to below applicable Method A or Method B cleanup levels rather than preliminary cleanup levels. Also, groundwater concentrations need to be below MTCA Method A or B cleanup levels and potentially below surface water cleanup levels.

- Sediments along and below the shoreline need to be characterized and cleaned up in accordance with MTCA and Washington sediment standards. This may involve in-water remediation.

- Due to the complexity of this Site, Ecology requests a meeting with you to discuss the Remedial Investigation/Feasibility Study.

This opinion does not represent a determination by Ecology that a proposed remedial action will be sufficient to characterize and address the specified contamination at the Site or that no further remedial action will be required at the Site upon completion of the proposed remedial action. To obtain either of these opinions, you must submit appropriate documentation to Ecology and request such an opinion under the VCP. **This letter also does not provide an opinion regarding the sufficiency of any other remedial action proposed for or conducted at the Site.**

Please note that this opinion is based solely on the information contained in the documents listed above. Therefore, if any of the information contained in those documents is materially false or misleading, then this opinion will automatically be rendered null and void.

The state, Ecology, and its officers and employees make no guarantees or assurances by providing this opinion, and no cause of action against the state, Ecology, its officers or employees may arise from any act or omission in providing this opinion.
Again, Ecology appreciates your initiative in conducting independent remedial action and requesting technical consultation under the VCP. As the cleanup of the Site progresses, you may request additional consultative services under the VCP, including assistance in identifying applicable regulatory requirements and opinions regarding whether remedial actions proposed for or conducted at the Site meet those requirements.

If you have any questions regarding this opinion, please contact me at (425) 649-7064 or hvic461@ecy.wa.gov.

Sincerely,

Heather Vick

Heather Vick
Toxics Cleanup Program

Enclosure: A - Site Description and Diagrams

cc: Timothy S. Brown, SoundEarth Strategies, Inc.
Sonia Fernandez, VCP Coordinator, Ecology

Enclosure A

Description and Diagrams of the Site

Site Description

This section provides Ecology's understanding and interpretation of Site conditions, and is the basis for the opinions expressed in the body of the letter.

Site: The Site is defined as total petroleum hydrocarbons in the gasoline, diesel and oil ranges (TPH-G, TPH-D and TPH-O), benzene, toluene, ethylbenzene, xylenes (BTEX) and lead in the soil at 2750 West Commodore Way in Seattle, WA (Property). The Site is also defined as TPH-G, TPH-D, TPH-O and BTEX in the ground water. The Property is part of the Seattle Terminal Properties (STP). The STP include: 1) Bulk Terminal Properties; 2) East Waterfront Property; 3) ASKO Hydraulic Property; 4) West Waterfront Property and 5) the Washington State Department of Natural Resources (DNR) Aquatic Lease Land Property. The King County tax parcel numbers and addresses corresponding to the STP are shown in the two tables below (Property in bold):

VCP Site Name	VCP No.	STP Property Name	Address
TOC Seattle Terminal	NW2948	Bulk Terminal Property	2737 W. Commodore Way
TOC 2754 Commodore Way	**NW2949**	**East Waterfront Property**	**2750 W. Commodore Way**
TOC ASKO Property	NW2950	ASKO Hydraulic Property	2805 W. Commodore Way
		West Waterfront Property	2800 W. Commodore Way
		WA DNR Aquatic Lease Land	DNR Moorage Lease

STP Property Name	King County Parcel Number	Size
Bulk Terminal Property	1125039050	4.10 acres
East Waterfront Property	**1125039120**	**3.17 acres**
ASKO Hydraulic Property	4237900405	1.57 acres
West Waterfront Property	1125039081	1.58 acres
WA DNR Aquatic Lease Land	1125039113	0.56 acres

Area and Property Description: The Property is located on the south shore of Salmon Bay on the Lake Washington Ship Canal. Salmon Bay was originally a saltwater bay but was inundated with fresh water in 1914 when the Hiram M. Chittenden Locks (Locks) were constructed west of Salmon Bay. The northern portion of the Property is bordered by the Salmon Bay shoreline. The Property is bordered to the south by West Commodore Way. To the east is a Port of Seattle warehouse; to the west is the West Waterfront Property. Buildings on the Property are listed in the table in the Property History section below.

The elevation of the Property ranges from approximately 18 to 44 feet above mean sea level; the Property slopes to the north towards Salmon Bay. The Property has been designated by the City of Seattle as an environmentally critical area listed for 40% steep slope, archaeological buffer, heron habitat, shoreline habitat buffer and wildlife preservation area.

Property History and Current Use: The Property was first developed in the early 1900s with a single building (use unknown) on the southwest portion of the parcel. In 1930, a 6,400-square feet

warehouse building was constructed that extended into Salmon Bay on pilings. The warehouse was later used by a rattan furniture company.

Time Oil Company (TOC) Holdings Company (Co.) acquired the Property in 1941. The warehouse building was demolished in early 2012. Buildings on the Property are listed in the table below:

Date Built	Building Type	Historical Uses	Size	Current Use
1930	Warehouse	Rattan furniture mfg, Jobbers Petroleum Sales Co.	6,400 SF	Demolished in 2012
1944	Garage	Garage	1,518 SF	
1950	Laboratory Building	Paint storage	226 SF	
1950	Shed/canopy	Storage	2,250 SF	
1956	East addition to Shed	Storage	unknown	
1970	Warehouse	Unknown	1,920 SF	ASKO Selective Plating

SF = square feet

The remainder of the Property contains the entrance to the Shipping Terminal. Also, the northern end of the Barrel Incline, which extended to one of two former barreling sheds (Barreling Shed #2) located on the Bulk Terminal Property.

The 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 former barreling sheds #1 through #3 and conveyed along the East and West Barrel Inclines through the Property to the Shipping Terminal Dock. ASKO Selective Plating is listed as having occupied a portion of the Property in 2005.

As many as three small docks have been located on the Property waterfront and were later removed on unknown dates.

Sources of Contamination: Sources of contamination on the Site consist of the former East and West barrel inclines, the former Pipeline Utilidor and the former waste oil underground storage tanks (USTs). Contaminants of concern at the Site include TPH and BTEX.

Physiographic Setting: The Site is located within the Puget Sound Lowland Physiographic Province. This north-south trending structural and topographic depression is bordered on its west side by the Olympic Mountains, and to the east by the Cascade Mountain foothills. The Puget Lowland is underlain by Tertiary volcanic and sedimentary bedrock, and has been filled to the present day land surface with Pleistocene glacial and nonglacial sediments. The Site is located at the northern end of the Magnolia Drift Upland physiographic subdivision of metropolitan Seattle.

Surface/Storm Water System: Salmon Bay is partially saline due to operation of the Locks, which allows mixing of fresh water and salt water due to tides in Puget Sound.

Ecological Setting: Undeveloped portions of the Property are covered by grass, small shrubs or gravel that are unlikely to attract wildlife. The footprint of the former Warehouse Building is covered with quarry spalls, gravel and sand. The Property is surrounded by commercial and industrial land uses with buildings and pavement covering most surfaces.

Geology: The upper part of the Property is underlain by fill materials ranging in thickness from 5 to 20 feet. Underlying the fill are coarse and fine pre-Fraser age glacial deposits, the uppermost consisting of dense to hard, interbedded sand, gravel and silt.

Ground Water: Ground water on the Site occurs as shallow, intermediate and deep water-bearing zones. The shallow water bearing zone is in fill materials where the water table occurs at depths of 1 to 25 feet bgs. Underlying the shallow water-bearing zone are two semi-confined to confined water-bearing zones. The intermediate water-bearing zone occurs at depths of 20 to 25 feet bgs. A deep water-bearing zone was identified upgradient of the Property on the ASKO Hydraulic Property where it occurs at depths of approximately 52 to 62 feet bgs.

The general direction of ground water flow in the shallow water-bearing zone on the Property is to the north/northwest where it discharges to Salmon Bay. A total of 13 monitoring wells are installed on the Property and listed in the following table:

Monitoring Wells	Water-Bearing Zone	Maximum Screen Depth
02MW01 through 02MW04; 02MW06 through 02MW13	Shallow	20
02MW05	Intermediate	35

Water Supply: Water to the Property is supplied by Seattle Public Utilities from surface water sources including the Cedar and Tolt River watersheds. Three water supply wells were located within one mile of the Property, two north of Salmon Bay and a third 0.85 mile to the southeast. The wells were used for industrial or commercial uses and may have been abandoned.

Remedial Actions: A waste oil underground storage tank (UST) with an approximate 300 gallon capacity was removed from the Property in October 1991. The date of installation of the UST is unknown but it was used for storing waste oil collected from servicing TOC Co. fleet vehicles. The UST was removed as part of an upgrade of the facility. Areas of rusting and a small hole were observed on the UST following removal; approximately 100 cubic yards of petroleum-contaminated soil were also removed in a six foot deep excavation that measured approximately 35 by 15 feet. Four soil samples were collected from the south, west and east sidewalls and the bottom of the excavation; the north sidewall was not sampled due to observed contamination with petroleum hydrocarbons. Ground water was observed in the excavation at depths of two to six feet bgs; a heavy sheen was noted on the water table. A test pit was excavated north of the UST excavation to determine the lateral extent of impacts. One soil sample (TP1-3), collected from bottom of the test pit at a depth of three feet was analyzed for TPH-D and TPH-O only. The sample contained 310 mg/kg TPH-D and 410 mg/kg TPH-O.

In December 1991, the excavation was extended to the north of the original excavation and an additional test pit (TP3) further north of the excavation was dug. Soil samples collected from the north (two feet), east (five feet) and west (6.5 feet) sidewalls and one from the test pit at a depth of two feet bgs were analyzed for TPH-G only. The north and east sidewall samples contained TPH-G at 840 and 25,000 mg/kg respectively. The west sidewall and test pit samples collected contained non-detectable levels of TPH-G.

In July 1992, further excavation was conducted to the south, east and north of the earlier excavations. Confirmation soil samples collected from the north, east and south sidewalls were analyzed for TPH-G, TPH-D, TPH-O and mineral spirits. Three selected soil samples were analyzed for BTEX. The northwest (A5) and southeast (A2) sidewall samples contained TPH-G exceeding the Method A cleanup level. The northwest sidewall sample also contained TPH-O at a concentration of 2,300 mg/kg. All other samples contained non-detectable levels.

Release and Extent of Soil and Ground Water Contamination:

A 1999 subsurface investigation consisted of:

- Nine hollow stem auger borings (02SB01 through 02SB09) advanced to a maximum depth of 26.5 feet bgs.
- Analysis of 43 soil samples and eight ground water samples from the nine borings for TPH-G, TPH-D, TPH-O, benzene, toluene, ethylbenzene and xylenes (BTEX) and total and/or dissolved lead. Selected soil samples were further analyzed for volatile organic compounds, pesticides, PCBs, arsenic, barium, cadmium, chromium, lead, selenium and silver.
- Five HSA borings completed as monitoring wells 02MW01 through 02MW05
- A ground water monitoring event in the five monitoring wells in September 1999

A 2000 Phase I Environmental Site Assessment report described the Property as having been used for light industrial purposes since 1974. The report also stated that petroleum-contaminated soil and ground water were present beneath the Property. The report recommended the collection of additional ground water samples from the five Site monitoring wells with analysis for TPH-G, TPH-D, TPH-O, BTEX and dissolved lead.

A 2001 subsurface investigation included the advancement of two soil borings which were converted to monitoring wells 02MW06 and 02MW07 screened in the shallow water-bearing zone. No analytical results are available for soil samples collected in the two borings. The two new wells and five existing wells were sampled in July 2001.

Ground water monitoring events were conducted in the seven Site monitoring wells from 2001 to 2009. From 2002 to 2005, quarterly ground water monitoring events were conducted. The ground water samples collected during these events were analyzed for TPH-G and BTEX with selected rounds analyzed for TPH-D, TPH-O, pentachlorophenol, methyl-tert butyl ether, EDB and EDC. Based on the results of these events, TPH-G, TPH-D, TPH-O, benzene, ethylbenzene, xylenes and PCP were detected at concentrations exceeding MTCA Method A or B cleanup levels.

Remedial Investigation: A Remedial Investigation (RI) conducted from 2006 to 2012 addressed the following data gaps:

- The presence and condition of an unleaded gasoline UST south of ASKO Selective Plating that was identified in a 2009 ground penetrating radar (GPR) study.
- The quality of ground water flowing onto the Property from the West Commodore ROW, the ASKO Hydraulic property and the Bulk Terminal property.
- The upgradient extent of residual contaminants in soil and ground water from the 1991 and 1992 waste oil UST excavations (described below).
- The extent of contamination in the vicinity of the Pipeline Utilidor and footprint of the former warehouse building which was inaccessible prior to the 2012 demolition.

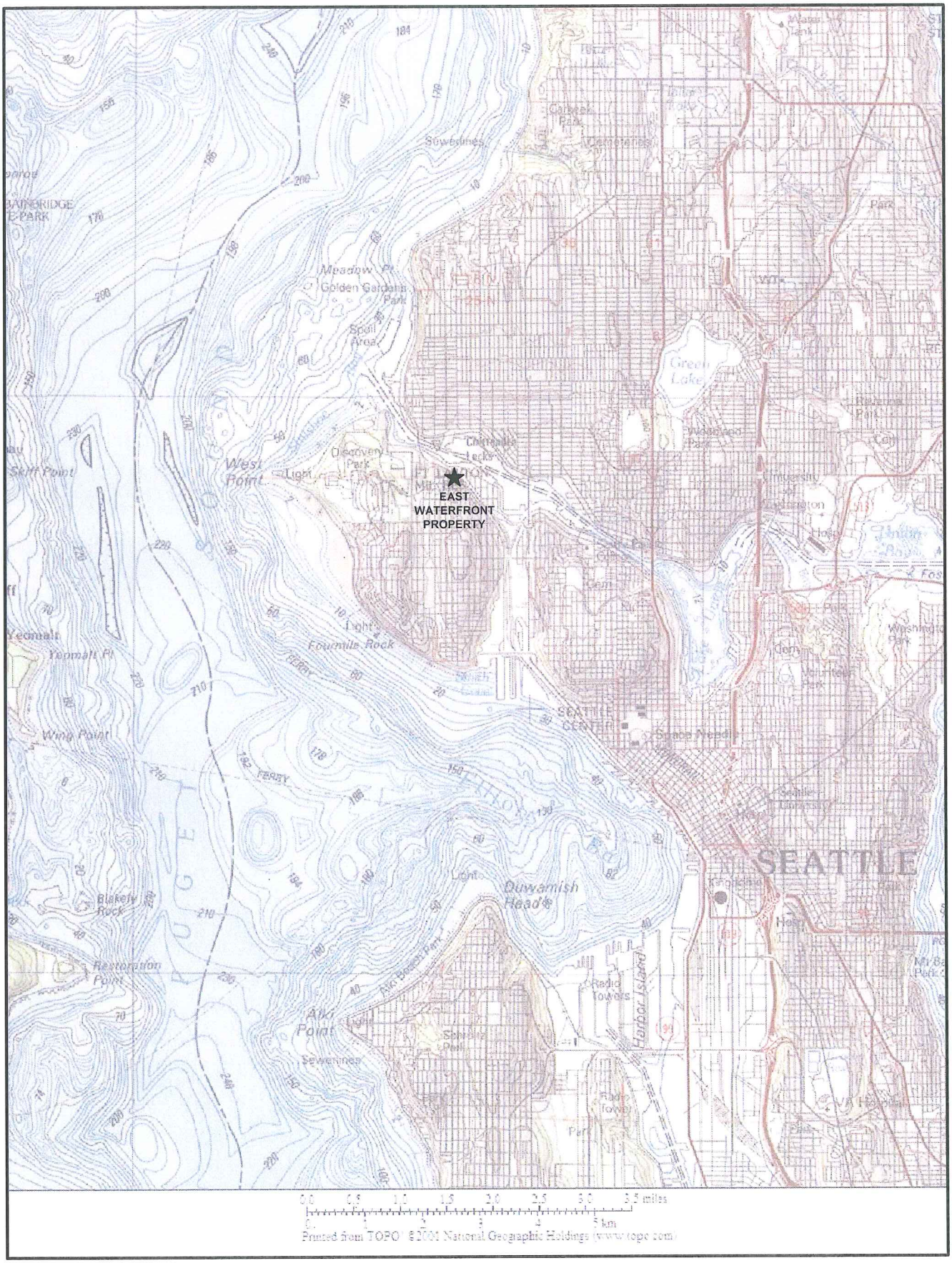
An unleaded gasoline UST, former pump island and product piping were shown on a 1980 plot plan provided by Time Oil. A 2009 GPR study identified the potential UST underneath a concrete pad in a shed connected to ASKO Industrial Repair. The length and width of the UST were estimated to be 10.67 by four feet. The UST, former pumping island and piping were not located in a 2011 Site assessment (excavation in area containing former UST and a test pit in area of former pump island) conducted in June 2011. No evidence of a UST, pump island or product piping were observed during excavation activities. Soil samples collected from the exploratory excavation and the test pit were analyzed for TPH-G, TPH-D, TPH-O and BTEX. Three soil samples contained TPH-G at concentrations well below the Method A cleanup level.

Soil samples from borings advanced during the RI indicated that soil on the Site is contaminated with TPH-G, TPH-D, TPH-O and BTEX at concentrations exceeding Method A cleanup levels. Ground water on the Property was investigated between April 2006 and October 2012, as follows:

- Boring B02 was advanced within the former East and West Barrel Inclines in April 2006 and converted to monitoring well 02MW08 screened in the shallow water-bearing zone.
- In October 2007, six borings (GP21 through GP26) were advanced on the Property to assess soil and ground water near the West and East Barrel Inclines and the Pipeline Utilidor. Four borings were converted to monitoring wells 02MW09 through 02MW12 screened in the shallow water-bearing zone.
- In December 2007, boring B74 was converted to monitoring well 02MW13 which was screened in the shallow water-bearing zone. The well was located downgradient of the North Trunk Sewer and the ASKO Hydraulic Property.
- In March and April, 2012, ten borings (B226 through B233; Temp01 and Temp02) were advanced to investigate soil and ground water adjacent to the 1991 and 1992 UST excavations, by the Pipeline Utilidor and with the footprint of the former Warehouse building, which was previously inaccessible.
- A total of 12 reconnaissance ground water samples were collected at the Property in 2007 and 2012 to further assess ground water quality in the vicinity of the Pipeline Utilidor, waste oil UST excavations and within the footprint of the former Warehouse Building.

Site Diagrams

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



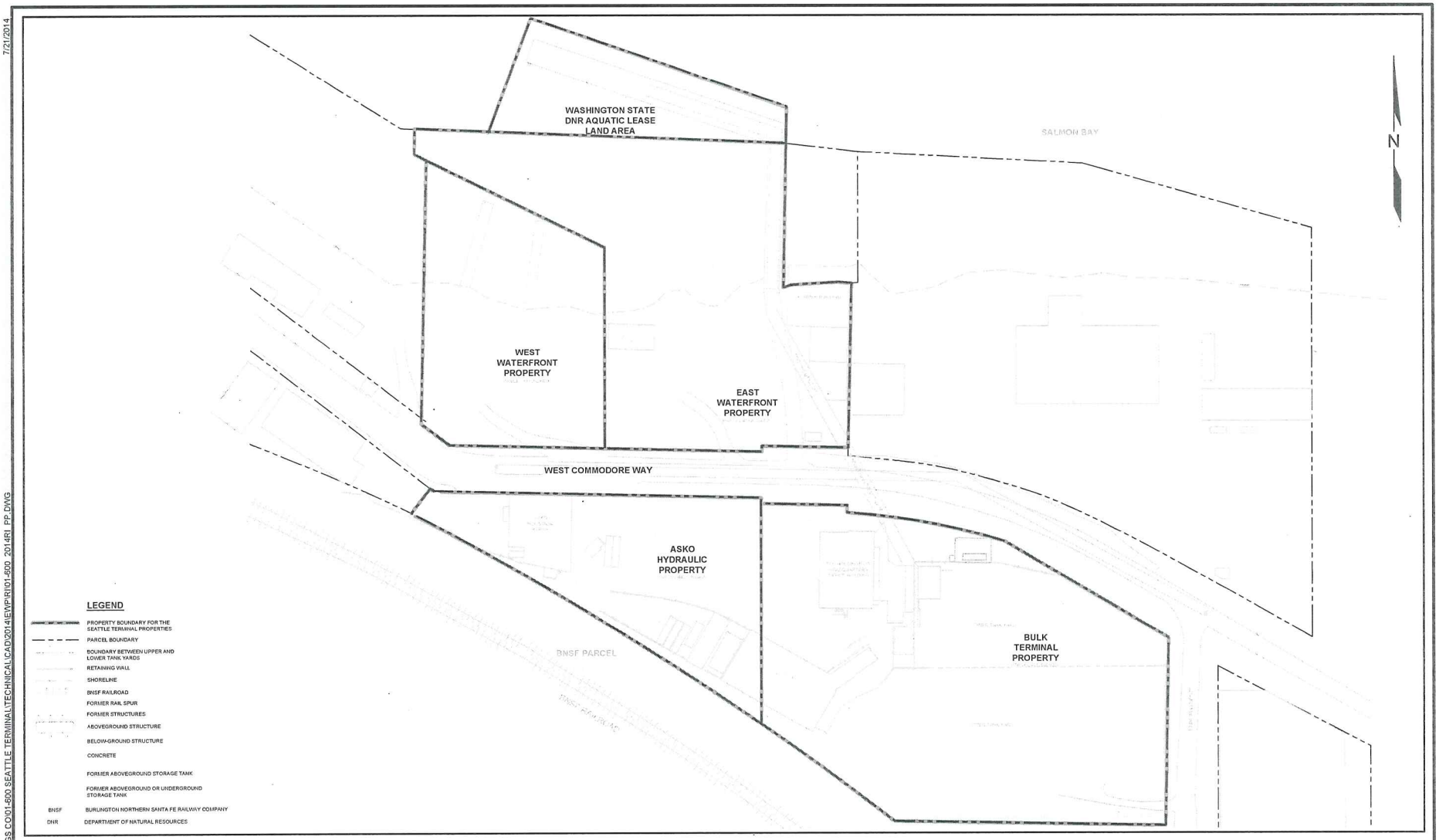
SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

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



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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

7/21/2014
P:\0440 TOC HOLDINGS CO\01-600 SEATTLE TERMINAL\TECHNICAL\CAD\2014\EWP\RI\01-600_2014RI_PP.DWG